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# ACADEMIC YEAR

# 2023-2024

# Board of studies

Minutes of Meetings

# Department of Business Management

# Date: 26.06.2023



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# PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

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# MEMBERS OF THE SIXTEENTH BOARD OF STUDIES MEETING

Board: Business Management

Date: 26.06.2023

Time: 11.30 AM

Venue: PSB Block

he follo	wing members were present for th Name/Degree/Designation	Institute/Organization/ Full address	Online/ Physical
	Dr.S.Rajendran, HOD M.Com., MBA., M.Phil., M.Ed., Ph.D Professor & Head Deapriment of Commerce	Chairman Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayur	Physical Physical
1	Dr.N.S.Shibu MBA., M.Phil,Ph.D Associate Professor, Department of Management studies	External Member Centre for Distance & Online Education Bharathidasan University Thiruchirapalli-24	
3.	Mr. S.Ravi B.Sc., MA., B.Ed Internal Agency Partner	External Member Internal Agency partner Kotak Mahindra Life Insurance Company Limited No.31,1 <sup>st</sup> Floor,Nanjikottai Road,Marys Corner, Thanjavar - 613001	
4.	Dr.K.Rajalakshmi MBA., M.Phil., Ph.D Professor	Professor Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Doemed to be University, Thanjayur	
	Dr. R.Swaminathan	Professor	Physical

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HOD Department of Business Managemer' Ponnskitah Ramajayam Institut Science & Technology (PF THVALAVUR-612



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### PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

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		Thunjayur		
	Dr. R.Socaminathan Mitse., M.Phul, Ph.D	Professor Ponnaryah Ramajayam Institute of Science & . Technology (PRIST) Deemed to be University. Thanjayor	Physical	Essential
ά.	Dr.P.Balasubramani MBA., M.Phil., Ph.D	Associate Professor Poemolyah Romajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayar	Physical	rtg.
7.	Dr.M.Balamorogan MBA., M.Phil., Ph.D	Associate Professor Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayur	Physical	Bertraut
8.	Dr.M.Vijay MBA., M.Phil., Ph.D	Assistant Professor Ponnaiyah Ramajayara Institute of Science & Technology (PRIST) Deemed to be University, Thanjayur	Physical	5.281
9.	Mrs.C.Linda MBA., M.Phil (Ph.D)	Assistant Professor Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayur	Physical	herefy
10	B.Anuradha MBA., Assistant Professor	Alumina Ponnalyah Ramajayam Institute of Science & Technology (PRIST) Decemed to be University, Thanjayur	Physical	ATTO DE LO



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31.	S.Subiksha III BBA · Student	Shadent Representatives Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thonjayur	Physical	S Bubalesh
121	S.Jothika I MEA Student	Student Representatives Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayor	Physical	57 Aure
13	Dr.K.Arivukkani Ph.D HOD, Assistant Professor Department of Tamil	Co-opted Member Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University. Thanjayar	Physical	here 2016te
14	S.Rasakamar MA., M.Phil, Assistant Professor Department of English	Co-opted Member Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayur	Physical	P
15	Ms.M.Aarthi MCA, M.Phil, M.Tech, Assistant Professor Department of Computer Science	Co-opted Member Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayar	Physical	H-181
16	Dr.D.R.Kirubakaran Ph.D Associate Professor Department of Mathematics	Co-opted Member Ponnsiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University. Thanjayur	Physical	the for

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(OD) st Commerce (commerce) (commerce) (commerce) (commerce) (commerce)

(4-adoration BOS Chairman/HOD

FX0c: 26.06.2023

Online meeting link:

#### NOTE:

Mandatury Atlachments:

- Minutes of the previous BoS meeting minutes and report on the follow-up action taken.
   BoS Meeting, 'Notification' sent to all members, including online meeting link.
   Chaine Screenshots and geo-tagged phrites in the venue.
   Attendance sheet print of online attendees.
   Detailed syllabil with PEOs, POs, COs, etc. (in Annexures), if new Programme(s) introduction. 'Curriculum revision is discussed.

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Poord of Studies Me	eting - Intimation and Red	quisition to attend-	
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# SCHOOL OF COMMERCE AND MANAGEMENT

# DEPARTMENT OF BUSINESS MANAGEMENT

# MINUTES OF THE MEETING OF THE BOARD OF STUDIES (BOS)\*

# **Board: Business Management**

The Meeting of Board of Studies (BOS) was held as given below:

Board of Studies
Business Management
16
26.06.2023 and 11.00 am
PSB Block
The details are given in the ANNEXURE-I

	AGENDA
1	To confirm the minutes of BOS meeting held on 06.05.2022
2	Action taken on the previous Meeting Minutes.
3	Discussion on the development of the BBA Management New Curriculum under R 2023
4	Discussion on the development of the MBA Management New Curriculum under R 2023
5	Discussion on Value added courses
6	Discussion on Four years Under Graduate Programme (FYUGP) BBA Hons
7	Any other matters
	Panel of examiner (ug/Pg)

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## MINUTES OF THE BOARD OF STUDIES MEETING

#### **Board: Business Management**

The 16<sup>th</sup> Board of Studies Meeting of the Department of Business Management, School of Commerce and Management, Ponnaiyah Ramajayam Institute of Science and Technology was conducted as per the guidelines of the University Grants Commission on 26.6.2023 at 11.00 am offline mode. The following Members were present in the meeting.

Dr.S.Rajendran, Chairman of the Board of Studies Meeting welcomed the Members and in her introducing speech, he explained the details of the Agenda and the academic matters to be discussed. The agenda of the meeting was taken up for discussion. The following points were discussed during the meeting. The resolutions made in the Meeting are given below.

The committee appreciated the formulation of syllabus for BBA & MBA programme to meet out the criteria of the Education Empowerment and Social Relevance. In Addition, the Committee suggested the following corrections/modifications/ Suggestions in the Programme syllabus

- □ Programme outcomes (PO) and Programme Specific Outcomes (PSO) to be restructured.
- □ Course Outcomes (CO) to be restructured for all the Courses.
- □ Recent reference books to be included in each course.

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	AGENDA				
1	Agendum 1: To confirm the minutes of BOS meeting held on 06.05.2022				
	<b>Discussion:</b> The minutes of the Board of Studies meeting held on 06 <sup>th</sup> May, 2022 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the Academic council.				
	Resolution: The Board resolved to accept the same.				
2	Agendum 2: Action taken on the previous Meeting Minutes.				



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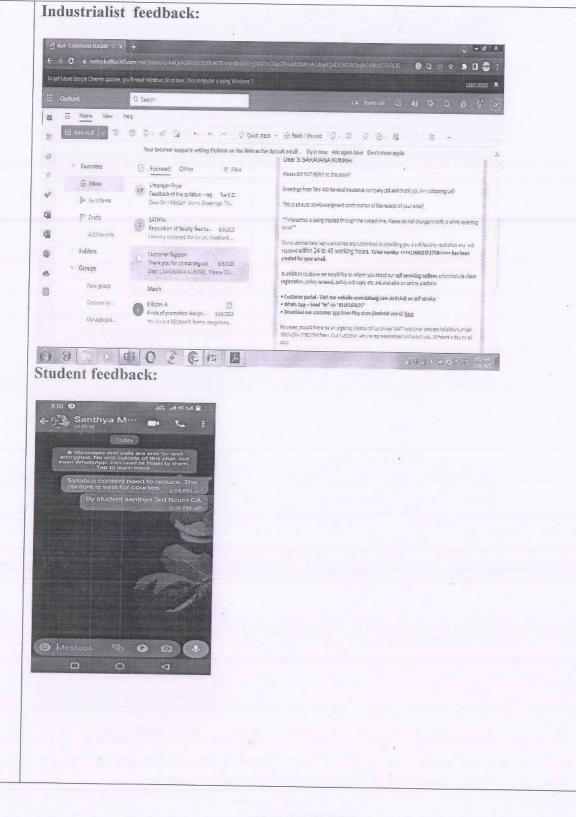
Discussion: Action taken report of the decisions made in the previous BOS and approved by the academic council. Action taken report was presented in the BOS. Alumni feedback: Refer to Annexure I for the same. Employer Feedback: Refer to Annexure 2 for the same. 0 🛛 🖉 🕸 🕸 🕄 🕄 🗄 Outlook 🤇 Sare E Home View Holp 123 ⊗ Neveral × € - 8 Sent items \* Underwerable: Requisition of feedback for Revision of syllabus SPI. - Fayourites 2 🗇 23 Negariz Dick G lyters, Data (AM PEST Director). Ø 3 attachments -G 19934 🔊 Grafts 🕞 9 v. h. A ... 4 Te: www.jesen@mamols.mbisschum LA LENGERSMAN AND ()) Celeien - 47 V > Sentitien's de Angererike witherd formation di. Foldets Vis esview of sublishing C Inbor -MEX FINAL SALARES 2020... Di covisiacium. Di à Con (à Seis. - - - -P Deuts 74 6 Sent Noma direg1250/gmail.com 0 Requisition of Freeback for Revolution 6. 16:09-2025 Superior (1996) To investigate shift linearing ± Descind of 翩 ) Deleted., 42 🗃 Dostrame 19 11. juli 🔺 🍟 Dostramer 19 10...pdf 🔺 💆 bladeeulity 50...cotx 🔺 🔠 Scientific 1.5210...jbg 🔺 😭 Dostramer 1612...pdf 🔺 Shaw all 0 0 2 0 W 0 2 0 B C N Faculty feedback: - @ X al hai severan name o s 🔸 +  $\leftarrow$  > C a outoplaticetecommunitie or directed exclosed of the collocation and collective address to provide a statement to provide a statement to provide a statement of the exclose a statement of the exclosed of the exclose Yo gut hikune shoople Chin was specialary your Broaded Salanizous: To as sides. This occupyable is unling Wordseys 7 🗄 Outlook 🖸 Seed III Home Ven hep 0 ■ Know mat · 音· 田 ①、 今 通・ ち キ チャ ジ Quick seeps · 白 Bale / Breed び ロ・ク ①・ B - ・ ・ . Your browns supports setting distlook on this Web as the default usual ... Try it now. Ask again how about show again - 51 Focused Officer w Siter Favorites Warm Greetings! Unsargan Frys Feedback of the syllabus - reg Tue 600 6 This is Dr. U.Briya, Assestant Professor of Commerce, Paculty of Science and Humanities, SRM E hist Instance of Science and Technology, Kattankulathur, Chengelphinu I have 12 years of experience 4 Ober Sey Maniani Alamo Galenced This in the Teaching field. I thank you for appointed me as a Board of Director in your estmemed D Spri Herri T.S 0.045/0503 57 Orasto SATIVIA Requision of faculty feedball 56(203 It is a pleasure in have this opportunity to give feedback over the syllabor of B Com, B Com CA And Issenta Q ) regarate enclosed the Recolly Resilies k . and M.Com Customer Support Thenk you for contacting Ld 5-8/2023 Depr (SSRRVANA KUMAR), Piesse DD . Folders 12 M.Com Y Groups > International Financial Management - 202615EC32 - It is recommended to include . Euro Bands and its products in the International Financial Management course Newgram March 腦 Bcom A B.Com Olsower ge Nandy of promotion Assign 325/2003 Nau table a Silonesce Traine assignment. > Burness Communication = 20151AEC36 - It is suggested that Modern forms of Manage erdill Communication can be meltate in the syllabor B.Com CA LELERS NE ..... 0 8 × 1 0 3 C 1 4

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# DEPARTMENT OF BUSINESS MANAGEMENT Action taken report

# 1. Summary of the feedback obtained

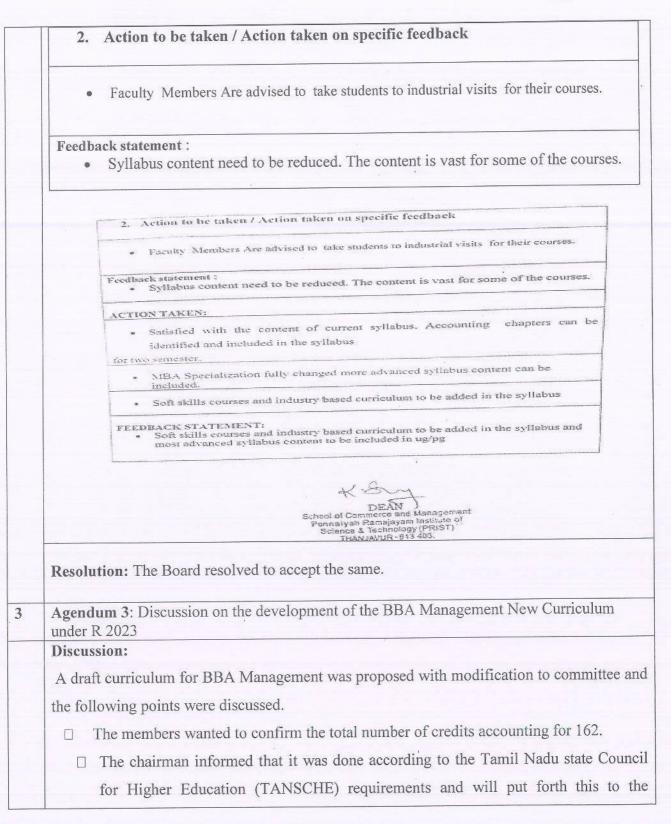
Alumni Students Employer	yes Yes
,	
Employer	
	yes
Teacher	yes
	Teacher

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## Academic Council.

# New Course introduced: UG programme

- 23160 AEC13- Principles of Management
- 23160 AEC14- Accounting for Managers I
- 23160 GEC15- Managerial Economics
- 23160 GEC16- Business communication
- 23160 AEC23- Accounting for Managers II
- 23160 AEC24- International Trade
- 23160 GEC25- Business Environment
- 23160 GEC26- Organizational Behaviour
- 23160 AEC33- Entrepreneurial Development
- 23160 AEC34- MarketingManagement
- 23160 GEC35- Business Statistics
- 23160 GEC36- Human Resource Management
- 23160AEC43 Business Regulatory Frame Work
- 23160AEC44 Financial Services
- 23160GEC45 Management Information System
- 23160GEC46 Operation Research
- 23160AEC51 Advertising Management and Sales Promotion Total Quality Management
- 23160AEC52 Operations Management
- 23160AEC53 Financial Management
- 23160DSE54 Digital Marketing
- 23160DSE54 Industrial Relations
- 23160DSE55 -Financial Literacy
- 23160DSC55 Strategic Management
- 23160AEC61 Material Management
- 23160AEC62 Services Marketing
- 23160AEC63 Business Taxation
- 23160DSE64A Consumer Behaviour
- 23160DSE64B Competency Mapping
- 23160DSE65 Security Analysis Portfolio Management
- 23160DSE65 -ALogistics and Supply Chain Management
- 23160DSE65B E-Business

#### **Skill Enhancement Course**

- 23160 SEC1-Basics of Event Management
- 23160 SEC2- Managerial Skill Development
- 23160SEC3- Business Etiquette and Corporate Grooming
- 23160 SEC4- Computer Applications in Business

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23160 SEC6-Tally

23160 SEC7- Intellectual Property Rights

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23160 SEC5- Entrepreneurial Skill New Venture Management

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4

4

3

3

2

2

2

23160 SEC7-	- Intellectual Property Regins				
Ability Enha	incement Compulsory course				
23160AECC	2- Communication Skills/ EVS				
• 23160 AECC	1- Indian Constitution				
ADICO AECO	7.3. Research Methodology				
• 23160 AECO	C 4- Participation In Bounded Research				
AUDIT CO	URSE				
• 231LSCUV-1	Universal Human Values				
<ul> <li>231SSCBE-</li> </ul>	- Basic Behavioral Etiquette				
- DOLL SCOA-	Office Automation				
· 231LSCLS-	Leadership and Management Skills				
• 231ACLSPS	SL- Professional Skills BACHELOR OF BUSINESS ADMINISTRATION				
	Course Structure-2023				
	BBA - REGULATION 2023	T	T	P	C
Course Code	Course Title	L	1		
	Tami – I/Advanced English-I/Hindi-I/ French - I	3	0	0	3
23110AEC11/	Tallin – I/Auvalieea Englisti				
23111AEC11/					
23132AEC11/					
23135AEC11					
	P P 1 I	3	0	0	3
23111AEC12	English-I	4	0	0	4
23160AEC13	Principles of Management	4	U	U	
LITOUALCIS		4	0	0	4
23160AEC14	Accounting for Managers I		0	0	3
23160GEC15	Managerial Economics	4	0	0	2
		4	0	0	3
23160GEC16	Marketing Management				
	Skill Enhancement Course				
221 (0000017	Managerial Skill Development (NME)	2	0	0	1
23160SEC17	STATISTICS OF AN AND A STATISTICS OF A STATIST	2	0	0	
23160SEC18	Foundation course/Bridge Course			1	
25100000010					
2310052010	Ability Enhancement Compulsory Course (AB	2	0	0	

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Т	231LSCUV	Universal Human Values		-	-	-	1
			Total	28			26
		*					
		SEMESTER	-II				
			4				



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-	Course Code	Course Title	L	Т	P	С
	23110AEC21/	Tamil – II/ Advanced English-II/Hindi-II/	3	0	0	3
	23111AEC21/	French – II				
	23132AEC21/					
	23135AEC21					
	23111AEC22	English-II	3	0	0	3
	23160AEC23	Business communication	4	0	0	3
π.	23160AEC24	Accounting for Managers II	4	0	0	3
	23160GEC25	International Trade	4	0	0	3
	23160GEC26	Business Ethics	3	0	0	3
		Skill Enhancement Course				
	23160SEC27	E-Business (NME)	2	0	0	2
	23160SEC28	Elements of Insurance	2	0	0	2
	Ability Enhancement Compulsory Course (AECC2)					
	231AECCCMS	Communication Skills	2	0	0	2
	231SSCBE	Basic Behavioral Etiquette	0	0	0	1
		Total	30			25
		SEMESTER – III				
	Course Code	e Course Title	L	T	P	C
1.51	23110AEC31		3	0	0	
	23132AEC31	/ French – III				3
	23111AEC31	/				
	23135AEC3					
	23111AEC32	2 English-III	3	0	0	3
	23160AEC33	Business Environment	4	0	0	3
	23160AEC34	Organizational Behaviour	4	0	0	3

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	23160 GEC35	Business Statistics	3	0	0	2				
	23160GEC36	5 Computer Application in Business	3	0	0	2				
		Skill Enhancement Course								
	23160SEC37	Intellectual Property Rights	2	0.	0	2				
	23160SEC38 Tally. ERP 9		2			1				
	Ability Enhancement Compulsory course (AECC3)									
	23160RMC39	Research Methodology	2	0	0	2				
	231ACLSOAN	I Office Automation	0	0	0	1				
		Total	30	0	0	22				
	SEMESTER – IV									
	Course Code	Course Title	L	T	P	C				
	23110AEC41/	Tamil-IV/Advanced English-IV /Hindi-IV/	3	0	0	3				
-	23111AEC41/	French – IV								
	23111AEC42	English-IV	3	0	0	3				
	23160AEC43	Human Resource Management	4	0	0	3				
	23160AEC44	Business Regulatory Frame Work	4	0	0	3				
	23160GEC45	Financial Services	3	0	0	3				
	23160GEC46	Operation Research	3	0	0	3				
		Skill Enhancement Course								
		Skin Enhancement Course								
	23160SEC47	Information Technology Concepts	2	0	0	2				

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231AECCEVS	Environmental Studies	2	(	)	0	2
231LCSCLS	Leadership and Management Skills	0		0	0	1
	Total	30				24
	SEMESTER – V		-			
Course Code	Course Title	L		T	P	C
23160AEC51	Advertising management and sales promotion	4		1	0	4
23160AEC52	Research Methodology	4		1	0	3
23160AEC53	Operations Management	5		0	0	4
23160DSC54	Financial Management	5		0	0	4
23160DSC55	Digital Marketing (OR) Industrial Relations	4		0	0	3
23160DSC56	Financial Literacy (OR) Strategic Management	4		0	0	3
	Skill Enhancement Course			Ę		
2360SEC57	Summer Internship/Industrial Training	-		-	-	2
231ECCVED	Value Education	2		0	0	2
231ACLSPSL	Professional Skills	(	)	0	0	1
	Total	3	0			2
	SEMESTER – VI					
Course Code	Course Title	L	T		P	C
23160AEC61	Material Management	6	0		0	4
23160AEC62	Services Marketing	6	0		0	4
23160AEC63	Business Taxation	6	0		0	4

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	TOTAL				147
	Total	30			25
231ACSSIST	Indian Knowledge System	0	0	0	2
231EXACT	Extension activity	-	-	-	1
231SECD67	General awareness for Competitive Examinations	2	0	0	2
	Skill Enhancement Course	2	0	0	2
23160PRW66	Project Work	-	-		4
23160DSE65	Logistics and Supply Chain Management (OR) Company Law	5	0	0	3
23160DSC64	Consumer Behaviour (OR) Security Analysis Portfolio Management	5	0	0	3

- The members of the Board approved the syllabus for "New Courses Introduced in UG Business Management" that was proposed to them. Refer to Annexure I for the same
- The LOCF document was presented to the BOS members. The BOS members confirmed that the syllabus-related matter has been incorporated into the LOCF document. Refer to the LOCF document for the same.
- The syllabus for the course "Indian Knowledge System" was presented and discussed with the BoS members, followed by their approval. Refer to Annexure II for the same.
- The syllabus for the course "Disaster Management" was presented and discussed with the BOS members, followed by their approval. Refer to Annexure IV for the

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same.

It was proposed that advanced learners should actively participate in peer teaching and be motivated to participate in more than one online course. Activities like the departmental newsletter, student-organised seminars, and journal club discussion forum should be coordinated by them. It was also recommended to conduct a departmental-level finishing school programme for the graduating batch of students. Board members also opined to encourage students to join individual summer internship programmes in reputed research institutions like NCBS, CCMB, and IISC in order to strengthen their skills and expertise in the field of Business Management
It was resolved to make changes in BBA Syllabus in the I semester and II semester

syllabuses. Refer to Annexure V for the same.

• It was resolved to make changes in BBA Syllabus in the I semester syllabus. Refer

to Annexure VI for the same.

**Resolution:** The Board resolved to accept the same. New syllabus for BBA Management approved. It will be effective from the Academic year 2023-2024..

4 Agendum 4: Discussion on the development of the MBA Management New Curriculum under R 2023.

**Discussion:** 

A draft curriculum for MBA Management was proposed with modification to committee and the following points were discussed.

□ The members wanted to confirm the total number of credits accounting for 91.

The chairman informed that it was done according to the Tamil Nadu state Council for Higher Education (TANSCHE) requirements and will put forth this to the Academic Council.

MASTER OF BUSINESS ADMINISTRATION

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I I I	<u>No</u>	Code	Subject Title	L	Т	Р	C
		23260CC1	Management Principles and Business Ethics	4	0	0	4
т	2	23260CC2	Quantitative Techniques and Research Methods in Business	3	1	0	3
1	3	23260CC3	Managing Organizational Behaviour	4	0	0	4
I	4	23260CC4	Accounting for Managers	3	1	0	3
Ι	5	23260CC5	Managerial Economics	4	0	0	4
I	6	23260CC6	Legal Systems in Business	4	0	0	4
			Ability Enhancement Course				
Ι	7	23260SEC1	entrepreneurship development	3	2	0	3
			Audit course				Č.
Ι	8	23260SEC2	Research Led Seminar	0	0	0	1
			Skill Enhancement Course				
I	9	23260SEC3	Executive communication	0	0	2	2
			Total	2 5	0	2	28
II	1	23260CC7	Applied Operations Research		1	0	3
Ш	2	23260CC8	Human Resource Management		0	0	4
II	3	23260CC9	Marketing Management		0	0	4
П	4	23260CC10	Operations Management	3	1	0	3
II	5	23260CC11	Financial Management	3	1	0	3
II	6				0	0	4
ш	0	23260CC12	Strategic Management Ability Enhancement Course	4	0	0	4
II	7	23260SEC4	International business	3	0	0	3
11	1	252003204	Audit course	5		0	5
II	8	23260SEC5	Participation in Bounded Research	0	0	2	2
			Skill Enhancement Course				
Π	9	23260SEC6	Computing skills	0	0	2	2
II	10	23260SEC7	Business etiquette	0	0	2	2
			Total	24	3	6	30
III	1	23260CC13	Information Systems for Business	4	0	0	4
III	2	23260E-3	Elective 1	3	0	0	3
III	3	23260E-3-	Elective 2	3	0	0	3
III	4	23260E-3-	Elective 3	3	0	0	3
Ш	5	23260E-3-	Elective 4 3 0 0		3		
III III	6 7	23260E-3- 23260E-3-					
111	1	23200E-3-	Ability Enhancement Course	5	10	10	3
III	8	23260SEC8	Employability skills	3	0	0	3
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			Total	25 0	2	27
IV		23260SE	C1 Research N	Research Methods in Management 5 0		4
IV		23260PW	V11 Project W	ork & Viva- Voce 0 0	0	12
			Total	0 0	-	8 <del></del>
				Total Credits 79 5	10	89
			CURRICULU	M (2023 ONWARDS)		]
	III Ser	n Specializa	tion Courses: I	Finance Management		
	Sem	Paper no	Subject code	Sub title	Credit	-
	III	1	20360EC31	1		
	III	2	20360EC32	Security Analysis and Portfolio Management	3	
	Ш	3	20360EC33 Tax Management		3	
	III	4	20360EC34	Merchant Banking and Financial Services	3	
	III	5	20360EC35	Derivatives Management	3	
	III	6	20360EC36	Banking and Insurance	3	
	111	7	20360EC37	Capital Markets and Financial Services	3	
	III	8	20360EC38	Fixed Income Securities	3	
	III	9	20360EC39	International Financial Management	3	
	III	10	20360EC40	Risk Management in Banks	3	
	III Ser	m Specializ	zation Courses:	Marketing Management		
	Sem	Paper no	Subject code	Sub title	Credit	

Advertising

Management

Sales

Sales Promotion

Brand Management

Retail Marketing

Rural Marketing

Negotiation Skills

Marketing Analytics

New Product Strategies

Advanced

International Marketing

and

Customer Relations Management

Sub title

Selling

20360EA31

20360EA32

20360EA33

20360EA34

20360EA35

20360EA36

20360EA37

20360EA38

20360EA39

20360EA40

Subject code

Management and

Distribution

3

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Credit

and

Specialization Courses: Human Resource Management



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	III	1	20360EB31	Human Resources Development	3
	III	2	20360EB32	Performance Management	3
	III	3	20360EB33	Organizational Development	3
	III	4	20360EB34	Industrial and Labour Relations	3
	III	5	20360EB35	Career Management	3
	III	6	20360EB36	HR Analytics	3
	III	7	20360EB37	Learning and Development	3
	III	8	20360EB38	Organizational Change	3
	III	9	20360EB30	Talent Management	3
	III	10	20360EB59	Stress Management	3
	III Ser Mana	n Spee gement		rses: Logistics and Supply Chain	Curdita
	Sem	Paper no	Subject code	Sub title	Credit
	III	1	20360EE31	Supply Chain Management	3
	III	2	20360EE32	Principles and Practice of Logistics Management	3
	III	3	20360EE33	Inventory & Warehousing Management	3
	III	4	20360EE34	Domestic and International Logistics	3
				Logistics legal framework and	3
-	III	5	20360EE35	Maritime documents	3
	III	6	20360EE36	Export & Import Management	3
	III	7	20360EE37	Strategic Logistics Management	3
	III	8	20360EE38	Distribution Management	3
	III	9	20360EE39	Multi-Modal Transportation	3
	III	10	20360EE40	Logistics Infrastructure	3
	III Sei	n Speci		ses: Hospital Management Sub title	Credit
	Sem	Paper no 1	20360EH31	Health Policy and Health Care System	3
	III	2	20360EH32	Hospital Planning and Administration	3
	III	3	20360EH33	Hospital Records Management	3
		4	20360EH34	Hospital Core Services	3
		5	20360EH35	Hospital Support Services	3
	III	6	20360EH35	Quality Assurance in Health Care	3
	111	0	2030001130	Kanned a voor and and a set	
	III	7	20360EH37	Operations Management in health care	3

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				Technology						
	III	9	20360EH39	Total Quality Management in Hospital	3					
	III	10	20360EH40	Health care accreditation and Law	3					
	will be effecti	ve from A	cademic year 20		proved. It					
5	Agendum 5:	Discussion	1 on Value adde	d courses						
	Discussion:				61					
				rses ) were discussed, the department of	Business					
	Management									
	-	loma in E-								
			ax Procedure &							
				amp; Marketing						
	Certificate Course in Investment Management Resolution:									
	The committee recommended and approved both the courses.									
6	Agendum 6: Discussion on Four years Under Graduate Programme (FYUGP) B.Com									
	,B.Com CA Hons									
		Discussion: FYUGP detailed syllabus of the programme in the Annexure VI								
	Discussion: F	YUGP de	tailed syllabus of	of the programme in the Annexure VI						
-	Resolution: 7	The Board	recommended t	of the programme in the Annexure VI he FYUGP for approved by the Academ	ic council.					
7	Discussion: F Resolution: 7 Agendum 4:	The Board	recommended t	of the programme in the Annexure VI he FYUGP for approved by the Academ	ic council.					
7	Resolution: 7	The Board	recommended t	of the programme in the Annexure VI he FYUGP for approved by the Academ	ic council.					
7	Resolution: 7 Agendum 4: Discussion:	The Board Any other	recommended t matters	he FYUGP for approved by the Academ						
7	Resolution: 7Agendum 4:Discussion:• The boar	The Board Any other d of studie	recommended t matters es in Manageme	he FYUGP for approved by the Academ ent recommends the panel of experts for						
7	Resolution: 7Agendum 4:Discussion:• The boarpurposes	The Board Any other d of studie as per the	recommended t matters es in Manageme guidelines of th	he FYUGP for approved by the Academ ent recommends the panel of experts for the institution.	r examination					
7	Resolution: 7Agendum 4:Discussion:• The boarpurposes• The boar	The Board Any other d of studie as per the d also su	recommended t matters es in Manageme guidelines of th ggested measur	he FYUGP for approved by the Academent recommends the panel of experts for a institution.	r examination ative thinking					
7	Resolution: 7Agendum 4:Discussion:• The boarpurposes• The boar	The Board Any other d of studie as per the d also su	recommended t matters es in Manageme guidelines of th ggested measur	he FYUGP for approved by the Academ ent recommends the panel of experts for the institution.	r examination ative thinking					
7	Resolution: 7Agendum 4:Discussion:• The boarpurposes• The boar	The Board Any other d of studie as per the d also su the post	recommended t matters es in Manageme guidelines of th ggested measur	he FYUGP for approved by the Academ ent recommends the panel of experts for the institution. The ses to improve the creative and innova	r examination ative thinking					
7	Resolution: 7 Agendum 4: Discussion: • The boar purposes • The boar ability of and pract	The Board Any other d of studie as per the d also su the post ical's.	recommended t matters es in Manageme guidelines of th ggested measur graduate studen	he FYUGP for approved by the Academent recommends the panel of experts for the institution. The institution is the creative and innova ts by assigning critical research probler	r examination ative thinking ns in project					
7	Resolution: 7Agendum 4:Discussion:• The boarpurposes• The boarability ofand pract• The sugg	The Board Any other d of studie as per the d also su the post ical's.	recommended t matters es in Manageme guidelines of th ggested measur graduate studen	he FYUGP for approved by the Academent recommends the panel of experts for the institution. The institution. The institution is by assigning critical research problements parents, students, Alumni and employer	r examination ative thinking ns in project viz, practica					
7	Resolution: 7 Agendum 4: Discussion: • The boar purposes • The boar ability of and pract • The sugg oriented of	The Board Any other d of studie as per the d also su the post ical's. estions rec curriculum	recommended t matters es in Manageme guidelines of th ggested measur graduate studen ceived from the n and skill enhar	he FYUGP for approved by the Academent recommends the panel of experts for the institution. The institution. The institution is the creative and innova the by assigning critical research problem parents, students, Alumni and employer incement internship training were discuss	r examination ative thinking ns in project viz, practica ed.					
7	Resolution: 7 Agendum 4: Discussion: • The boar purposes • The boar ability of and pract • The sugg oriented of	The Board Any other d of studie as per the d also su the post ical's. estions rec curriculum	recommended t matters es in Manageme guidelines of th ggested measur graduate studen ceived from the n and skill enhar	he FYUGP for approved by the Academent recommends the panel of experts for the institution. The institution. The institution is by assigning critical research problements parents, students, Alumni and employer	r examination ative thinking ns in project viz, practica ed.					
7	Resolution: 7 Agendum 4: Discussion: • The boar purposes • The boar ability of and pract • The sugg oriented of	The Board Any other d of studie as per the rd also su the post ical's. estions rea curriculum rd also su	recommended t matters es in Manageme guidelines of th ggested measur graduate studen ceived from the n and skill enhar	he FYUGP for approved by the Academent recommends the panel of experts for the institution. The institution. The institution is the creative and innova the by assigning critical research problem parents, students, Alumni and employer incement internship training were discuss	r examination ative thinking ns in project viz, practica ed.					

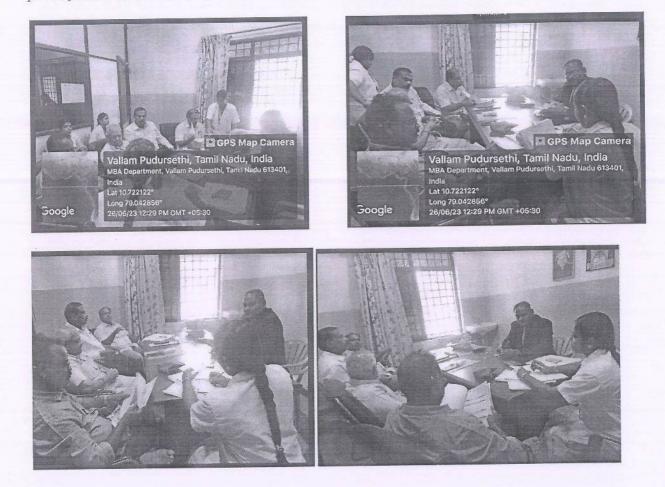
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The chairman of Board of Studies (BOS) thanked all the members for their active participation and cordially invited them for the next meeting .



Date: 26.06.2023

Dr.S.Rajendran BOS Chairman / HOD

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BOS

# Syllabus Revision- New Course

Semest Course	er: I Board: Management Code/Name: Accounting For Managers I
Unit	Content
1	Meaning and scope of Accounting, Basic Accounting Concepts and Conventions – Objectives of Accounting – Accounting Transactions – Double Entry Book Keeping – Journal, Ledger, Preparation of Trial Balance.
II	Subsidiary book – Preparation of cash Book – Bank reconciliation statement – rectification of errors – Suspense account.
III	Preparation of Final Accounts – Adjustments – Closing stock, outstanding, prepaid and accrued, depreciation, bad and doubtful debts, provision and discount on debtors and creditors, interest on drawings and capital, Abnormal loss, managerial remuneration.
IV	Partnership Accounts- Basic concepts of admission, retirement and death of a partner including treatment of goodwill. Depreciation– Meaning, Causes, Types – Straight Line Method – Written Down Value Method.
V	Single Entry – Meaning, Features, Defects, Differences between Single Entry and Double Entry System – Statement of Affairs Method – Conversion Method.

### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

1	Skill development	1	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

# Semester : I

#### **Board: Management**

Course Code/Name: Managerial Economics

Unit	Existing	Changes
1	Introduction – Natural & amp; Scope of Managerial Economics – Significance of Managerial Economics.	
II -	Demand Analysis – Basic Concepts and Tools for Analysis of Demand – Demand forecasting.	Demand analysis – Theory of consumer behavior – Marginal utility analysis – indifference curve analysis Meaning of demand – Law of demand – Types of demand-Determinants of demand – Elasticity of demand –Demand forecasting.
III	Cost Concepts and Cost Analysis – Production Function – Cost Price – Output Relations.	Production and cost analysis – Production – Factors of production – production function – Concept – Law of variable proportion – Law of return to scale and economics of scale – cost analysis – Different cost concepts – Cost output relationship short run and long run – Revenue curves of firms – Supply analysis.
IV	Price and Output Decisions under different Market Structures Perfect Competition – Monopoly – Monopolistic Competition – Oligopoly – Pricing Policy – Pricing Methods and Approaches – Product Line Pricing – Price Forecasting.	Pricing methods and strategies – Objectives – Factors – General consideration of pricing – methods of pricing – Dual pricing – Price discrimination
V	National Income-definition, measurement – Factors – difficulties in measurement. GDP-NDP-Business cycle- phases – Inflation- types and control measures. Managerial Economics in the Context of Globalization.	Market classification – Perfect competition – Monopoly – Monopolistic competition – Duopoly – Oligopoly.

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### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development		Entrepreneurial development
~	Employability	$\checkmark$	Professional Ethics
	Gender Sensitization	1	Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

## Semester: I Course Code/Name: Basics of Event Management

#### **Board: Management**

Unit	Content
I	Introduction: Event Management - Definition, Need, Importance, Activities.
II	Concept and Design of Events: Event Co-ordination, Developing &, Evaluating event concept – Event Design
III	Event Feasibility: Resources – Feasibility, SWOT Analysis
IV	Event Planning & Promotion – Marketing & Promotion – 5Ps of Event Marketing – Product, Price, Place, Promotion, Public Relations
V	Event Budget – Financial Analysis – Event Cost – Event Sponsorship

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

✓	Skill development	1	Entrepreneurial development
~	Employability	~	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment	1	Environment and Sustainability
	Intellectual Property Rights		

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Semester: II

#### PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

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BOS

## Syllabus Revision- New Course

**Board: Management** 

Course Code/Name: Accounting For Managers II

Unit	Content
I	Cost accounting – Meaning, nature, scope and functions, need, importance and limitations- Cost concepts and classification – cost sheets – Tenders & Quotation
II	<ul> <li>Management accounting – Meaning, nature, scope and functions, need, importance and</li> <li>limitations – Management Accounting vs. Cost Accounting. Management Accounting vs.</li> <li>Financial Accounting. Analysis and Interpretation of financial statements – Nature, objectives, essentials and tools, methods – Comparative Statements, Common Size statement and Trend analysis.</li> </ul>
III	Ratio Analysis – Interpretation, benefits and limitations. Classification of ratios - Liquidity, Profitability, turnover.
IV	Budgets and budgetary control – Meaning, objectives, merits and demerits – Sales, Production, flexible budgets and cash budget
V	Marginal Costing – CVP analysis – Break even analysis.

### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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## PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
~	Employability	✓ .	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Semester II:

Course Code/Name: Business Communication

Unit	LAISUNG	
I	Introduction – Definition, Characteristics and need for communication – Importance of effective communication – Process, Principles of Communication - Barriers of communication.	Changes Definition – Methods – Types – Principles of effective Communication – Barriers to Communication – Communication etiquette.
II	Means of communication – Oral and Written Communication – Flow of Communication – Types of Communication – Non Verbal Communication.	Business Letter – Layout- Kinds of Business Letters: application, offer, acceptance/ acknowledgement and promotion letters. Business Development Letters – Enquiry, replies,
III	Introduction to Business Correspondence – Structure Layout – Letters of Enquiries, Offers, Quotations and Tenders – Orders, its execution and Cancellation Letters – Sales Letters.	Order, Sales, circulars, Grievances. Interviews- Direct, telephonic & Virtual interviews- Group discussion – Presentation skills – body language.
	Bank Correspondence – Letter between banker and customer, Letter between Head office and Branch Office, Letter between Customer and banker. Insurance Correspondence – Fire, Marine, General and Life Insurance. Export and Import Correspondence.	Communication through Reports – Agenda- Minutes of Meeting - Resume Writing.
V II II I I V I V V V V V V V V II V V II V V V V V V V V V V V V V V V V V V V V	Reports - Structure and Layout – Business Report Writing – Reports by Individuals, Committees, Press Reports, Market Reports – Proposal Vriting. Technology – Aided Business Communication – Internet, E- Mail, Web-based Communication, IT rends in Communication.	Modern Forms of Communication: podcasts, Email, virtual meetings – Websites and their use in Business – social media- Professional Networking sites.

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## Semester: II Course Code/Name: International Trade

**Board: Management** 

Unit	Content
1	Difference between Internal and International Trade – Importance of International Trade in the Global context.
II	Theories of Foreign Trade: - Absolute, Comparative, equal cost differences (Adam Smith, Ricardo, Haberler's Hechsher-Ohlin theories only)
III	Balance of Trade, Balance of Payment – Concepts – Causes of Disequilibrium, Methods to Correct Disequilibrium – Fixed and Floating Exchange Rates
IV	International Monetary Fund – IMF – International Liquidity- IBRD- WTO and its implications with special reference to India
V	International business Overview – globalization – MNC – FDI – Export management – significance to GDP- Export procedure & documentation.

### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

✓	Skill development	$\checkmark$	Entrepreneurial development
~	Employability	1	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment	1	Environment and Sustainability
	Intellectual Property Rights		

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Semester: II

#### PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

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BOS

#### Syllabus Revision- New Course

#### **Board: Management**

Course Code/Name: Managerial Skill Development

Unit	Content
I	Self: Core Competency, Understanding of Self, Components of Self— Self- identity, Self-concept, Self - confidence and Self-image. Skill Analysis and finding the right fit. Self-learning styles, attitude towards change and applications of skills.
II	Self Esteem: Meaning & Importance, Components of self-esteem, High and low self-esteem, measuring our self-esteem and its effectiveness, Personality mapping tests, Appreciative Intelligence.
III	Building Emotional Competence: Emotional Intelligence — Meaning, Components, Importance and Relevance, Positive and Negative Emotions., Healthy and Unhealthy expression of Emotions, The six-phase model of Creative Thinking: ICEDIP model.
IV	Thinking skills: The Mind/Brain/ Behaviour, thinking skills, Critical Thinking and Learning, Making Predictions and Reasoning, Memory and Critical Thinking, Emotions and Critical Thinking. Creativity: Definition and meaning of creativity, The nature of creative thinking, Convergent and Divergent thinking, Idea generation and evaluation (Brain Storming), Image generation and evaluation.
V	Thinking skills: The Mind/Brain/Behaviour, thinking skills, Critical Thinking and Learning, Making Predictions and Reasoning, Memory and Critical Thinking, Emotions and Critical Thinking. Creativity: Definition and meaning of creativity, The nature of creative thinking, Convergent and Divergent thinking, Idea generation and evaluation (Brain Storming), Image generation and evaluation.

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

1	Skill development		Entrepreneurial development
	Employability	1	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

# Syllabus Revision- New Course

**Board: Management** 

Course Code/Name: Business Etiquette and Corporate Grooming

Unit	Content .
Ι	Introduction to Business Etiquette: Introduction- ABCs of etiquette- meeting and greeting scenarios-principles of exceptional work behavior-role of good manners in business-professional conduct and personal spacing.
Π	Workplace Courtesy and Business Ethics: Workplace Courtesy- Practicing common courtesy and manners in a workplace-Etiquette at formal gatherings- Professional qualities expected from an employer's perspective - Hierarchy and
3	Protocol. Ethical issues - preventing sexualharassment-conflictresolutionstrategies- Choosingappropriategiftinthebusinessenvironment-real life workplaces cenarios - company policy for business etiquette
III	Telephone Etiquette, email etiquette and Disability Etiquette Mastering the telephone courtesy, handling rude or impatient clients -internet usage in the workplace, email etiquette, online chat etiquette guidelines -Basic disability Etiquette practices.
IV	Diversity and Cultural Awareness at Workplace Impactofdiversity- CulturalSensitivity-TaboosandPractices-Inter-CulturalCommunication.
V	Business Attire and Professionalism Business style and professional image-dress code-guidelines for appropriate business satire –grooming for success.

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
~	Employability	~	Professional Ethics
	Gender Sensitization	1	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Semester III: Course Code/Name: Business Environment

**Board: Management** 

Unit	Existing	Changes
I	Business environment- concept- significance- factors- environmental influence on business.	The concept of Business Environment – Its nature and significance – Brief overview of political – Cultural – Legal – Economic and social environments and their impact on business and strategic decisions
II	Social and cultural environment- demographic trend- Indian social structure- impact on business- Inter play of various systems.	Political Environment – Government and Business relationships in India
111	Political environment- directive principles of state policy-centre- state relations- impact on business- economic environment- sectors of economy and their significance- agriculture, industry- service- multinational corporations- meaning- importance- advantages- weakness.	Social environment – Cultural heritage- Social attitudes – Castes and communities – Joint family systems – linguistic and religious groups – Types of social organization
IV	Technological environment- choice of technology- problems in selecting appropriate technology- importance to business- social responsibility- meaning- importance- responsibility towards various interest groups.	Economic Environment – Economic systems and their impact of business – Role of planning - NITI aayog.
	Economic planning and development- government and planning- industrial policies and promotion schemes- government policy and SSI.	Financial Environment – Financial system – Commercial bank – Financial Institutions – RBI Stock Exchange – IDBI – Non-Banking Financial Companies NBFCs

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BOS

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

1	Skill dèvelopment		Entrepreneurial development
1	Employability	1	Professional Ethics
	Gender Sensitization	~	Human Values
~	Social Awareness/Environment	• 🗸	Environment and Sustainability
	Intellectual Property Rights		

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# Semester III: Course Code/Name: Organizational behaviour

Unit	Existing	Changes
I	Organizational Behaviour – Concept – Nature - Models - Other similar fields of study – Disciplines contributing to Organizational Behaviour - Individual Behaviour – Perception.	Need and scope of organizational behaviour - Theories of organization - Individual difference Vs Group intelligence tests -Measurement of intelligence - Personality Tests - Nature – Types and uses of perception
Π	Personality – Definition - Determinants - Group Dynamics – Formal and Informal Groups, Group Norms, Group Cohesiveness, Group Behaviour and Group Decision – making.	Motivation - Financial and non -Financial motivational techniques - Job satisfaction - meaning - Factors - Theories - Measurement -Morale - Importance - Employee attitudes and behavior and their significance to employee productivity.
III	Leadership – Concept – Qualities of effective Leadership – Leadership Styles – Definition of Power – Types of Power - Sources of power – Power and Politics.	Work environment - Good house-keeping practices - Design of work place – Fatigue & stress – Causes and prevention and their importance – Work place counseling - Leadership -Types and theories of leadership
IV	Definition of Authority – Characteristics – Types of Authority - Organizational conflict, source of conflicts – Types of conflicts – Job frustration and causes.	Group dynamics -Cohesiveness - Co- operation - Competition - Resolution - Sociometry - Group norms - Role position status
V	Motivation – Concept – Nature – significance - Theories of Motivation – Maslow's need hierarchy theory – Mc Gregor's Theory X and Theory Y – Herzberg Two Factor Theory - Stress Management – Concept - Sources - Effects of stress - Management of Stress.	Organizational culture and climate - Organizational Development

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# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

Skill develo	pment		Entrepreneurial development
✓ Employabili	ity		Professional Ethics
Gender Sens	sitization	1	Human Values
Social Awareness/I	Environment		Environment and Sustainability
Intellectual 1	Property Rights		
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# Syllabus Revision- New Course

#### **Board:Management**

# Semester: III Course Code/Name:Business Statistics

Unit	Content			
1	Introduction – Meaning and Definition of Statistics – Collection and Tabulation of Statistical Data – Presentation of Statistical Data – Graphs and Diagrams- Measures of Central Tendency – Arithmetic Mean, Median and Mode – Harmonic Mean and Geometric Mean.			
[]	Measures of Variation – Standard Deviation – Mean deviation – Quartile deviatior Skewness and kurtosis – Lorenz Curve –Simple Correlation – Scatter Diagram – Karl Pearson's Correlation – Rank Correlation – Regression.			
111	Analysis of Time Series – Methods of Measuring Trend and Seasonal Variations			
IV	Index Numbers – Consumer Price Index – And Cost of Living Indices- Statistical quality control			
V	Testing of hypothesis – Chi-Square test, T Test, F Test, ANOVA.			

# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

× .	Skill development	Entrepreneurial development
~	Employability	Professional Ethics
	Gender Sensitization	Human Values
	Social Awareness/Environment	• Environment and Sustainability
	Intellectual Property Rights	

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#### Semester: III Course Code/Name: Computer Application In Business

#### **Board:Management**

Unit	Content
Ι	Introduction, Menus, Shortcuts, Document types, working with Documents-Opening, Saving, Closing, Editing Document, Using Toolbars, Rulers, Help, Formatting Documents-Setting font, paragraph, Page Style-Setting foot notes, page break, Line break, creating sections and frames, Inserting clip arts, pictures, Setting document styles, Creating Tables-Settings, borders, alignments, Merging, splitting, sorting rows and columns, Drawing-Inserting, drawing, formatting, grouping, ordering, rotating pictures, Tools-Word completion, Spell check, Macros, Mail merge, Tracking Changes, Security, Printing Documents .
11	Introduction, Spread sheet application, Menus, Tool bars and icons, Spreadsheet-Opening, saving, closing, printing file, setting margins, Converting file to different formats, spread sheet addressing, Entering And Editing Data- Copy, cut, paste, undo, redo, find, search, replace, filling continuous rows and columns, insertingdata cells, columns, rows and sheet, Computation Data-Setting formula, finding total in rows and columns, Functions Types-Mathematical, Group, string, date and time, Formatting Spread Sheet- Alignment, font, border, hiding, locking, cells, Highlighting values, background color, bordering and shading, Working With Sheet-Sorting, filtering, validation, consolidation, subtotals, Charts-Selecting, formatting, labeling, scaling, Tools- Error checking, spell check, formula auditing, tracking changes, customization
III	Introduction, opening new presentation, Presentation templates, presentation layout, Creating Presentation- Setting presentation style, adding text, Formatting- Adding style, color, gradient fills, arranging objects, adding header and footer, slide background, slide layout, Slide Show, Adding Graphics-Inserting pictures, movies, tables, Adding Effects- Setting animation and transition effects, audio and video, Printing handouts.
IV	Introduction to Tally - Features of tally, creation of company, Accounts only and accounts with, Get way of Tally, Accounts confiscation, Groups and Ledgers, Voucher entry with Bill wise details Interest computation, order processing. Reports - Profit and Loss A/C, Balance Sheet
V	Use Google forms to develop & share questionnaire.

# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights	D#0	

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Semester: III

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BOS

#### Syllabus Revision- New Course

**Board: Management** 

#### Course Code/Name: Entrepreneurial Skill New Venture Management

Unit	Content				
I	Concept of Entrepreneurship – Evolution - importance – Importance of entrepreneurship, developing creativity and understanding innovation, stimulating creativity; Organisational actions that enhance creativity, Managerial responsibilities, Creative Teams; Sources of Innovation in Business; Managing Organizations for Innovation and Positive Creativity.				
II	Developing Successful Business Ideas:Recognizing Opportunities and Generating Ideas - Entry strategies: New Product –Franchising - Buying an existing firm. –Franchising advantages/disadvantages of franchising - types of franchise arrangements - franchise evaluation checklist.				
III	Feasibility Analysis: Marketing, Technical and Financial Feasibility analysis - Industry and Competitor Analysis-assessing a New Venture's Financial Strength and Viability - writing a Business Plan - Developing an Effective Business Model				
IV	Moving from an Idea to a New Venture:Preparing the Proper Ethical and Legal Foundation- Building a New-Venture Team – Leadership - Corporate Entrepreneurship, Social Entrepreneurship. Strategic planning for business - Steps in strategic planning. Forms of ownership – advantages/disadvantages.				
V	Financing the New Venture:Financing entrepreneurial ventures - Managing growth; Valuation of a new company - Harvesting and Exit Strategies - Arrangement of funds - Traditional sources of financing - Alternate Source of Funding - Financial schemes offered by various financial institutions - Government Schemes that support Entrepreneurs, Start-ups, MSMEs, any new venture - rules and regulations governing support by these institutions.				

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment	1	Environment and Sustainability
	Intellectual Property Rights		

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# Semester IV:

Course Code/Name: Human Resource management

Unit	Existing	Changes
1	Human Resource Management - Introduction and Importance - Evolution – objectives of Human resource management – role of Human resource management - Human resource policies.	Nature and scope of Human Resources Management – Differences between personnel management and HRM – Environment of HRM – Human resource planning
II	Objectives - Importance of HRP- process of HRP – Job analysis-Job Description - Job Specification - Recruitment- Sources of Recruitment - Selection process – Retention of Employees	Recruitment – Selection – Methods of Selection – Uses of various tests – interview techniques in selection and placement. Induction – Training – Methods – Techniques – Identification of the training needs – Training and Development.
III	Training and Development - Training Process - Methods of Training - Need - Evaluation of Training programmes – Concept of Performance appraisal - methods of Performance Appraisal- Rating Errors - Grievances – causes and its functions – Career Planning- career management.	Performance appraisal – Transfer – Promotion and termination of services – Career development. Remuneration – Components of remuneration – Incentives – Benefits – Motivation – Welfare and social security measures.
IV	Concepts and Components - Compensation plans – Rewards – Motivation – Theories of motivation – Employee Welfare - Kinds of Retirement.	Labour Relation – Functions of Trade Unions – Forms of collective bargaining- Workers' participation in management – Types and effectiveness – Industrial Disputes and Settlements (laws excluded)
V	Factors influencing industrial relations - State Interventions and Legal Framework - Role of Trade unions - Collective Bargaining - Workers' participation in management- time management.	Human Resource Audit – Nature – Benefits – Scope – Approaches. HRIS. Recent trends in HRM: Green HRM & Virtual HRM Practices

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# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization	1	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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Semester: IV

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#### Syllabus Revision- New Course

#### **Board: Management**

Course Code/Name: Business Regulatory Framework

Unit	Content
I	Brief outline of Indian Contracts Act - Special contracts Act
11	Sale of goods Act - Contract of Agency
III	Brief outline of Indian Companies Act 1956.
IV	Consumer Protection Act – RTI
V	Brief outline of Cyber laws – IT Act 2000 & 2008

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

#### Syllabus Revision- New Course

**Board: Management** 

# Semester: IV Course Code/Name: Operation Research

Unit	Content
1	Linear Programming problem -Concept and scope of OR, general mathematical model of LPP, steps of L.P model formulation, Graphical method of the solution of LPP- simple problems.
II	Transportation problem- Basic definitions, formulation of transportation problem as LPP, finding an initial basic feasible solution- North -west corner rule, row minima method, column minima method, least cost entry method-Vogel's approximation method to find the optimal solution.
III	Assignment problem-Hungarian method- Minimization and Maximization case, unbalanced assignment problem. Sequencing Problem-Processing n jobs on 2 machines, processing n jobs on 3 machines, processing n jobs on m machines.
IV	Network models-PERT and CPM — difference between PERT and CPM- constructing network- critical path, various floats, three-time estimates for PERT
V	Game Theory- Maximin-Minmax criterion, Saddle point, Dominance property, Graphical method for solving 2xn and mx2 game

# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	Entrepreneurial development
~	Employability	Professional Ethics
	Gender Sensitization	Human Values
	Social Awareness/Environment	Environment and Sustainability
	Intellectual Property Rights	

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#### Syllabus Revision- New Course

**Board: Management** 

# Semester: IV Course Code/Name: Intellectual property Rights

Unit	Content
I	IPR Introduction: and the need for intellectual property right – IPR in India – Different Classifications –Important Principles of IP Management – Commercialization of Intellectual Licensing–IntellectualbyLicensing–
**	IntellectualPropertyRightsinthe Cyber World. Introduction–Classification–Importance–Types of Patent Applications in India –
Π	Patentable Invention–Inventions Not Patentable.
III	Introduction–Fundamentals –Concept–Purpose–Functions–Characteristics– Guidelines - For Registration of Trade Mark – Kinds of TM – Protection – Non- Registrable TrademarksIndustrial Designs –Need for Protection of Industrial Designs.
IV	Introduction to Copyright– Conceptual Basis –Copy Right and Related Rights– Author & Ownership of Copyright - Rights Conferred By Copy Right- Registration – Transfer –Infringement– CopyrightpertainingtoSoftware/InternetandotherDigitalmedia.
V	GEOGRAPHICAL INDICATIONS: Concept, Protection & Significance

# PERCENTAGE OF SYLLAUS REVISED:100

### **COURSES FOCUSES ON:**

V	Skill development	1	Entrepreneurial development
1	Employability		Professional Ethics
	Gender Sensitization		Human Values
1	Social Awareness/Environment	5	Environment and Sustainability
$\checkmark$	Intellectual Property Rights		

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# Syllabus Revision- New Course

Semeste	er: V Board: Management
Course	Code/Name: Advertising Management and Sales Promotion
Unit	Content
I	Advertising: Advertising, objectives, task and process, market segmentation and target audience – Message and copy development.
11	Media: Mass Media - Selection, Planning and Scheduling – Web Advertising
III	Implementation: Implementing the programme coordination and control –
	Advertising agencies – Organization and operation.
IV	Sales Promotion: Why and When Sales promotion activities, Consumer and sales channel oriented – planning, budgeting and implementing and controlling campaigns
V	Control: Measurement of effectiveness – Ethics, Economics and Social Relevance - Integrated marketing communication.

# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

✓	Skill development	✓ Entrepreneurial development
~	Employability	Professional Ethics
	Gender Sensitization	Human Values
~	Social Awareness/Environment	Environment and Sustainability
	Intellectual Property Rights	

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# Semester V:

Course Code/Name: Total Quality management

Unit	Existing	Changes
I	Quality – vision, mission and policy statements. Customer Focus – customer perception of quality, Translating needs into requirements, customer retention. Dimensions of product and service quality - Cost of quality.	Introduction – Evolution of quality, Definition, Concept and Features of TQM, - Eight building blocks of TQM.
II	Overview of the contributions of Deming, Juran Crosby, Taguchi techniques – Introduction to loss function. Concepts of Quality circle, Japanese 5S principles and 8D methodology	TQM thinkers and Thought – Juran Trilogy, PDSA cycle, 5S, Kaizen, Crosby's theory on Quality Management, Quality Performance Excellence Award- Deming Application Award, European Quality Award, Malcolm Baldrige National Quality Award
III	Meaning and significance of statistical process control (SPC) – construction of control charts for variables and attributed. – Six sigma - concepts of process capability. Total productive maintenance (TMP). Business process Improvement (BPI) – principles, applications, reengineering process, benefits and limitations.	TQM tools- Benchmarking: Definition, concepts, benefits, elements, reasons for benchmarking, process of benchmarking, FMEA, Quality Function Deployment (QFD) – House of Quality, QFD Process, Benefits, Taguchi Quality Loss Function, Total Productive Maintenance (TPM) – Concept and need.
IV	Quality functions development (QFD) – Benefits, Voice of customer, House of quality (HOQ), QFD process. Failure mode effect analysis (FMEA) –FMEA stages, Process and documentation. Seven Tools (old & amp; new) - Bench marking.	Six Sigma- Features of six sigma, Goals of six sigma, DMAIC, Six Sigma implementation. Statistical Process Control- Central Tendency, The seven tools of quality, Normal curve, Control charts, Process Capability.
V	Introduction to IS/ISO 9004:2000 – quality management systems – guidelines for performance improvements. Quality Audits. TQM culture – quality council, motivation, recognition and reward. TQM framework, benefits, awareness and obstacles.	Quality Systems- ISO 9000, ISO 9000:2000, ISO 14000, other quality systems.

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### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

	Skill development		Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization	~	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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**Board: Management** 

#### Syllabus Revision- New Course

# Semester: V Course Code/Name: Operation Management

Unit	Content
I	Introduction: Nature and Scope of Operations Management. Production design & Process planning: Plant location: Factors to be considered in Plant Location – Plant Location Trends.
II	Layout of manufacturing facilities: Principles of a Good Layout – Layout Factors – Basic Types of Layouts – Service Facilities.
Ш	Production and Inventory Control: Basic types of production – Basic Inventory Models – Economic Order Quantity, Economic Batch Quantity – Reorder point – Safety stock – Classification and Codification of stock – ABC classification – Procedure for Stock Control, Materials Requirement Planning (MRP). JIT
IV	Methods Analysis and Work Measurement: Methods Study Procedures – The Purpose of Time Study – Stop Watch Time Study – Performance Rating – Allowance Factors – Standard Time – Work Sampling Technique. Quality Control: Purposes of Inspection and Quality Control – Acceptance Sampling by Variables and Attributes – Control Charts.
V	Service Operations Management: Introduction – Types of Service – Service Encounter–Service Facility Location – Service Processes and Service Delivery.

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

Employability     Gender Sensitization     Social	development
	Professional Ethics
Social	Human Values
Awareness/Environment	Environment and Sustainability
Intellectual Property Rights	

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# Semester V:

Course Code/Name: Financial management

Unit	Existing	Changes
Ι	Concept of Finance, Corporate Finance, Finance Functions and other functions. Structures of the Financial System. Financial Management – Meaning, functions and Objectives of Financial Management- Financial Planning and Forecasting of short term and long term	Meaning, objectives and Importance of Finance – Sources of finance – Functions of financial management – Role of financial manager in Financial Management.
II	Financing Decision Sources of funds - Capital Structure - Theories of capital structure - Factors affecting capital structure - Leverage - Operating, Financial and combined leverage - Cost of capital - Costs of individual components of capital - Weighted Average cost of capital.	Capital structures planning - Factors affecting capital structures – Determining Debt and equity proportion – Theories of capital structures – Leverage concept. Cost of capital – Cost of equity – cost of preference capital – Cost of debt – Cost of retained earnings – weighted Average (or) composite cost of capital (WACC)
III	Investment Decision Capital Budgeting Process - Techniques of investment appraisal: Payback period; Accounting Rate of Return - DCF Techniques - Net present value, Profitability Index and Internal Rate of Return	Capital Budgeting: ARR, Pay backperioD, Net present value, IRR, Capital rationing, simple problems on capital budgeting methods.
IV	Working Capital Decision Meaning - Nature of working capital - Classification and significance of working capital - financing of Working capital - Component of working capital, Cash, Short-term marketable securities - Management of Cash and Receivables	Dividend policies – Factors affecting dividend payment - Company Law provision on dividend payment –Various Dividend Models(Walter's Gordon's –M.M. Hypothesis)
V	Dividend Decision Theories of Dividend - Determinants of dividend - Dividend Policy - Dividend policies in practice	Working capital – components of working capital –operating cycle – Factors influencing working capital – Determining (or) Forecasting of working capital requirements.

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# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

1	Skill development	Entrepreneurial development
~	Employability	Professional Ethics
	Gender Sensitization	Human Values
	Social Awareness/Environment	Environment and Sustainability
	Intellectual Property Rights	

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#### Syllabus Revision- New Course

**Board: Management** 

# Semester: V Course Code/Name: Digital Marketing

Unit	Content
Ι	Introduction to Digital Marketing – Origin & Development of Digital Marketing – Traditional vs Digital Marketing – Opportunities & Challenges- Online Marketing Mix – Digital Advertising Market in India. 6M Framework – ASCOR & POEM Digital Marketing framework.
11	Content Marketing – Content creation process – Content pillar - Types – A/B Testing – Display Advertising – Search Engine Marketing –Search Engine Optimization (On page & Off page optimization) - Email Marketing, – Mobile Marketing.
III	Social Media Marketing: Building successful social media digital strategy – Piggy bank theory – Personal branding in social media – Crowd sourcing – Lead generation & sales in social media.
IV	Online Reputation Management: Social commerce: Ratings & Reviews -Word of Mouth- User generated content – Co-Marketing – Affiliate Marketing - Influencer Marketing.
V	Digital Analytics & Measurement: Importance of Analytics in digital space – Data capturing in online space – Types – Tracking Mechanism – Google Analytics structure – Conversion tracking – Digital Engagement funnel; Define – Key performance indicator(s) (KPIs) – Ad words & Display Networks. Overview – Applications of Sentiment analysis & Text Mining; Measuring campaign effectiveness – ROI (Return on Investment) & CLV (Customer life term value)

# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
~	Employability	1	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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**Board: Management** 

#### Syllabus Revision- New Course

Semester: V Course Code/Name: Industrial Relations

Unit Content Industrial Relations: Origin, Definition, Scope, Role, Objectives, Factors, I Participants & Importance of IR. Approaches to Industrial relations. System of IR in India. H Industrial Dispute: Meaning, Employee Dissatisfaction, Strikes - Lockouts, Lay Off & Causes of Conflict. Settlement of Disputes - Machinery - Negotiations Conciliation, Meditation, Arbitration and Adjudication. Grievance: Definition & Re dressal Procedure Ш Labor Legislation: Factories Act 1948, Employee state insurance act 1948, Employee Compensation act 1923, Employee Provident Funds and Miscellaneous Provisions Act 1952 & Trade Union Act 1926. IV Workers' participation in management: Labors Participation in Management Structure, Scope, Works Committee, Joint Management Council & Shop Council. Pre-Requisites for Successful Participation. Collective Bargaining: Definition, Meaning, Types, Process & Importance. V Trade Unions - Growth - Economic, Social and Political Conditions - Objectives-Structures and Functions-Social And Economic Responsibilities of Trade Union.

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

1	Skill development	~	Entrepreneurial development
1	Employability		Professional Ethics
	Gender Sensitization	1	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

#### Syllabus Revision- New Course

#### **Board: Management**

# Course Code/Name: Financial Literacy

Semester: V

Unit	Content
1	Financial institutions, Financial Intermediaries, Financial markets and financial instruments
II	Financial Planning, Investment Objectives, Basics of Risk and return- Insurance policies – Significance of Term insurance and Health insurance
III	Investments in Commodity, Real estate investments
IV	Mutual Funds Analysis – Evaluation criteria of Selecting the best fund, Stock Analysis – Evaluation criteria of best stocks
V	Crypto Investments - Financial freedom -Tax Planning

# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	Entrepreneurial development
~	Employability	Professional Ethics
	Gender Sensitization	Human Values
	Social Awareness/Environment	Environment and Sustainability
	Intellectual Property Rights	

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Semester V

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BOS

#### Syllabus Revision- New Course

**Board: Management** 

# Course Code/Name: STRATAGIC MANAGEMENT

Unit	Content
Ι	The Concept of Strategy - Strategic Decisions - Strategic Management - Concept - Benefits - Limitations - Strategic Management Process - Approaches.
II	Mission, Objectives -Need for Environmental Scanning - SWOT Analysis.
III	Strategy Formulation - Business Strategy - Corporate Strategy - Portfolio Analysis - BCG Matrix - Uses - Limitations.
IV	Strategy Implementation - MBO - Functional Implementation - Production - Marketing - Finance Personnel - Research and Development.
V	Strategy Evaluation and Control - Strategic Control - Evaluation Techniques.

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development		Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment	~	Environment and Sustainability
	Intellectual Property Rights		

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BOS

#### Syllabus Revision- New Course

#### **Board: Management**

# Semester VI Course Code/Name: MATERIAL MANAGEMENT

Unit	Content	
1	Materials Management- Definition-Function-Importance of Materials Management	
11	Integrated materials management- the concept- service function advantages- Inventory Control- Function of Inventory - Importance-Replenishment Stock-Material demand forecasting- MRP- Basis tools - ABC-VED- FSN Analysis - Inventory Control Of Spares And Slow Moving Items -EOQ-EBQ-Stores Planning.	
III	Purchase Management- Purchasing - Procedure - Dynamic Purchasing - Principles – import substitution- International purchase- Import purchase procedure	
IV	Store Keeping and Materials Handling- Objectives - Functions - Store Keeping - Stores Responsibilities - Location of Store House - Centralized Store Room - Equipment – Security Measures - Protection and Prevention of Stores.	
V	Vendor Rating - Vendor Management - Purchase Department - Responsibility - Buyer Seller Relationship - Value Analysis - Iso Types.	

# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

# Syllabus Revision

Board: Management

Semester VI: BBA

Course Code/Name: Services Marketing

Unit	Existing	Changes
I	Introduction – Definition – Distinguishing feature of service – Service offer – Service encounter – Service buying process.	Marketing Services: Introduction growth of the service sector. The concept of service. Characteristics of service - classification of service designing of the service, blueprinting using technology, developing human resources, building service aspirations.
II	Relationship marketing and customer loyalty – Managing knowledge – Service positioning and Targeting – Service quality.	Marketing Mix in Service Marketing: The seven Ps: product decision, pricing strategies and tactics, promotion of service and distribution methods for services. Additional dimension in services marketing- people, physical evidence and process.
Ш	Marketing plans for services – Marketing planning process – Marketing strategy formulation – Resource allocation and monitoring – Marketing planning and services – customer focused services – service quality – Improving. service quality – customer retention.	Effective Management of Service Marketing: Marketing demand and supply through capacity planning and segmentation - internal marketing of services - external versus internal Orientation of service strategy.
IV	Pricing of service – promoting service – Internal Marketing – Managing – capacity – Managing the marketing effort – Marketing process - Position analysis.	Delivering Quality Service: Causes of service - quality gaps. The customer expectations versus perceived service gap. Factors and techniques to resolve this gap. Customer relationship management. Gaps in services - quality standards, factors and solutions – the service performance gap - key factors and strategies for closing the gap. External communication to the customers- the promise versus delivery gap - developing appropriate and effective communication about service quality.
V	Marketing of services – Bank – Marketing – Insurance Marketing – Hospital Marketing – Telecommunication services – Education – Marketing.	Marketing of Service With Special Reference To:1. Financial services, 2. Health services, 3. Hospitality services including travel, hotels and tourism, 4. Professional service, 5. Public utility service, 6. Educational services.

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# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
~	Employability	1	Professional Ethics
	Gender Sensitization		Human Values
√	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

#### Syllabus Revision- New Course

#### Semester VI **Course Code/Name: BUSINESS TAXATION**

**Board: Management** 

Unit	Content
Ι	Objectives Of Taxation – Canons of Taxation – Tax System In India – Direct And Indirect Taxes – Meaning And Types
II	Income Tax Act 1961 – Basic Concepts and Definitions – Income, Assessee, Person, Previous Year, Assessment Year, Gross Total Income, Total Income. Meaning of Permanent Account Number, Return of Income, TDS - Meaning - Rates - Filing and Return, Advance Tax, Rates of Taxation, Assessment Procedure
III	Customs Act 1962 - Introduction, Objectives, Definitions, Functions and powers of customs authorities, different types of custom duties. Classification of goods, procedure for assessment and methods of valuation for customs, demand and recovery of customs duty, procedure for claiming customs duty drawback.
IV	Definitions of GST – business related person's capital goods – levy and collection of tax – mixed supply, composite supply – meaning, advantages and disadvantages of unregistered supplier – time and value of supply – goods, services – input tax credit – Registration of GST – person liable for registration, not liable for registration, Registration of casua taxable person, deemed on cancellation of registration, revocation of cancellation of registration.
v	Tax Invoice, Credit and Debit notes –Return of GST, Refunds, payment of tax, assessment and audit. An Overview of Tax Audit – Tax Incentives and Export Promotions, Deductions and Exemptions.

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
√	Employability	~	Professional Ethics
	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

# Syllabus Revision- New Course Semester VI: BBA Course Code/Name: CONSUMER BEHAVIOUR

**Board: Management** 

Unit	Content		
I	Introduction to Consumer Behaviour and Consumer Research: Consumer Behaviour – Definition, Consumer and Customers, Buyers and Users, Organizations as Buyers, Development of Marketing Concept, Consumer Behaviour and its Applications in Marketing, Consumer Research Process.		
II	<ul> <li>Factors influencing Consumer Behaviour– External Influences – Culture, Sub</li> <li>Culture, Social Class, Reference Groups, Family, Internal Influences– Needs &amp;</li> <li>Motivations, Perception, Personality, Lifestyle, Values, Learning, Memory, Beliefs</li> <li>&amp; Attitudes.</li> </ul>		
Ш	Consumer Decision Making Process - Types of consumer decisions, Consumer Decision Making Process - Problem Recognition - Information Search - Alternative Evaluation –Purchase Selection – Post purchase Evaluation, Buying pattern in the new digital era.		
IV	Personality and consumer behavior – nature and characteristics of personality- theories of personality- influence of personality on consumer behavior- consumer motivation - concepts, needs, goals and motives-themes in consumer motivation. Attitude – characteristics – components – functions of attitude – factors influencing attitude – themes of attitude		
V	Consumer Learning, Memory and Involvement: Introduction, Components of Learning, Behavioral Theory, Cognitive Learning Theory, Concept of Involvement, Dimensions of Involvement - Model of consumer involvement		

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization	~	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

#### Syllabus Revision- New Course

**Board: Management** 

# Semester VI Course Code/Name: COMPETENCY MAPPING

Unit	Content
I	Introduction: Concept and definition of Role and competency, Characteristics of competency, Core Competency versus competence, Performance versus competency; skills versus competency, behavior indicators, Types of
	competencies - generic/specific, threshold/performance, and differentiating and technical, managerial and human; Competency Method in Human Resource Management: Features of Competency Methods, Historical Development, Definitions.
II	Competency framework - development of personal competency framework, Lancaster Model of managerial competencies, competency modeling framework developing a competency model - Understanding job positions, Data collection instruments for job descriptions, Stages in design and implementation of competency model, Validation of the competency model after data gathering
III	Team Competencies (project driven), Role competencies (Role wise); Competency identification Consolidation of checklist, Rank Order and finalization, Validation, and Benchmark; Competency assessment - 360 degrees, Competency Mapping - Strategy-Structure Congruence, Structure Role Congruence, Vertical & horizontal Role linkages, Positioning to bring in competitive advantage
IV	Identification of Role competencies, elemental competencies, assessment center, what do the assessment centers assess? Design of assessment center, Use of psychometric testing in assessment center, 360-degree feedback, potential appraisal through assessment center, Creating Competency Dictionary.
V	Steps in development of competencies map, studying job, processes, and environment, studying attributes of good performer; Strategy structure congruence, Structure Role congruence - Each role to be unique, Non-Repetitive, and Value adding; Vertical and horizontal role congruence, Ensure non repetitive tasks in two different roles, Ensure core competencies for each task, Link all the above and position to bring in competitive advantage. Using competency maps for Competency profiling - Job competency profiling, Role competency, profiling Functional competency profiling, Core competency profiling Competency based selection, competency-based interviews, competency-based performance management, competency driven careers, and competency linked remuneration, competency driven culture. Career Development Tools.

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# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	Entrepreneurial development
~	Employability	Professional Ethics
	Gender Sensitization	Human Values
	Social Awareness/Environment	Environment and Sustainability
	Intellectual Property Rights	

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BOS

#### Syllabus Revision- New Course

Semester VI

**Board: Management** 

Course Code/Name: Security Analysis & Portfolio Management

Unit	Content			
I	Theory: Meaning, objectives, classification of investment. Investment versus speculation. security markets-primary and secondary, market indices- calculation of SENSEX and NIFTY. Stock exchanges- BSE, NSE, OTCEI. Financial intermediaries. Return and Risk – Meaning, types of risk <b>Problem</b> : Measurement of risk and return			
II	Theory: Equity analysis & valuation, Types of debt instruments, bout immunization, bond volatility, bond convexity <b>Problem:</b> Equity valuation models -Walter model, Gordon's model, the p/e ration or earnings multiplier approach, measuring bond yields- yield to maturity, holding period return			
III	<ul> <li>Theory: Fundamental Analysis: Economic analysis: factors, Industry Analysis</li> <li>Industry Life Cycle. Company Analysis: Tools of Financial Statement Analysis.</li> <li>Technical Analysis: Dow Theory, Elliot wave theory, Efficient Market Hypothesis</li> <li>Concept and Forms of Market Efficiency. Charts, Patterns, Trend Lines, Suppor</li> <li>and Resistance Levels</li> <li>Problems: Relative Strength Analysis, Moving Averages breadth of market</li> </ul>			
IV	<ul> <li>Theory: steps in portfolio management, Portfolio Models –Capital Asset Pricing Model, Arbitrage Pricing Theory</li> <li>Problems: Evaluation of Portfolios; Sharpe Model, Jensen's Model, Treynor's model</li> </ul>			
V	<b>Theory:</b> characteristics, types of derivatives, participants in derivative market. Characteristics of futures, forwards, swaps, options.			

# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

1	Skill development	~	Entrepreneurial development
~	Employability	1	Professional Ethics
	Gender Sensitization		Human Values
	Social		Environment and
	Awareness/Environment	Builters	Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision**

Board: Management

Semester VI

Course Code/Name: Logistics And Supply Chain Management

Unit	Existing	Changes
Ι	INTRODUCTION -	Concept of Logistics: Introduction, Objectives, Concept of Logistics, Objectives of logistics, Types of logistics,
	Defining logistics and supply chain management-Growth and Development-	Concept of Logistics Management, Evolution of Logistics, Role of Logistics in an Economy, Difference between Logistics and Supply Chain Management, Logistics and
	Components of supply chain- Importance of supply chain strategies-SCM Performance.	Competitive Advantage, Logistics Mix, Logistics in Organized Retail in India.
II	LOGISTICS MANAGEMENT - Logistics-Functions, Objectives-Management of	Supply Chain Management: Introduction, Objectives, Defining Value Chain, Organization level, Activities, Industry level, Value reference model, Concept of Supply Chain Management (SCM), Functions and Contribution of
	Materials flow in supply chain-Warehouse and Materials storage-Material Handling-Benchmark in best practices	Supply Chain Management, Creating value, Enlisting suppliers to innovate, Leveraging value chain partners, Supply Chain Effectiveness and Indian Infrastructure, Framework for Supply Chain Solution, Supply Chain Relationships, Building a long-term relationship with vendors, Supplier relationship management (SRM).
III	CUSTOMER RELATIONSHIP	Inventory Management: Introduction, Objectives, Concept of Inventory, Types of Inventory, Concept of Inventory
	MANAGEMENT - Customer Relationship	Management, Importance of inventory management, Objectives of inventory management, Different Types of
	Management- outbound logistics resource planning and Management-Quick response system in Manufacturing.	Inventory Costs, Inventory Performance Measures, Inventory turnover ratio (ITR), Framework of performance indicators, Inventory Planning Measures, Economic order quantity (EOQ), Reorder point, Safety stock, Supplier- managed inventory.
IV	LOGISTICSANDSUPPLYCHAINPERFORMANCE-Managementof	Logistical Packaging: Introduction, Objectives, Concept of Logistical Packaging, Design Consideration in Packaging, Types of Packaging Material, Packaging Costs, Introduction to Logistics Outsourcing.
	logistics-Supply chain cases, Role of a manager in supply	
	performance drivers, Value	
	chain –Supply chain	

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	improvement	
V	Supply chain relationships – Supply chain cost analysis – Issues in Global Supply chain- E Logistics-E SCM-	Logistics Information System: Introduction, Objectives, Concept of Logistics Information System (LIS), Importance of LIS, Principles of designing LIS, Logistics Information Architecture, Application of Information Technology in Logistics and Supply Chain Management, Introduction to E – Commerce Logistics.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

1	Skill development	~	Entrepreneurial development
1	Employability	~	Professional Ethics
	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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**Board: Management** 

#### Syllabus Revision- New Course

#### Semester VI Course Code/Name: E-BUSINESS

#### Unit Content Introduction to electronic business - meaning - value chains - the Internet and the I web - infrastructure for e-business Π Web based tools for e - business - e - business software - overview of packages III Security threats to e - business - implementing security for e - commerce and electronic payment systems. IV Strategies for marketing, sales and promotion - B2C and strategies for purchasing and support activities - B2B - web auction virtual - web portals V The environment of e-business - international - legal ethical - tax issues - business plan for implementing e-business

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

1	Skill development	1	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

#### SCHOOL OF COMMERCE AND MANAGEMENT DEPARTMENT OF BUSINESS MANAGEMENT Syllabus Revision- New Course

MBA Semester I

**Board: Management** 

Course Code/Name: Management Principles and Business Ethics

Unit	Content				
I	Introduction: Nature of Management – Concepts and Foundations of Management- Managerial Functions- Management Skills - The Evolution of Management Thought – Tasks of a Professional Manager – Organizational Culture - Environment – Systems Approach to Management – Levels in Management – Disaster Management				
Π	<ul> <li>Planning &amp; Decision Making: Steps in Planning Process – Scope and Limitations</li> <li>Short Term and Long Term Planning – Flexibility in Planning – Characteristics of a Sound Plan – Management By Objectives (MBO). Strategic Management Process Decision Making Process and Techniques. Business Models</li> </ul>				
	Nature of Organizing: Organization Structure and Design - Authority Relationships – Delegation of Authority and Decentralization – Interdepartmental Coordinator – emerging Trends in corporate Structure, Strategy and Culture – Impact of Technology on Organizational design – Mechanistic vs. Adoptive Structures – Formal and InformalOrganization. Span of control – Pros and Cons of Narrow and Wide Spans of Control – Optimum Span - Managing Change and Innovation.				
IV	Leadership and Control: Leadership: Approaches to Leadership and Communication.Control: Concept of Control – Application of the Process of Control at Different Levels of Management (top, middle and first line). Performance Standards – Measurements of Performance – Remedial Action - An Integrated Control system in an Organization – Management by Exception (MBE) –				
V	<b>Business Ethics:</b> Importance of Business Ethics – Ethical Issues and Dilemmas in Business - Ethical Decision Making and Ethical Leadership – Ethics Audit - Business Ethics and - CSR Models.				

# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

1	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

Semester I

Board: Management

Course Code/Name: Quantitative Techniques and Research Methods in Business

Unit	Content	
1	<b>Introduction:</b> Probability - Rules of probability- Probability distribution; Binomial, Poisson and Normal Distributions, their applications in Business and Industrial Problem- Baye's Theorem and its applications - Decision Making under risk and uncertainty; Maximax, Maximin, Regret Hurwitz and Laplace Criteria in Business and Decision Making - Decision tree.	
II	Research Methods: Research - Definition - Research Process - Research Design – Definition- Types Of Research Design - Role of Theory in Research - Variables in Research – Objectives - Hypothesis -Types of Data; Preliminary Vs Secondary- Methods of Primary Data Collection; Survey, Observation, Experiments - Construction Of Questionnaire - Questionnaire Schedule- Validity and Reliability of Instruments - Types of Scales; Nominal, Ordinal, Interval - Types of Attitude Measurement Scales – Sampling Techniques; Probability And Non probability Techniques- Optimal Sample Size determination.	
III	<b>Data Preparation and Analysis:</b> Data Preparation - Editing –Coding- Data Entry- Data Analysis- Testing Of Hypothesis Univariate and Bivariate Analysis - Parametric And Nonparametric Tests and Interpretation of Test Results- Chi- Square Test- Correlation; Karl Pearson's Vs Correlation Coefficient and Spearman's Rank Correlation- Regression Analysis - One Way and Two Way Analysis of Variance.	
IV	Multivariate Statistical Analysis: Exploratory and Confirmatory Factor Analysis -Discriminant Analysis- Cluster Analysis -Conjoint Analysis -Multiple Regression- Multidimensional Scaling- Their Application In Marketing Problems - Application of Statistical Software For Data Analysis- SEM Analysis	
V	Report Writing and Ethics in Business Research: Research Reports- Different Types -Report Writing Format- Content of Report- Need For Executive Summary Chapterization -Framing the Title of the Report- Different Styles Of Referencing Academic Vs Business Research Reports - Ethics In Research.	

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# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

1	Skill development	√	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

# Syllabus Revision- New Course

**Board: Management** 

Semester I Course Code/Name: Managing Organizational Behaviour

Unit	Content
I	<b>Introduction to Organizational Behaviour:</b> Historical background of OB - Concept Relevance of OB – Contributing disciplines - to the field of OB, challenges and opportunities for OB, foundations of Individual Behaviour. Theory – social theory- Organizational Citizenship Behaviour
Π	<ul> <li>Individual Difference - Personality – concept and determinants of personality – theories of personality – type of theories – trait theory – psycho analytic theory - social learning theory – Erikson's stages of Personality Development Chris Argyris Immaturity to Maturity Continuum. Personality – Job fit.</li> <li>Perception: Meaning Process – Factors influencing perception – Attribution theory Learning: Classical, Operant and Social Cognitive Approaches – Managerial implications.</li> <li>Attitudes and Values:– Components, Attitude – Behaviour relationship, formation, values.</li> <li>Motivation: Early Theories of Motivation – Hierarchy of needs theory, Theory X and Theory Y, Two factor theory, McClelland's theory of needs and Contemporary theories of motivation – Self – Determination theory, Job Engagement, Goal Setting theory, Self– efficacy theory, Re – inforcement theory, Equity theory, Expectancy theory.</li> </ul>
III	Group Dynamics – Foundations of Group Behaviour – Group and Team - Stages of         Group Development–Factors affecting Group and Team Performance - Group Decision         making         Interpersonal Communication – Communication Process – Barriers to         Communication–Guidelines for Effective Communication
IV	Leadership – Trait, Behavioural and Contingency theories, Leaders vs Managers Power and         Politics: Sources of Power – Political Behaviour in Organizations – Managing Politics.         Conflict and Negotiation: Sources and Types of Conflict –Negotiation Strategies–Negotiation Process.
V	<ul> <li>Work Stress: Stressors in the Workplace – Individual Differences on Experiencing Stress</li> <li>Managing Workplace Stress. Organizational Culture and Climate: Concept and Importance – Creating and Sustaining Culture.</li> <li>Emotional Intelligence, Work Life Integration Practices.</li> <li>Knowledge based enterprise- systems and Processes; Networked and virtual organizations.</li> </ul>

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#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
<b>√</b>	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision

Board: Management

Semester I Course Code/Name: Accounting For Managers

Unit	Existing	Changes
I	<b>Financial Accounting:</b> Introduction to Financial, Cost and Management Accounting- Generally accepted accounting principles, Preparation of Journal, Ledger and Trial Balance.	Financial Accounting – Meaning – Objectives - functions. Branches of Accounting: Financial, Cost and Management Accounting - Accounting Concepts and conventions. Journal – Ledger – Trial Balance – Preparation of Final Accounts: Trading, Profit and Loss Account and Balance Sheet (problems); International Accounting Standards - IFRS
11	<b>Company Accounts:</b> Meaning of Company -Maintenance of Books of Account-Statutory Books - Preparation of Final Accounts – Provisions relating to preparation of final accounts – Profit and loss account and Balance sheet Introduction-types of shares: Issue of Shares at par, Premium and at Discount - Forfeiture and Reissue of Shares-Rights issue - Recording of transactions relating to issue of shares. Issue and Redemption of Debentures - Redemption out of profits – sinking fund method / Recording of transactions relating to issue and redemption of debentures, Underwriting of Issue of Shares (Simple Problems)	Financial Statement Analysis - Objectives - Techniques of Financial Statement Analysis: Common Size and Comparative Financial Statements, Trend analysis, Ratio Analysis. Fund Flow Statement - Statement of Changes in Working Capital - Preparation of Fund Flow Statement - Cash Flow Statement Analysis- Distinction between Fund Flow and Cash Flow Statement – problem.
II	Management Accounting: Analysis of Financial Statements – Ratios , Comparative Statement, Common Size Balance Sheet, Cash flow Statement, Fund Flow Statement , Trend Analysis.	Marginal Costing - Definition - distinction between marginal costing and absorption costing - Break even point Analysis - Contribution, p/v Ratio, margin of safety - Decision making under marginal costing system-key factor analysis, make or buy decisions, export decision, sales mix decision- Problems.
V	Cost Accounting: Cost Accounts - Classification of manufacturing costs -	Budget, Budgeting, and Budgeting Control - Types of Budgets - Preparation of

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	Accounting for manufacturing costs. Cost Accounting Systems: Job order costing - Process costing- Activity Based Costing- Costing and the value chain- Target costing- Marginal costing including decision making	Flexible and fixed Budgets, master budget and Cash Budget - Problems - Zero Base Budgeting.
V	Budgeting and Budgetary control: Budgetary Control – Meaning and Concepts - Preparation of Various Budgets, Variance Analysis – Material, Labour and Overhead.	Cost Accounting : meaning – Objectives – Elements of Cost – Cost Sheet(Problems) – classification of cost – Cost Unit and Cost Centre – Methods of Costing – Techniques of Costing. Standard costing and variance analysis Reporting to Management – Uses of Accounting information in Managerial decision-making. Reporting-Accounting Standards and Accounting Disclosure practices in India; Exposure to Practical Knowledge of using Accounting software- Open Source.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
~	Employability		Professional Ethics
1	Gender Sensitization	1	Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

**Board: Management** 

Course Code/Name: Managerial Economics

Semester I

Unit	Content
1	Introduction: Definition of Managerial Economics. Decision Making and the Fundamental Concepts Affecting Business Decisions – the Incremental Concept, Marginalism, Equi-marginal Concept, the Time Perspective, Discounting Principle, Opportunity Cost Principle- Micro and Macro Economics.
II	Utility Analysis and the Demand Curve: Elasticity of Demand - Demand Analysis: Basic Concepts, and tools of analysis for demand forecasting. Use of Business Indicators: Demand forecasting for consumer, Consumer Durable and Capital Goods. Input-Output Analysis – Consumer Behavior-Consumer Equilibrium
III	The Production Function: Production with One Variable Input – Law of Variable Proportions – Production with Two Variable Inputs – Production Isoquants – Isocost Lines Estimating Production Functions- Returns to Scale– Economies Vs Diseconomies of Scale – Cost Concepts – Analysis of cost – Short and long run costs. Market Structure: Perfect and Imperfect Competition – Monopoly, Duopoly, Monopolistic Competition – Pricing Methods.
IV	Macro Economic Variables – National Income- Concepts – Gross Domestic Product, Gross National Product, Net National Product – Measurement of National Income, Savings, Investment - Business Cycles and Contracyclical Policies – Role of Economic Policy – Indian Economic Planning
V	Commodity and Money Market: Demand and Supply of Money – Money Market Equilibrium – Monetary Policy – Inflation – Deflation – Stagflation- Role of Fiscal Policies- Indian Fiscal Policies - Government Policy towards Foreign Capital and Foreign Collaborations – Globalization and its Impact. Cashless economy and digitalized cash transfers; Economic models and its steps; FEMA-GST-Industrial Policy in India and its effects on growth.

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
√	Gender Sensitization	•	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

**Board: Management** 

#### Semester : I Course Code/Name: Legal Systems in Business

Unit	Content
I	The Law of Contracts: Definition of Contact Offer and Acceptance – Essential Elements of a Valid Contract: Free Consent – Competency of Parties – Lawful Consideration – Legality of Object. Void, Voidable, Unenforceable and Illegal Contracts – Performance of Contracts – Privity of Contracts – Assignment of Contracts – By Whom Contract must be Performed – Time and Place of Performance – Performance of Reciprocal Promises – Contracts which need not be performed, Discharge of Contracts : By Performance, By Agreement, By Impossibility, By Lapse of Time, By Operation of Law and By Breach of Contracts – Remedies for Breach of Contracts.
Ш	<ul> <li>Sale of Goods Act: Definition of a Sale and a Contract of Sale – Difference between (1)</li> <li>Sale and an Agreement to Sell (2) Sale and a Contract Form (3) Sale and Bailment (4)</li> <li>Sale and Mortgage of Goods (5) Sale and Time Purchase Conditions and Warranties –</li> <li>Passing of Property of Goods – Rights of an Unpaid Seller.</li> <li>Negotiable Instruments Act: Negotiable Instruments in General: Cheques, Bills of Exchange and Promissory Notes – Definition and Characteristics</li> </ul>
III	<ul> <li>Partnership Act: Evolution – Definition of Partnership – Difference between Partnership and Joint Family Business – Kinds of Partnerships – Registration – Rights and Liabilities of Partners – Dissolution.</li> <li>Company Law: Evolution of Company Form of Organisation – Companies Separate Legal Entity – Comparison of Company with Partnership and Joint Hindu Family Business – Kinds of Companies – Comparison of Private and Public Companies – Formation of Companies – General Idea About Memorandum and Articles of Association, Prospectus, Statement in lieu of Prospectus – Management of Companies – General Idea of Management of Companies – Officers, Meetings – Resolutions – Account and Audit – Winding up of Companies – General Idea of the Different Modes of Winding Up.</li> </ul>
IV	Labour Law: Factories Act, Minimum Wages Act, Industrial Disputes Act, Employees Compensation Act, Payment of Bonus Act 1965. Payment of Gratuity Act 1972. ESI Act, Employees Provident Fund and Miscellaneous Provisions Act 1952, Maternity Benefits Act, Child labour Abolition & Regulation Act,1986- Inter-state Migrant Workmen (Regulation of Employment & Conditions of services) Act 1979- Bonded Labour system (Abolition)Act 1976- Sexual Harassment of women at Workplace (Prevention, Prohibition & Redressal) Act 2013- Contract Labour (Regulation and Abolition) Act- Four Labour Codes and Rules-RTI Act 2005.
V	Consumer Protection Act, Competition Act 2002, Cyber Crimes, IT Act 2008 – Intellectual Property Rights: Types of Intellectual Property – Trademarks Act 1999 – The Copyright Act 1957 – International Copyright Order, 1999 – Design Act, 2000; UNICITRAL – United Nations Commission on International Trade Law.

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#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
<b>V</b>	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

#### Syllabus Revision- New Course

**Board: Management** 

#### Semester II Course Code/Name: Applied Operations Research

Unit	Content
I	Introduction: Overview of operations research – Origin – Nature, scope & characteristics of OR – Models in OR – Application of operations research in functional areas of management
II	Linear Programming Problem: Linear programming problem model – Formulation – Maximization & Minimization problem – Graphical method – Simplex method – Artificial variable – Primal & Dual.
III	Transportation problem: Basic Solution – North / West corner Solution, LCM, VAM, Matrices method – Optimal Solution – Stepping stone method – Vogel's approximation method – Modi method – Degeneracy – Imbalance matrix. Assignment model: Hungarian method – Traveling salesmen problem.
IV	Project Scheduling and Resource Management: Deterministic Inventory models – Purchasing & Manufacturing models – Probabilistic inventory models – Replacement model – Sequencing – Brief Introduction to Queuing models. Networking – Programme Evaluation and Review Technique (PERT) and Critical Path Method (CPM) for Project Scheduling- Crashing – Resource allocation and Resource Scheduling.
V	Game Theory and Strategies: Games theory – two player zero sum game theory – Saddle Point –Mixed Strategies for games without saddle points – Dominance method – Graphical and L.P Solutions- Goal Programming; Simulation; Integer programming and Dynamic programming.

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

1	Skill development	$\checkmark$	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision**

Board: Management

Semester II

Course Code/Name: Human Resource Management

Unit	Existing	Changes
I	HR Roles and Functions Human	Introduction: Introduction of Human
	Resource Management - Introduction and	Resource Management: Importance of
	Importance - Evolution - Difference	Human Resources, Definition and
	between Personnel Management and HRM	Objectives of Human Resources
	- HR functions - Structure of HR	Management, Qualities of a good HR
	Department – Role, Duties and	manager - Evolution and growth of
	responsibilities of HR manager- HRD	Human Resource Management in India.
	System – HR Strategies and	Functionsof Human Resource
	organisational Strategies.	Management. Strategic Human Resource
	organisational strategres.	Management (SHRM).Human Resource
		Policies: Need, type and scope, Human
		Resource Accounting and Audit- Gig
I	Human Dasayunan alami'na and	Economy.
1	Human Resources planning and	Human Resource Planning (HRP):
	recruitment Objectives-Importance-HRP	Human Resources Planning: Long and
	Process- Manpower Estimation-Job	Short term planning, Job Analysis,
87 87	analysis-Job Description-Job Specification	Skills inventory, Job Description, Job
	- Recruitment-Sources of Recruitment-	Specification and Succession Planning,
	Selection Process-Placement and	Strategic Human Resource Planning.
	Induction-Retention of Employees- merit	Recruitment and selection: Purposes,
	rating – promotion – transfers– job	types and methods of recruitment and
	enlargement – job enrichment – job	selection, Relative merits and demerits
	rotation.	of the different methods, Recruitment
		and Social Media.
		Placement, Induction, Transfers,
		Promotions, Dismissal, Resignation, Exit
		Interviews, Reduction of attrition rate-
		Attrition and retention management
II	Training and Development and	Training, Development & Career
	performance appraisal Training and	Management:
	Development - Training Process and	Importance and benefits of Training and
	Methodology - Need and objectives -	Development, Types of Training
	Training procedure - Methods of Training	Methods, Executive Development
	- Evaluation of Training programmes	Programs, Concept and process of Career
	Performance Management System -	Management; Competency mapping,
	Definition, Concepts and Ethics-Different	Knowledge Management & Talent
-	Seminori, concepts and Euros Emerent	Management.
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	methods of Performance Appraisal- Rating Errors-Competency management – Career Planning.	
IV	<b>Compensation Management</b> Concepts and Components- Compensation Plan – Reward – Motivation - job evaluation - Fringe benefits and services - Employee Welfare – retirement /Separation - Kinds of Retirement - Resignation, Discharge, Dismissal, Suspension, Retirement, Layoff, Voluntary Retirement / Separation Schemes, Golden handshake	Performance Management: Importance, process and Methods: Ranking, rating scales, critical incident method, Removing subjectivity from evaluation, MBO as a method of appraisal, Performance Feedback, Online PMS. Human Resource Information System; International Human Resource Management; Cross cultural diversity management; Hybrid work culture; work- life balance; Quality of work-life; HR Analytics.
V	Industrial Relations Factors influencing industrial relations - State Interventions and Legal Framework - Role of Trade unions - Collective Bargaining - Workers' participation in management- time management – Corporate Social Responsibility.	<b>Compensation Management:</b> Wage and Salary Administration: Job Evaluation, Calculation of Wage, Salary, Prerequisites, Compensation Packages, Cost of Living Index and Calculation of Dearness Allowance, Rewards and Incentives; ESOP-Financial and non- financial incentives, Productivity – linked Bonus, Compensation Criteria, Rewards and Recognition.

# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

~	Skill development	$\checkmark$	Entrepreneurial development
1	Employability		Professional Ethics
1	Gender Sensitization	~	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

#### Syllabus Revision

Board: Management

Semester II

Course Code/Name: Marketing Management

Unit	Existing	Changes
I	Marketing: Meaning – Concept & its types –Functions and organisation – Marketing Planning– Core concepts of marketing (such as Need, Want, Demand, Customer Value, Exchange, Customer & Consumer, Customer Satisfaction, Customer Delight, Customer Loyalty, Marketing v/s Market, Selling versus Marketing). Concept of Marketing Myopia – Marketing Segmentation and Consumer Behaviour – Marketing Research	Introduction: Marketing Management Philosophies – What is marketing- The concepts of marketing- Marketing and Services – Digital Marketing – Social Media Marketing – Current marketing challenges; Rural Marketing – E-Rural Marketing – International Marketing – Industrial Marketing.
II	Product Characteristics – Classification – Product Differentiation – Product Hierarchy – Co-Branding – Packaging – Labeling – Warranties & Guarantees – New Product Development	Strategic Marketing– Marketing Management Process – Analysis of Marketing opportunities, Selecting Target Consumers, developing Marketing Mix Analysis of Macro and Micro environment Marketing Research as an Aid to Marketing, Marketing Research Process – Sales Forecasting – Techniques. Marketing Tactics, The Mix Service and Retail Marketing.
111	Understanding Pricing – Setting the Price – Types of Pricing Strategies – Initiating & Responding to the Price Changes	MIS: Marketing Information Systems- Customer Relationship Management (CRM) Customer Engagement Marketing – Sales force Automation- Marketing Analytics
IV	Role of Marketing Communication – Components of Promotion (Advertising, Sales Promotion, Personal Selling, Public Relations – Basic Concepts), Direct Marketing (Direct Mail, Catalogue, Tele Marketing),	Buyer Behaviour: Factors Influencing Consumer Behaviour – Buying situation– Buying Decision Process – Industrial Buyer Behaviour. Market Segmentation : Targeting and Positioning – Competitive Marketing Strategies. Customer Life Cycle – Customer Life time Value, Product Portfolio Management.
V	Importance of Marketing Channels – Functions – Channel Design – Channel Management – E-Commerce –	Product Policies: Consumer and Industrial Product Decisions, Branding, Packaging and Labelling – New Product Development and

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Marketing Practices – Retailing –	Product Life Cycle Strategies, Pricing -
Types & Recent Trends – Wholesaling	Pricing Strategies and approaches,
- Market Logistics - Managing Sales	Promotion Decisions: Promotion Mix -
Force	Integrated Marketing Communication -
	Advertising and Sales Promotion - Sales
	Force Decisions, Selection, Training,
	Compensation and Control – Publicity and
	Personal Selling – Distribution Management
	- Channel Management: Selection, Co-
	operation and Conflict Management -
	Vertical, Horizontal and Multi-channel
	Systems Consumer Protection – Awareness
	of Consumer Rights in the Market Place.

# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

1	Skill development	~	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
$\checkmark$	Gender Sensitization	~	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

#### Syllabus Revision- New Course

**Board: Management** 

Semester II Course Code/Name: Operations Management

Unit	Content
Ι	INTRODUCTION: Operations Management- Nature, Scope, Historical Development, Functions- Long term Vs Short term issues- A Systems Perspective-
	Challenges- Manufacturing Trends in India-Production Design and Process
	Planning- Types of Production Processes- Plant Capacity-Capacity Planning-
	Make or Buy Decisions- Use of Crossover Chart for Selection Processes-Types of
	Charts used in Operations Management.
Π	FACILITY DESIGN: Plant Location: Factors to be considered in Plant
	Location- Location Analysis Techniques- Choice of General Region, Particular
	community and Site- Multiple Plant Location Decision- Plant Location Trends.
	Layout of Manufacturing Facilities: Principles of a Good Layout- Layout
	Factors- Basic Types of Layout- Principles of Materials Handling- Materials
	Handling Equipment - Role of Ergonomics in Job Design.
III	INVENTORY CONTROL AND MAINTENANCE: Basic Inventory Models-
	Economic Order Quantity- Economic Batch Quantity- Reorder Point-Safety
	Stock- Inventory Costs-Classification and Codification of Stock- ABC
	Classification-Materials Requirement Planning (MRP)- JIT- Implications of
	Supply Chain Management. Maintenance: Preventive Vs Breakdown
	Maintenance- Group Replacement Vs Individual Replacement- Breakdown
	Time Distribution- Maintenance of Cost Balance- Procedure for Maintenance.
IV	DESIGN OF WORK SYSTEMS AND QUALITY CONTROL: Work Study-
	Objectives- Procedure- Method Study and Motion Study- Work Measurement-
	Time Study-Performance Rating- Allowance Factors- Standard Time- Work
	Sampling Techniques- Job Sequencing and Scheduling. Quality Control:
	Purpose of Inspection and Quality Control- Different Types of Inspection-
	Acceptance Sampling- The Operating Characteristic Curve- Control Charts for
	Variables and Attributes; Quality Circles; TQM – Six Sigma, Kaizen
V	SERVICE OPERATIONS MANAGEMENT: Introduction to Services
	Management- Nature of Services- Types of Services- Service Encounter-
	Designing Service Organizations- Service Facility Location and Layout- Service
	Blueprinting-Waiting Line Analysis for Service Improvement- Service
_	Processes and Service Delivery.

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#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
✓	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

# **Syllabus Revision**

Board: Management

Semester II

Course Code/Name: Financial Management

Unit	Existing	Changes
1	Introduction of Financial Management: Concept of Finance, Corporate Finance, Finance Functions and other functions. Structures of the Financial System. Financial Management – Meaning, functions and Objectives of Financial Management- Financial Planning and Forecasting of short term and long term – time value of money – risk and return.	Introduction: Financial management: Definition and scope – objectives of Financial Management – Profit Maximization - wealth maximization - functions and role of finance manager. Sources of finance – short term – Bank Sources – Long term – Shares – Debentures – Preferred stock – Debt: Hire purchase, Leasing, Venture Capita – Private equity- International Financial Management- Financial Planning- Behavioural Finance- Capital Market- Money Market- Micro Finance- Financial Information System.
II	<b>Financing Decision</b> Sources of funds - Relative merits and demerits, Capitalization - Under Capitalization and Over Capitalization- Capital Structure - theories of capital structure - Factors affecting capital structure - Financing decision in practice - leverage - Operating, Financial and combined leverage - Cost of capital - Costs of individual components of capital - Weighted Average cost of capital.	Investing Decision - Capital Budgeting Process – Techniques of Investment Appraisal: Pay Back Period; Accounting Rate of Return, Time Value of Money- DCF Techniques –Net Present Value, Profitability Index and Internal Rate of Return- Problems - Risk analysis in Capital Budgeting- Introduction to Fintech – Digital Currency - Cryptocurrency – Financial Modeling; Hurdle Rate.
III	<b>Investment Decision</b> Nature and Significance of Investment Decision - Estimation of cash flows - Capital Budgeting Process - techniques of investment appraisal: Pay back period; Accounting Rate of Return - DCF Techniques - Net present value, Profitability Index and Internal Rate of Return - Investment appraisal practices in Indian companies.	Cost of Capital - Cost of specific sources of capital - Cost of equity capital - Cost of debt - Cost of preference - Cost of retained earnings - weighted average cost of capital.

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IV	Working Capital Decision Meaning - Nature of working capital - Classification and significance of working capital - financing of Working capital - Component of working capital, Cash, Short-term marketable securities - Management of Cash and Receivables	Capital structure - Factors influencing capital structure - optimal capital structure - capital structure theories - Net Income Approach - Net Operating Income (NOI) Approach - Modigliani - Miller(MM) Approach - Traditional Approach - Practical Problems. Dividend and Dividend policy: Meaning, classification - sources available for dividends - Dividend policy general, determinants of dividend policy.
V	<b>Dividend Decision</b> Management of Profits - Meaning and Significance - Theories of Dividend - Determinants of dividend - Dividend Policy - Dividend policies in practice - Legal aspects of Dividends – Bonus shares – stock splits.	Working Capital Management - Definition and Objectives - Working Capital Policies - Factors affecting Working Capital requirements - Forecasting Working Capital requirements (problems) - Cash Management - Receivables Management and - Inventory Management - Working Capital Financing - Sources of Working Capital and Implications of various Committee Reports- Financial Analytics.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
~	Employability		Professional Ethics
~	Gender Sensitization	1	Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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**Syllabus Revision** 

Board: Management

Semester II Course Code/Name: Strategic Management

THANJAVUR-613 403,

Unit	Existing	Changes
	INTRODUCTION TO STRATEGIC	Introduction: Strategy - Strategic
	MANAGEMENT Strategic Management	Management Process - Developing a
	and Competitiveness- Technology and	Strategic Vision - Mission - Setting
-	Technology- Stakeholders in business -	Objectives- Strategies and Tactics -
	Vision, Mission and Purpose – Business	Importance of Corporate Strategy - the 7-
	definition, Objectives and Goals -	S Framework- Corporate Governance-
	Strategic Business unit (SBD); Functional	Board of Directors: Role and Functions -
	level strategies - Corporate Governance	Board Functioning – Top Management:
	and Social responsibility	Role and Skills.
11	ENVIRONMENTAL ANALYSIS The	Corporate Policy and Planning in India:
	External Environment: Opportunities,	Importance - Characteristics - Objective
	Threats, Competition and Competitor	- Policy Formulation and Development -
	Analysis. External Environmental	Types of Business Policies-
	Analysis, Segments of the External	Implementation of Policies. Society and
	Environment, Porters 5 Force Model, The	Business: Social Responsibility of
	internal Environment: Resource,	Business - Corporate Governance and
	Capabilities, Competencies and	Ethical Responsibility.
	Competitive advantages. Analyzing	
	internal organization -Building Core	
	Competencies-Value Chain Analysis,	
	Outsourcing.	
III	STRATEGIES The generic strategic	Environmental Analysis: Environmental
	alternatives - Stability, Expansion,	Scanning – Industry Analysis - The
	Retrenchment and Combination strategies	Synthesis of External Factors - Internal
	- Business level strategy- Strategy in the	Scanning – Value Chain Analysis –
	Global Environment-Corporate Strategy-	SWOT Audit – Scenario planning-
	Vertical Integration-Diversification and	Creating an Industry Matrix.
	Strategic Alliances- Building and	
	Restructuring the corporation- Strategic	
	analysis and choice - Environmental	
	Threat and Opportunity Profile (ETOP) -	
	Organizational Capability Profile -	
	Strategic Advantage Profile - Corporate	
	Portfolio Analysis - SWOT Analysis -	
	GAP Analysis - Mc Kinsey's 7s	
	Framework - GE 9 Cell Model -	
	Xim	01.)
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	Science & Technology (PRIST)	Ponnaiyah Rampiayam Institute of Science & Technology (PRIST)

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	Distinctive competitiveness - Selection of matrix - Balance Score Card	
IV	STRATEGY IMPLEMENTATION & EVALUATION The implementation process, Resource allocation, Designing organisational structure-Designing Strategic Control Systems- Matching structure and control to strategy- Implementing Strategic change-Politics- Power and Conflict-Techniques of strategic evaluation & control-case study	Strategy Formulation and Analysis: Strategy Formulation – Strategic Factors Analysis Summary Matrix (SFAS) Portfolio Analysis – Business Strategy- TOWS Matrix– Corporate Strategy – Functional Strategy – Strategic Choice – Generic, Competitive Strategies; ETOP, TOWS
V	STRUCTURE AND CONTROLS Structure and Controls with Organizations- Organizational Structure and controls, Evolutionary Patterns of strategy and organizational structure. Leadership Implications for Strategy- Entrepreneurial Implications for Strategy – Functional Strategies.	Strategy Implementation: Strategy Implementation - Corporate Culture – Matching Organisation Structure to Strategy – Mergers and Acquisitions and Diversifications – Strategic Leadership Strategic Control: Measurement in Performance- Problems in Measurement of Performance- Strategy Audit-Strategic Control Process – Du Pont's Control Model – Balanced Score Card – Michael Porter's Framework for Strategic Management – Future of Strategic Management – Strategic Information System.

# PERCENTAGE OF SYLLAUS REVISED: 100 **COURSES FOCUSES ON:**

~	Skill development	1	Entrepreneurial development
~	Employability		Professional Ethics
~	Gender Sensitization	~	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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Semester III

#### PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

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# Syllabus Revision- New Course

**Board: Management** 

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Course Code/Name: INFORMATION SYSTEMS FOR BUSINESS

Unit	Content
I	Introduction to information system-The management, structure and activities- Information needs and sources-Types of management decisions and information need. System classification Elements of system, input, output, process and feedback.
II	Transaction Processing information system, Office Automation System (OAS) - Knowledge workers System(KWS); MIS; Information system for managers, Intelligence information system –Decision support system-Executive information systems.
III	Functional Management Information System: Production / Operations Information system, Marketing Information Systems, Accounting Information system, Financial Information system, Human resource Information system.
IV	System Analysis and Design: The work of a system analyst- SDLC-System design – AGILE Model – Waterfall Model – Spiral Model – Iterative and Incremental Model - RAD Model - Requirement analysis-Data flow diagram, relationship diagram, design- Implementation-Evaluation and maintenance of MIS, Database System: Overview of Database- Components-advantages and disadvantages of database; Data Warehousing and Data Mining; Business Intelligence; Artificial Intelligence; Expert System; Big Data; Cyber Safety and Security- Cryptography; RSA Model of Encryption; Data Science - Block Chain Technology; E-commerce and E-Business models; IOT - RFID.
V	Enterprise Resource Planning (ERP) System, Benefits of the ERP, ERP how different from conventional packages, Need for ERP, ERP components, Selection of ERP Package, ERP implementation, Customer Relationship management. Organisation & Types, Decision Making, Data & information, Characteristics & Classification of information, Cost & value of information, various channels of information and MIS; Information system audit and control – E-Governance.

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

1	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision**

Board: Management

# Semester III: Elective (FINANCE)

Course Code/Name: Corporate Finance

Unit	Existing	Changes
I	<b>INDUSTRIAL FINANCE</b> Indian Capital Market – Basic problem of Industrial	Introduction to Corporate Finance: Corporate – Nature and
	Finance in India. Equity – Debenture financing – Guidelines from SEBI, advantages and disadvantages and cost of various sources of Finance - Finance from international sources, financing of exports – role of EXIM bank and commercial banks– Finance for	Scope – Role of Financial Institution – Valuation of the Firm – Time value of money concepts.
II	rehabilitation of sick units. <b>SHORT TERM-WORKING CAPITAL FINANCE</b> Estimating working capital requirements – Approach adopted by Commercial banks, commercial paper- Public deposits and inter corporate investments.	Indian Capital Market – Basic problem of Industrial Finance in India. Fiscal Policies, Government Regulations
		affecting Capital Market – Role of SEBI –Stock Markets - Equity–Debenturefinancing– GuidelinesfromSEBI,advantagesa nddisadvantages
III	ADVANCED FINANCIAL MANAGEMENT Appraisal of Risky Investments, certainty equivalent of cash flows and risk adjusted discount rate, risk analysis in the context of DCF methods using Probability information, nature of cash flows, Sensitivity analysis; Simulation and investment decision, Decision tree approach in investment decisions.	<b>Investment Decision:</b> Investment Analysis – Risk Analysis - Probability Approach. Business Failures, Mergers, Consolidations and liquidation.
IV	<b>FINANCING DECISION</b> Simulation and financing decision - cash inadequacy and cash insolvency- determining the probability of cash insolvency- Financing decision in the Context of option pricing model and agency costs- Inter-dependence of investment- financing and Dividend decisions.	<b>Finance from international</b> <b>sources,</b> – role of EXIM bank and commercial banks – Finance for rehabilitation of sick units. Inflation and Financial Decisions.
V	<b>CORPORATE GOVERNANCE</b> Corporate Governance - SEBI Guidelines- Corporate Disasters and Ethics- Corporate Social Responsibility- Stakeholders and Ethics- Ethics, Managers and Professionalism.	Foreign Collaboration – FDI and FIIS Business Ventures Abroad. International Financial Institutions & Multinational Corporations; Global Minimum Tax

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#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
~	Employability		Professional Ethics
~	Gender Sensitization	1	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision**

Board: Management

#### Semester III: Elective (FINANCE)

Course Code/Name: Security Analysis and Portfolio Management

Unit	Existing	Changes
I	Introduction to Investment and Securities Introduction to Securities – Types of Securities - Investment Process – Investment Alternatives – Securities Markets - Stock Exchanges and its Functions – Functions and guidelines of SEBI. Risk Return: Security Returns- Risk Measurements – Picturing Risk and Return.	<b>Investment</b> - Concept of investment-importance- alternate forms of investment-LIC schemes-bank deposits-government securities-mutual fund schemes-post office schemes-provident fund- company deposits-real estate- Gold and Silver- Growth adjusted value investing strategy; G-Secs; P-note investments. Concepts of risk and return, measurement of risk is measured in terms of standard deviation and variance, the relationship between risk and return.
Π	FUNDAMENTAL ANALYSIS Economic Analysis – Economic forecasting and stock Investment Decisions – Forecasting techniques. Industry Analysis : Industry classification, Industry life cycle – Company Analysis Measuring Earnings – Forecasting Earnings – Applied Valuation Techniques – Graham and Dodds investor ratios.	Securities Market - Investment Environment; Financial Market - Segments – Types - Participants in financial Market – Regulatory Environment, Primary Market – Methods of floating new issues, Book building – Role of primary market – Regulation of primary market, Stock exchanges in India – BSE, OTCEI, NSE, ISE, and Regulations of stock exchanges – Trading system in stock exchanges –SEBI.ESG, Stop loss, Fat finger trades, circuit breaker, T+1 and T+2 settlement, Funding of Social Sector; open interest volume and prices; free float in listed companies; Algo trading; Block Chain Technology.
111	<b>TECHNICAL ANALYSIS</b> Fundamental Analysis Vs Technical Analysis – History of Technical Analysis – Technical Tools – Dow theory - Trend Models- Market Indicators – Efficient Market Theory : Basic Concepts – The Random Walk Theory.	Fundamental Analysis - Economic Analysis - Forecasting techniques. Industry Analysis; Industry classification, Industry life cycle - Company Analysis. Measuring Earnings - Forecasting Earnings - Applied Valuation Techniques - Graham and Dodds investor ratios.
IV	Valuation of Securities Valuation of Bonds: Bond VS Debenture- Classification of Bonds – Time Value Concept – Methods of Bond	<b>Technical Analysis</b> - Fundamental Analysis Vs Technical Analysis – Charting methods – Market Indicators. Trend –Trend reversals – Patterns - Moving Average – Exponential moving Average –

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	Return and Valuation- Bond Value Theorems –Convexity –Immunisation – Valuation of Equity: Return on Equity – Various Model of Equity Valuation.	Oscillators – Market Indicators – Efficient Market theory.
V	Portfolio Management Portfolio Management: Definition – Selection of portfolio – Markowitz model – Sharp Index Model –Capital Asset Pricing Theory and Arbitrage Pricing Model – Portfolio Evaluation – Portfolio Revision.	<b>Portfolio Management</b> -Portfolio analysis – Portfolio Selection –Capital Asset Pricing model – Portfolio Revision –Portfolio Evaluation

# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

1	Skill development	1	Entrepreneurial development
~	Employability		Professional Ethics
~	Gender Sensitization	~	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course Semester: III Elective (Finance)

Board: Management

#### Course Code/Name: Tax Management

Unit	Content
Ι	Introduction: Income Tax Law – important concepts -Scheme of Taxation –types of Taxes, concept, objectives canons of Taxation and factors to be considered for Tax Planning - Tax exemption – Residential status–Tax free incomes.
11	<ul> <li>Heads of Income – Salaries, definition of salary, Fringe benefits and perquisites,</li> <li>Profit in lieu of salary and tax planning avenues for salary income, Income from house property, profits and gains of Business of profession, capital gains-</li> <li>Provisions relating to Capital Gains Tax and exemptions from Capital Gains Tax-Income from other sources - basis of charge; chargeable incomes; specific deductions; amount not deductible; computation of taxable income from other sources.</li> </ul>
III	Deductions to be made in computing total income – Resales and Reliefs of Income tax–Taxation of Non-Residents. Income –tax Payment and Assessment-Tax deduction at source; advance tax; self-assessment tax assessment procedure - Filing of Income Tax Returns – Provisions, Forms and Due Dates, Notices and Assessments –Regular and best judgment assessment revision, rectification and appeal, provision relating to interest and refund of tax.
IV	Corporate Taxation - Computation of taxable income, Carry-forward and set-off of losses for companies, Minimum Alternative Tax (MAT), Set-off and Carry- forward of Amalgamation Losses. Tax planning in capital budgeting decision, leasing, hire purchase or buy decision raising of capital: equity, debt or preference share, transfer pricing and its impact, tax Provisions for Venture Capital Funds
V	<ul> <li>Wealth Tax and Other Direct Taxes- Wealth Tax Act and Rules, definition of</li> <li>Wealth and Its Components Wealth escaping Assessment, Assets Exempt from</li> <li>Wealth Tax, Gift Tax Act and Rules and Estate Duty Act.</li> <li>Assessment of Trusts and Assessment of companies – Deemed income under</li> <li>MAT Scheme – Tax on income by UTI or Mutual fund – Venture Capital</li> <li>Company/Venture Capital Funds.</li> </ul>

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BOS

# SCHOOL OF COMMERCE AND MANAGEMENT DEPARTMENT OF BUSINESS MANAGEMENT

**BBA Syllabus Revision** 

Semester I:

Board: Management

Course Code/Name: Principles of management

Unit	Existing	Changes
I	Organization - Management – Importance – concepts- Nature – functions- Role of managers- Management and administration – Evolution of management thought – Modern management Approaches – MBO –Merits and Demerits.	Management: Importance Definition
Π	Nature and purpose of planning – Planning process - types of plans - strategies – Types of Strategies – Decision Making- Types - Process- Rational decision making process.	Planning: Nature – Importance – Forms – Types – Steps in Planning – Objectives – Policies – Procedures and Methods – Natures and Types of Policies – Decision –making – Process of Decision – making – Types of Decision.
III	Nature and purpose of organizing - Organization structure – Process of organization – Departmentalization – Span of control – Delegation of authority, responsibility – Accountability – Centralization and decentralization - Selection and Recruitment.	Organizing: Types of Organizations – Organization Structure – Span of Control and Committees – Departmentalization – Informal Organization- Authority – Delegation – Decentralization – Difference between
IV	Directing – Principles – Elements – Motivation, Theories of motivation: Maslow, Herzberg, Vroom models – Communication- Hurdles to effective communication	Authority and Power – Responsibility. Direction – Nature and Purpose. Co- ordination – Need, Type and Techniques and requisites for excellent Co-ordination – Controlling – Meaning and Importance – Control Process.
	Control – Controlling – Need for control – Control process – Control techniques. Leadership - leadership theories – Styles – Managerial grid. Co-ordination – meaning – need – types.	Definition of Business ethics - Types of Ethical issues -Role and importance of Business Ethics and Values in Business - Ethics internal - Ethics External - Environment Protection - Responsibilities of Business

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#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

1	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

#### **Syllabus Revision**

Board: Management

#### Semester III: Elective (FINANCE)

Course Code/Name: Merchant Banking and Financial Services

Unit	Existing	Changes
I	Introduction – An Over view of Indian Financial System – Merchant Banking in India – Recent Developments and Challenges ahead – Institutional Structure – Functions of Merchant Bank - Legal and Regulatory Framework – Relevant Provisions of Companies Act- SERA- SEBI guidelines- FEMA, etc Relation with Stock Exchanges and OTCEI.	Merchant Banking: Introduction–An Overview of Indian Financial System– Merchant Banking in India–Recent Developments and Challenges ahead – Institutional Structure – Functions of Merchant Bank - Legal and Regulatory Framework –Relevant Provisions of Companies Act- SERA- SEBI Guidelines - FEMA, etc. –Relation with Stock Exchanges and OTCEI.
Π	Role of Merchant Banker in Appraisal of Projects, Designing Capital Structure and Instruments – Issue Pricing – Book Building – Preparation of Prospectus Selection of Bankers, Advertising Consultants, etc Role of Registrars –Bankers to the Issue, Underwriters, and Brokers. – Offer for Sale – Green Shoe Option – E-IPO, Private Placement – Bought out Deals – Placement with FIs, MFs, FIIs, etc. Off - Shore Issues. – Issue Marketing – Advertising Strategies – NRI Marketing – Post Issue Activities	Issue management: Role of Merchant Banker in Appraisal of Projects, Designing Capital Structure and Instruments –Issue Pricing – Book Building – Preparation of Prospectus – Selection of Bankers – Advertising Consultants etc Role of Registrars – Bankers to the Issue, Underwriters, and Brokers. – Offer for Sale – Green Shoe Option–E-IPO, Private Placement– Bought out Deals–Placement with FIs, MFs, FIIs, etc. Off-Shore Issues.–Issue Marketing– Advertising Strategies – NRI Marketing–Post Issue Activities.
111	Mergers and Acquisitions – Portfolio Management Services – Credit Syndication – Credit Rating – MùtualFunds - Business Valuation	Fee based financial services: Mergers and Acquisitions-Portfolio Management Services – Credit Syndication –Credit Rating – Business Valuation.
IV	Leasing and Hire Purchasing – Basics of Leasing and Hire purchasing – Financial Evaluation.	Fund based financial services: Leasing and Hire Purchasing Basics of Leasing and Hire purchasing–FinancialEvaluation.
V	Consumer Credit – Credit Cards – Real	Other fund based financial services: Consumer Credit – Credit Cards – Real
	Estate Financing – Bills Discounting – factoring and Forfaiting – Venture Capital.	Estate Financing–Bills Discounting – factoring and Forfeiting–Venture Capital.

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#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

1	Skill development	1	Entrepreneurial development
1	Employability	er (ésa	Professional Ethics
$\checkmark$	Gender Sensitization	$\checkmark$	Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

# **Syllabus Revision**

Board: Management

### Semester III: Elective (FINANCE)

Course Code/Name: Derivative Management

Unit	Existing	Changes
1	INTRODUCTION Derivatives – Definition – Types – Forward Contracts – Futures Contracts – Options – Swaps – Differences between Cash and Future Markets – Types of Traders – OTC - Derivative Market - Economic functions of derivative market	Introduction: Derivatives – Definition –Types – participants and functions- Forward Contracts – Futures Contracts – Options – Swaps – Differences between Cash and Future Markets – Types of Traders – OTC and Exchange Traded Securities – Types of Settlement – Uses and Advantages of Derivatives, Risks in Derivatives.
Π	FUTURES CONTRACT Specifications of Futures Contract - Margin Requirements – Contract Size - Market Quotes - Hedging using Futures – Types of Futures Contracts – Delivery Options – Relationship between Future Prices, Forward Prices and Spot Prices	Forward contracts – Futures contracts – structure of forward & futures markets - Types of Futures Contracts -Margin Requirements – Marking to Market – Hedging using Futures — Securities, Stock Index Futures, Currencies and Commodities – Delivery Options – Relationship between Future Prices, Forward Prices and Spot Prices.
III	<b>OPTIONS</b> Definition – Exchange Traded Options, OTC Options – Option Pricing Models – Call and Put Options – American and European Options – Option payoff, options on Securities, Stock Indices, Currencies and Futures .	Options -Definition – Exchange Traded Options, OTC Options – Specifications of Options – Call and Put Options – organized options trading – listing requirements – contract size – exercise prices – expiration dates – position & exercise limits -American and European Options – Intrinsic Value and Time Value of Options – Option payoff, options on Securities, Stock Indices, Currencies and Futures – Options pricing models –Differences between future and Option contracts.

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IV	SWAPS & Forward Contract Definition of SWAP – Types of SWAP - Interest Rate SWAP – Currency SWAP – Role of Financial Intermediary –Valuation of Interest rate SWAPs and Currency SWAPs – Forward Contract – Forward Pricing.	Principles of Option pricing – Put Call Parity relationship – Option pricing models – The Black Scholes Model – The Binomial model – Principles of forward and future pricing – the cost of carry model.
V	DERIVATIVES IN INDIA Evolution of Derivatives Market in India – Regulations & Framework – Derivative Trading – Commodity Futures - Determination of the Fair Value of Futures and Options Prices, Interactions between Spot Equity Trading and Trading in Derivatives. Index Options and Futures, Constructing an Index	Commodity Futures – Contract Terminology and Specifications for Stock Options and Index Options in NSE – Contract Terminology and specifications for stock futures and Index futures in NSE – Contract Terminology and Specifications for Interest Rate Derivatives.

# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

$\checkmark$	Skill development	~	Entrepreneurial development
~	Employability		Professional Ethics
~	Gender Sensitization	$\checkmark$	Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

Semester: III Elective ( Finance )

Board: Management

#### Course Code/Name: Banking and Insurance

Unit	Content
I	Indian Financial System: Introduction to Financial System – Business of Banking - Organizational Structure of Indian Financial System - Role of Government & Reserve Bank of India As Regulators of Banks - Role & Functions of Banks – Regulatory Provisions/Enactments Governing Banks - Various Committees on Banking & Their Impact - Recent Developments in Indian Financial System - Aadhaar SeedingSelf Help Groups, Financial Inclusion- Jan Dhan Yojana Accounts- NBFCs - Micro Finance Institutions, Small finance banks and payment banks.
II	<b>Basics of Banking:</b> Basic Concepts in Banking - Banker-Customer Relationships – Know Your Customer, Anti Money Laundering -Guidelines - Negotiable instruments – Bankers' Duties and Responsibilities - DICGC - Types of Customers & Various Types of Accounts - Deposit Products – Services Rendered by Banks - Principles of Lending - Approach to Lending & Steps in Lending - Credit Management & Credit Monitoring - Priority Sector Lending in Banks- Lending to Agriculture, Micro, Small & Medium Enterprises - Recovery & Modes of Recovery and Management of Non- Performing Assets - Basics of Risk Management in Banks.
III	<b>Electronic Banking:</b> Current Trends and Role of information & Communication Technology in Banking - Core Banking Solutions vis-a-vis Traditional Banking - Banking Technology – Alternate Delivery Channels – ATMs, Credit/Debit Cards/Mobile Banking / Internet Banking etc Cheque Truncation System of cheque clearance, E-Lounges, UPI, BHIM (Bharath Interface for money), Products and Impact - Electronic Funds Transfers – Real Time Gross Settlements (RTGS) & National Electronic Funds Transfer (NEFT) – <b>NACH</b> Global Trends in Banking Technology - IT Security in Banks & Disaster Management - Marketing of Banking Services; Marketing of Banking Services – Meaning, Importance and Functions - Market Research & Product Development - Factors influencing Marketing of Banking Products Third Party Products in Banking, One stop shop Financial solutions in Banks - Financial Advisory Services (FAS).
IV	Insurance: Meaning – Nature and Importance – Risk Management; Identification – Measurement – Diversification – Strategies Theories – Sum of Large Numbers Theory of Probability Insurance Regulation; IRDA Regulations – Insurance Contract – Agent Norms – Generic Norms of Insurance Advisors.

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V	<b>General Insurance:</b> Marine Insurance – Fire Insurance – Automobile Insurance – Home Insurance - House +Articles insurance- Overseas Travel Insurance– Medical
	Insurance – Group Medi claim- Jewellery Insurance, Social Security Insurance Life Insurance; Principles – Uberima fides Insurable Interest – Indemnity – Subrogation – Contribution Products; Death and Survival Classifications – Traditional Salary Savings Scheme – Employees Deposit Linked Insurance – ULIPs – Premium Fixation Cases.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

Skill development	Entrepreneurial development
Employability	Professional Ethics
Gender Sensitization	Human Values
Social Awareness/Environment	Environment and Sustainability
Intellectual Property Rights	

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#### Syllabus Revision- New Course

# Semester: Semester : III ( Finance Elective )

Board: Management

Course Code/Name: Capital Markets and Financial Services

Unit	Content		
Ι	Indian Financial System:		
	Regulators: Finance Ministry, Securities Exchange Board of India, Reserve Banl		
	of India, Forward Market Commission, Insurance Regulatory and Developmen		
	Authority.		
	Primary Market: Role of Primary Market, Functions, Intermediaries, methods o		
	floatation of capital – IPO's, FPO's and Rights issues, Investor protection i primary market, Recent trends in primary market. Book building process Secondary Market: Functions, intermediaries, Demutualization structure, Majo stock exchanges in India.		
	Indian Stock Exchanges: Market types, order types and books. BSE: BOLT		
	System, NSE: NEAT system OTCEI – Need, Features, Participants, Listing procedure, Trading and Settlement. Legislative framework guiding the capital markets and intermediaries		
II	Listing and trading of Securities:		
	Listing requirements, procedure, fee- Listing conditions of BSE and NSE		
	Delisting. Legislations related to listing. Trading cycle: T+2, Pay in and Pay ou		
	Bad Delivery, Short delivery, Auction, Clearing & Settlement: Different types of settlements -DEMAT settlement, Physical settlement, Institutional settlement and		
	Funds settlement.		
	<b>Risk Management system in BSE &amp; NSE:</b> Margins, Exposure limits, VAR Circuit breakers and Surveillance system in BSE and NSE.		
	Index Management: Importance of index computation Methods: Weighted		
	Aggregate Value method, Weighted Average of Price Relatives method, Free Floa		
	method. Stock market indices in India		
III	Leasing and Hire Purchase		
	Lease and Hire purchase Meaning and Types of leasing - Legislativ		
	frameworks - Matters on Depreciation and Tax -Concepts and features - Tax an		
	Depreciation implications Microfinance: Consumer Credit - Factoring and		
	Forfaiting		
IV	Credit rating & Securitization:		
	Credit rating: Definition and meaning- Process of credit rating of financia		
	instruments - Rating methodology - Rating agencies - Rating symbols of differen		
	companies. Legislative framework guiding the CRAs.		
	Securitization: Meaning-Features - Special Purpose Vehicle - Pass Through		
	Certificate & mechanism – Benefits of Securitization – Issues in Securitization		
	Legislative framework guiding the securitization framework.		
	Legislative framework guiding the secontrization framework.		

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V Depositories & Contemporary Issues Depositary services - Role of depositories and their services — Advantages of depository system – NSDL and CDSL - Depository participants and their role-Stock Broking Services including SEBI guidelines - Contemporary developments in capital market performance and implication of securitization in Indian scenario.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

Semester: Semester : III ( Finance Elective )

Board: Management

Course Code/Name: Fixed Income Securities

Unit	Content
I	Bond and Money market instruments: Bonds, market participants, Money market instruments - Organization of Government Bond market and role of RBI in Government Securities. Bond Prices and Yields: Pricing of bonds - Time value of money - nominal Vs. Real interest rates, coupon rate and current yield, zero coupon rate. Supply and demand of bonds. Changes in equilibrium interest rates.
Π	Term structure of interest rates: classical theories of term structure - Yield curve, zero coupon bond yield curve. Bond price volatility – Price sensitivity – Bond Price Immunization - measurement of duration, modified duration – convexity measurement. Factors influencing Yield. Term structure of Interest rates – spread, corporate debt instruments.
III	Active and Passive Bond Portfolio construction - Management strategies. Indexing-bond indices. Setting portfolio objectives, interpreting portfolio parameters and performance measurement
IV	Swaps and futures, Credit derivatives – credit default swaps, plain vanilla options and more exotic derivatives
V	Mortgage-backed securities – collateral mortgage obligations, Asset Backed Securities-Collateral debt obligations

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

1	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

Semester: Semester : III ( Finance Elective )

Board: Management

Course Code/Name: International Financial Management

Unit	Content
I	Introduction to international finance: Introduction, Meaning, Nature, scope, Importance, Gold Standard, Bretton Woods system, Exchange rate regimes, fixed and floating exchange rates.
II	Foreign exchange market: Function and Structure of the Forex markets, major participants, types of transactions and settlements, Foreign exchange quotations, process of arbitrage.
III	Management of foreign exchange exposure and risk: Types of Exposure, Foreign Currency Exposure, Economic Exposure, Operations exposure, Interest rate exposure. Theories - Purchase Power Parity - Interest Rate Parity – International Fisher Effect
IV	Cross-border investment decisions: Capital budgeting, Approaches to Project Evaluation, Risk in Cross-border Investment Decisions, Corporate Risk in Investment Decisions. Financing Decisions of MNC's.
V	Multinational financing institutions and contemporary issues: The International Bank for Reconstruction and Development, the International Development Association, The International Finance Corporation, International monetary fund, Export and Import financing.

# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

1	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
$\checkmark$	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

Semester: Semester : III (Finance Elective)

Board: Management

Course Code/Name: Risk Management in Banks

Unit	Content
I	Introduction to risk: Understanding Risk - Nature of Risk, Sources of Risk, Need for risk management, Benefits of Risk Management, Risk Management approaches. Risk Classification using ERM Wheel. Information Technology support in mitigating risk. Role of Chief finance Officer, Chief risk officer and Chief information officer in mitigation of risk in banks.
II	Market risk & exchange rate risk: Market Risk – Identification-measurement- mitigation-risk and regulatory capital. Portfolio Beta - PV01 - Portfolio duration - Key rate duration – Convexity - Spread analysis - Yield curve analysis - Concept of Value at Risk - Types of VaR measures - VaR reporting to RBI - Stress testing and back-testing VaR- ConditionalVaR and its relevance - Comparison between VaR and cVaR. Exchange rate risk- drivers- measurement- risk management – forecasting- tools- futures, options and swaps.
III	Interest rate risk & liquidity risk: Interest rate risk-relationship between interest rates and option free bond prices. Duration and Price volatility. GAP and earnings sensitivity. Measuring Interest rate risk with duration gap. Economic value of equity analysis. Usage of derivatives to manage Interest risk- micro hedging- macro hedging- SWAPS - caps – floor Liquidity risk – objectives – CRR & SLR measures - Funding the bank - Liquidity management - Asset liability management – objectives- ALCO - functions – risks. ALM – Risk control and hedging. ALM systems in Banks - RBI Guidelines. Strategies to mitigate liquidity risk
IV	Credit risk: Drivers- capital adequacy- risk rating and pricing - loan policy – capital requirement - credit risk approach – credit ratings. Credit risk mitigation - Credit derivatives, Securitization. Credit risk management strategies – Credit VaR - Analysis of counterparty credit ratings and adjustment of credit spreads in the valuation etc Credit default swaps (CDS). Sovereign Credit Rating – Rating - Probability of Default (PD) – LGD - Stress testing - Early Warning - Scenario Building etc.,
V	Operational risk & technology risk and contemporary issues: Operational risk- definition- types- events. Operational risk management practices- approaches- organizational setup- responsibilities. Identification- measurement- monitoring- mitigation- internal audit. Strategies to mitigate operational risk. Technology risk: Identification of the drivers and strategies to mitigate the technology risk - Contemporary risk management practices in Indian Banks.

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## PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

#### Syllabus Revision- New Course

Semester: Semester : III (Finance Elective)

Board: Management

Course Code/Name: Advertising Management and Sales Promotion

Unit	Content
Ι	Advertising: Advertising, objectives, task and process, market segmentation and target audience – Message and copy development.
II	Media: Mass Media - Selection, Planning and Scheduling – Social Media Advertising - Web Advertising – Integrated programme and budget planning.
III	Implementation: Implementing the programme coordination and control – Advertising agencies – Organization and operation.
IV	Sales Promotion: Why and When Sales promotion activities, Consumer and sales channel oriented – planning, budgeting and implementing and controlling campaigns.
V	Control: Measurement of effectiveness – Ethics, Economics and Social Relevance.

PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

✓	Skill development	$\checkmark$	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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## Syllabus Revision- New Course

Semester: Semester : III ( Marketing Elective )

Board: Management

Course Code/Name: Sales and Distribution Management

troduction, Nature, Concepts and Scope - Organization Framework of The Fiel- les Force - Sales force Automation - Types of Field Sales Organizations areer in Field Sales Management. Field – Emerging trend in Sales Management les Manager – His Tasks and Responsibilities – Relation with Salesman an elationships with top Management – Coordinating and Controlling the Marketing ix. Operating Environment for Field Sales Force. Software application in Sale anagement. Sales Management Process. formation and Planning: Qualities and Role-Hierarchy of Objectives and Goals oncept of Strategies and Tactics. Development of Sales Performance Standards - elationship of Performance Standards to Sales Development Function, its rpose and Types, Review of Training and Staffing Programmes. les Forecasting – Methods and Procedural Steps in Forecasting - Sale
<ul> <li>ix. Operating Environment for Field Sales Force. Software application in Sale anagement. Sales Management Process.</li> <li>formation and Planning: Qualities and Role-Hierarchy of Objectives and Goals oncept of Strategies and Tactics. Development of Sales Performance Standards - elationship of Performance Standards to Sales Development Function, its rpose and Types, Review of Training and Staffing Programmes.</li> <li>les Forecasting – Methods and Procedural Steps in Forecasting - Sale</li> </ul>
oncept of Strategies and Tactics. Development of Sales Performance Standards - elationship of Performance Standards to Sales Development Function, its rpose and Types, Review of Training and Staffing Programmes. les Forecasting – Methods and Procedural Steps in Forecasting - Sale
les Forecasting - Methods and Procedural Steps in Forecasting - Sale
Idgeting - Allocation of Field Sales Resources. Design Sales Territories ocedure for Designing – Determining Manpower Requirements, Recruiting ethods and The Selection System. Sales Quotas, Types of Sales Quotas, it rpose and Managerial Evaluation. Man Power Planning – Tasks, Skill, Qualification.
affing – Responsibilities, tools and Methods of Selection. Motivational and ompensation Procedures for Sales Force – Method of Financial Incentives and it rpose – Designing A Compensation Plan. Evaluation of Performance and ontrol. Salesmanship – Sales Positions – Theories of Selling – Understanding onsumer Behavior- Training and Development of Sales force. Sales Training occess, Designing Training Content- Training for Different sales personnel aining Feedback- Sales Audit and Analysis – Control of Sales Efforts and Costs.
Distribution: Role of Distribution in the Marketing Mix Distribution center etwork, suppliers milk run, supply tracking, network configuration, quality control
monitoring; Role and Functions. Transport and Handling: Economics of Transportation, Determining Optimum Mode of Transport. rganization, Machines, Procedures and Documentation- Policies; Role of ransport; Transport in emergencies; safety and security of goods- Dealer etwork: Role of Middlemen/Dealer in Marketing and Distribution- hannel Information System- Designing a Channel information system.
ealer Functions at Wholesale and Retail Level – National and International hannel of Distribution- Strategic Plan of Network Location, Selection - Appointment and Termination of Dealers - Morale and otivation.



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# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

1	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
1	Social Awareness/Environment	2	Environment and Sustainability
	Intellectual Property Rights		

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BOS

#### Syllabus Revision

## Branch: Management

Semester : III (Marketing Elective ) Course Code/Name: Brand Management

Unit	Exist	Changes
I	Introduction Concept of Brand, Significance of Branding for Consumers and for Firms, Branding Challenges & Opportunities, Conceptof Brand Equity, Cost based, Price based and Customer based Brand Equity.	Introduction: Definition of Brand - Importance of Brands – Branding Challenges and Opportunities – Brand Equity Concept – Brand Equity Models – Kepler Brand Identity Model - Brands vs. Products Constituents of a Brand: Brand Elements – Brand Identity - Image and Personality – Brand DNA, Kernel, Codes and Promises – Point of Distribution and Point of Purchase
Ш	<b>Brand Strategies</b> Strategic Brand Management process – Building a strong brand – Brand positioning – Establishing Brand values – Brand vision – Brand Elements – Branding forGlobal Markets – Competing with foreign brands	Brand Positioning: Basic Concepts – Risks – Brands and Consumers – Competitive Advantage through Strategic Positioning of Brands – Points of Parity –Points of Difference –Brand Building: Designing Marketing Programmes to Build Brands – Role of Social Media in Brand Building – Managing and Sustaining Brands Long-Term.
III	Planning and Implementing Brand Marketing Programs Choosing brandelements to build brand equity, Optionsand tactics for Brand, New perspectiveson marketing, Integrating marketing communication to build brand equity, Conceptualizing the leveraging process, Co- branding, Celebrity Endorsements	Brand Image: Image Dimensions,Brand Associations & Image, Brand Identity; Perspectives, Levels and Prisms. Managing Brand Image – Stages – Functional, Symbolic and Experiential Brands – Brand Audits – Brand Loyalty – Cult Brands
IV	Measuring and Interpreting BrandPerformance The brand value chain,Designing brand tracking studies, Capturing customer mind set through quantitative research techniques	Brand Valuation: Methods of Valuation – Implications for Buying & Selling Brands. Leveraging Brands: Brand Extension – Brand Licensing – Co-branding – Brand Architecture and Portfolio Management
V	Growing and Sustaining Brand EquityBrand architecture, Brand hierarchy, Designing brand strategy, New products,Brand extensions- advantage and disadvantage, Reinforcing brands,	Branding in Practice: Handling Name Changes and Brand Transfer – Brand Revitalisation and Rejuvenation – Global Branding Strategies – Building and Managing Brands Across Boundaries –

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	Branding Industrial Products, Services and Retailers – Building Brands Online – Indianisation of Foreign Brands and Taking Indian Brands Global.
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## PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

✓	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
✓	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

## Syllabus Revision Semester : III (Marketing Elective )

Board: Management

Course Code/Name: Customer Relations Management

<b>INTRODUCTION</b> Definitions - Concepts and Context of relationship Management – Evolution - Transactional Vs Relationship Approach – CRM as a strategic marketing tool – CRM significance to the stakeholders.	Evolution of Customer Relationship: CRM-Definition, Emergence of CRM Practice, Factors responsible for CRM growth, CRM process, framework of CRM, Benefits of CRM, Types of CRM, Scope of CRM, Customer Profitability, Features Trends in CRM, CRM and Cost Benefit Analysis, CRM and Relationship Marketing.
UNDERSTANDING CUSTOMERS Customer information Database – Customer Profile Analysis - Customer perception, Expectations analysis – Customer behavior in relationship perspectives; individual and group customer's - Customer life time value – Selection of Profitable customer segments.	CRM Concepts: Customer Value, Customer Expectation, Customer Satisfaction, Customer Centricity, Customer Acquisition, Customer Retention, Customer Loyalty, Customer Lifetime Value. Customer Experience Management, Customer Profitability, Enterprise Marketing Management, Customer Satisfaction Measurements, Web based Customer Support.
CRM STRUCTURES Elements of CRM – CRM Process – Strategies for Customer acquisition – Retention and Prevention of defection – Models of CRM – CRM road map for business applications	Planning for CRM: Steps in Planning-Building Customer Centricity, Setting CRM Objectives, Defining Data Requirements, Planning Desired Outputs, Relevant issues while planning the Outputs, Elements of CRM plan, CRM Strategy: The Strategy Development Process, Customer Strategy Grid.
Mechanics of CRM Strategic CRM planning process – Implementation issues – CRM Tools- Analytical CRM Operational CRM – Call center management – Role of CRM Managers - e CRM Solutions – Data Warehousing – Data mining for CRM – an introduction to CRM software packages	CRM and Marketing Strategy: CRM Marketing Initiatives, Sales Force Automation, Campaign Management, Call Centers. Practice of CRM: CRM in Consumer Markets, CRM in Services Sector, CRM in Mass Markets, CRM in Manufacturing Sector
	Concepts and Context of relationship Management – Evolution - Transactional Vs Relationship Approach – CRM as a strategic marketing tool – CRM significance to the stakeholders. UNDERSTANDING CUSTOMERS Customer information Database – Customer Profile Analysis - Customer perception, Expectations analysis – Customer behavior in relationship perspectives; individual and group customer's - Customer life time value – Selection of Profitable customer segments. CRM STRUCTURES Elements of CRM – CRM Process – Strategies for Customer acquisition – Retention and Prevention of defection – Models of CRM – CRM road map for business applications Mechanics of CRM Strategic CRM planning process – Implementation issues – CRM Tools- Analytical CRM Operational CRM – Call center management – Role of CRM Managers - e CRM Solutions – Data Warehousing – Data mining for CRM – an introduction to

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V	Managing Networks for CRM Business
	Networks, Network Position, Supplier
	Networks, Distribution Networks,
	Management of Networks, Supplier
	Relationships, Product Development,
	Supplier Accreditation Programmes,
	Process Alignment, E Procurement,
	Partners in Value Creation, Benchmarking
	Partners, Customer Advocacy Groups,
	Sponsors, Partners in Value Delivery.

CRM Planning and Implementation: Issues and Problems in implementing CRM, Information Technology tools in CRM, Challenges of CRM Implementation. CRM Implementation Roadmap, Road Map (RM) Performance: Measuring CRM performance, CRM Metrics.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

1	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
$\checkmark$	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

# **Syllabus Revision**

Semester : III (Marketing Elective ) Course Code/Name: Retail Marketing

Board: Management

Unit I	t Existing	Changes
1	INTRODUCTION An overview Retailing – Channels of Distribution, Functions of Retailers, Evolution of Retailing – Global Retail Scenario – Indian Retail Scenario – Emerging Trends and Opportunities in Retail Industry - economic and technological Influences on retail management – Classification of Retailers – Non Traditional Retail Classifications.	Retailing – Definition, scope and importance in the globalized are provided and
II	RETAIL FORMATS Organized and unorganized formats – Different organized retail formats – Characteristics of each format – Emerging trends in retail formats – MNC's role in organized retail formats.	The Retail Store - Retail stores management / Roles and responsibilities of retail store managers / Human resource management – recruiting, hiring, training and development, performance management, payroll, work place scheduling / Store business operations – materials management, coordination with purchase department / finance and accounts / Problem solving / Safety and security.Store Essentials – Classification of grocery items / Store Essentials – Location / Store designs / Display accessories / Store atmospherics / Developing own brands / The power of mega retailers over manufacturers / Dimension attributes and its components that affect retail outlet selection.
	<b>RETAIL ADMINISTRATION</b> Choice of retail locations - internal and external atmospherics – Positioning of retail shops – Building retail store Image - Retail service quality management – Retail Supply Chain Management –	Visual merchandizing components – merchandize as focal point, choice of colours, display themes, display to complement store strategy, spotless cleanliness, frequent change of displays and essentials of good display, lighting / special display kinds – window, marquee, freestanding or island, counter, brand corner, end cap cascade or waterfall displays / Store Exterior

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	Retail Pricing Decisions Merchandising and category management – Human Resources Management – Information System - Buying.	that aid retailing – barcode readers, credit card
	RETAIL SHOP MANAGEMENT. Visual merchandise management – space management –Retail Inventory management –Retail accounting& audits-Retail store brands-retail advertising &promotion –Retail management Information system-online retail – role of communication in retailing- methods of retail communication.	Retail strategies – Supply chain management - managing material, information and financial flows / critical success factors /drivers, elements and goals / basic retail strategies – low price high turnover, discounted prices across all categories, lifestyle goods value price / exclusive goods premium price strategy / retail formatting / retail mix / building customer loyalty / customer relationship management.Retail Consumer Behavior – Difference between consumer and shopper / Frugal, impulsive, compulsive and tightwad buyers / Sub classification of shopping orientation / Catering to service consumers – gaps model for improving retail service quality / retail research.
V	sales force Management -	Retail Strategies for Global Growth – Building sustainable global competitive advantage, adapting to local customs and culture, adopting global culture and practices / Different entry strategies – direct investment, joint venture, forming strategic alliances and franchising. Online shopping – different formats, retail convergence.
	Challenges in Retailing in India	convergence.

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# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

1	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

# Syllabus Revision: New Course

Semester : III (Marketing Elective ) Course Code/Name: Rural Marketing

Board: Management

Unit	Existing	Changes
Ι	Introduction of Rural marketing – Evolution of Rural Marketing in Indian and Global Context- Definition- Nature, Evolution, Scope-Characteristics and potential of Rural Marketing - Importance of Rural Marketing- Factors affecting Rural Marketing- Rural Vs Urban Marketing- Structure of Rural Marketing – Recent Trends in Rural Marketing.	Rural Marketing– Definitions, myths and realities of rural marketing, potential of the Indian rural market, the rate of growth and market share of rural market for consumer and non durable goods. Needs, Wants and Demands of the Rural Customer. Values and satisfaction that spell satisfaction for the rural customer. The Rural Marketing Environment – Rural demography – the percentage of youth and their influence on family buying. Economic capacity and potential of rural market. Lack of technological support and infrastructure. Political environment and Rural Culture and its
II	Rural Marketing Mix: Product Decisions, Pricing Decisions, Promotion Decisions, Distribution, Channel Management, Relationship Management Physical Distribution, Sales force management	influence on rural marketing. Rural Consumer Behavior – Cultural and sub cultural influences of different regions and within regions. Caste and social divisions and their influence. Influence of city educated youth, city bred daughter/son in law, village heads on rural buying. Occupation, lifestyle, influence of men over women and other determinants in rural marketing choice.Rural Marketing Segmentation – Geographic / Climatic / Water resources based / Nearness to town based / Industrialization based / Access by road or railway based / Demographic based – Population concentration, Socio Economic Classification, Income based.

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<ul> <li>Iv Retail &amp; IT models in Rural Marketing-Consumer Jeckies and Marketing-</li> <li>V Retail &amp; IT models in Rural Marketing-</li> <li>V Retail Marketing-</li> <li>V Retail &amp; IT models in Rural Marketing-</li> <li>Consumer Education &amp; Consumer Marketing-</li> <li>V Retail &amp; IT models in Rural Marketing-</li> <li>V Retail &amp; IT models in Rural Marketing-</li> <li>Consumer Education &amp; Consumer Marketing-</li> <li>V Retail &amp; IT models in Rural Marketing-</li> <li>Consumer Education &amp; Consumer Marketing-</li> <li>V Retail &amp; IT models in Rural Marketing-</li> <li>Consumer Education &amp; Consumer Marketing-</li> <li>Consumer Education &amp; Con</li></ul>	III	Daniel Maulast' 1 C	
IVProduct / Service Classification in Rural Marketing - Brand Management in Rural Marketing- Fostering Creativity& Innovation in Rural Marketing Sales force Management in Rural Marketing.Place of Sale - Lack of outlets, transportation and warehousing, cost / service dilemma / the village shop that sells all from groceries to sanitary, cement, consumer durables and so on. The power of the delivery cum sales van. Other non conventional delivery mechanisms such as sales through computer based kiosks, self help groups, retired army personnel. Promotion - Logos, symbols and mnemonics to suit rural understanding. Picture based brands /Packaging should carry pictures for easy identification (Detol Sword / Nirma dancing girl) Selecting Proper Media Mix - TV / Radio / Cinema / Outdoor / Audio visual units / Publicity vans or bullock carts / Contacted Audio visual vans / Group demostrations / Puppet Shows / Harikathas / Music CD's / Word of Mouth Promotions / Interpersonal Rural Specific Media through touch, feel and talk modes ofcommunication.VRetail & IT models in Rural Marketing-CSR and Marketing Ethics in Rural Marketing Consumer Education & Consumer Methods in Promotion of Rural Marketing- Advertisement & Media Role in Rural Marketing Promotion Methods. e- Rural Marketing Advanced Practices in Rural Marketing- Social Marketing-Rural Sales Force Management - Importance of Hiring Salesmen willing to work in Rural Environment / Possess rural culture and congruence / Attitude suited to Rural Culture / Knowledge of local language, culture and habits / Ability and willingness to several products at a time.Corporate and Government Efforts and Innovations - Mckinsey Study / Hansa Research / National Council of Agricultural and Economic Research / FICCI and Ernst and Young Studies / D	111	Behaviour-segmentation of rural market -New product development - Product life cycle and Rural	environment / Products that work without electricity on batteries /Colours to choose rural choice (bright and colourful and not subtle and somber) Smaller packages that are less priced / Value based but not cheap products that hurt rural sensitivities. Pricing – Pre conceived notions do not help / Pricing related to Crop Harvest Times / Special Occasion Pricing /
<ul> <li>Product / Service Classification in Rural Marketing - Brand Management in Rural Marketing- Fostering Creativity&amp; Innovation in Rural Marketing Sales force Management in Rural Marketing.</li> <li>Place of Sale - Lack of outlets, transportation and warehousing, cost / service dilemma / the village shop that sells all form groceries to sanitary, cement, consumer durables and so on. The power of the delivery num sales van. Other non conventional delivery mechanisms such as sales through computer based kiosks, self help groups, retired army personnel. Promotion - Logos, symbols and mnemonics to suit rural understanding. Picture based brands /Packaging should carry pictures for easy identification (Detol Sword / Nirma dancing girl) Selecting Proper Media Mix – TV / Radio / Cinema / Outdoor / Audio visual units / Publicity vans or bullock carts / Contacted Audio visual vans / Group demonstrations / Puppet Shows / Harikathas / Music CD's / Word of Mouth Promotions / Interpersonal Rural Specific Media through touch, feel and talk modes ofcommunication.</li> <li>Rural Sales Force Management - Importance of Hiring Salesmen willing to work in Rural Marketing-CSR and Marketing- Consumer Education &amp; Consumer Methods in Promotion of Rural Marketing- Advertisement &amp; Media Role in Rural Marketing Promotion Methods. e- Rural Marketing Advanced Practices in Rural Marketing- Social Marketing-</li> </ul>	13.7		Fairs(Thiruviza), Easy Payment terms
<ul> <li>v Retail &amp; IT models in Rural Marketing-CSR and Marketing- Consumer Education &amp; Consumer Methods in Promotion of Rural Marketing- Advertisement &amp; Media Role in Rural Marketing- Marketing- Social Marketing- Marketing- Social Marketing- Nethods</li> <li>v Retail &amp; IT models in Rural Marketing-CSR and Marketing- Consumer Education &amp; Consumer Methods. e- Rural Marketing- Advanced Practices in Rural Marketing- Social Marketing- Advanced Practices in Rural Marketing- Social Marketing- Advanced Practices in Rural Marketing- Social Marketing- Marketing- Social Marketing- Marketing</li></ul>	IV	Rural Marketing - Brand Management in Rural Marketing- Fostering Creativity& Innovation in Rural Marketing Sales force	and warehousing, cost / service dilemma / the village shop that sells all from groceries to sanitary, cement, consumer durables and so on. The power of the delivery cum sales van. Other non conventional delivery mechanisms such as sales through computer based kiosks, self help groups, retired army personnel.
<ul> <li>Retail &amp; IT models in Rural Marketing-CSR and Marketing Ethics in Rural Marketing- Consumer Education &amp; Consumer Methods in Promotion of Rural Marketing- Advertisement &amp; Media Role in Rural Marketing Promotion Methods. e- Rural Marketing-CRM &amp; e-CRM in Rural Marketing- Advanced Practices in Rural Marketing- Social Marketing-</li> <li>Rural Sales Force Management – Importance of Hiring Salesmen willing to work in Rural Environment / Possess rural culture and congruence / Attitude suited to Rural Culture / Knowledge of local language, culture and habits / Ability and willingness to several products at a time.Corporate and Government Efforts and Innovations – Mckinsey Study / Hansa Research / National Council of Agricultural and Economic Research / FICCI and Ernst and Young Studies / DCM Hariyali</li> </ul>			to suit rural understanding. Picture based brands /Packaging should carry pictures for easy identification (Detol Sword / Nirma dancing girl) Selecting Proper Media Mix – TV / Radio / Cinema / Outdoor / Audio visual units / Publicity vans or bullock carts / Contacted Audio visual vans / Group demonstrations / Puppet Shows / Harikathas / Music CD's / Word of Mouth Promotions / Interpersonal Rural Specific Media through
Marketing- Social Marketing- and Ernst and Young Studies / DCM Hariyali	V	Marketing-CSR and Marketing Ethics in Rural Marketing- Consumer Education & Consumer Methods in Promotion of Rural Marketing- Advertisement & Media Role in Rural Marketing Promotion Methods. e- Rural Marketing-CRM &e-CRM in Rural Marketing-	Rural Sales Force Management – Importance of Hiring Salesmen willing to work in Rural Environment / Possess rural culture and congruence / Attitude suited to Rural Culture / Knowledge of local language, culture and habits / Ability and willingness to several products at a time.Corporate and Government Efforts and Innovations – Mckinsey Study / Hansa Research / National Council of
		Marketing- Social Marketing-	and Ernst and Young Studies / DCM Hariyali

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Marketing	Agrovet (GAVL), HUL's - Fair and Lovely, Lipton / Project Shakti / Hindustan Petroleum's Rasoi Ghars or community kitchens to popularize and sell LPG cylinders (cooking gas).
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# PERCENTAGE OF SYLLAUS REVISED: 100 **COURSES FOCUS ON:**

1	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
$\checkmark$	Gender Sensitization		Human Values
$\checkmark$	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

Branch: Management

#### Syllabus Revision

Semester : III (Marketing Elective )

Course Code/Name: International Marketing Unit Existing Changes I **INTRODUCTION** Nature and **International Marketing Environment:** scope of International Marketing, Factors/Dimensions influencing International Key issues in International Marketing - Controllable and Uncontrollable Marketing .- Business Practices and factors in International Marketing. Ethics, Cultural, Political, and Legal Environment, Minimizing Environmental Risk. II Policy Framework And Product Policy - International Product Life Procedural Aspects Balance of Cycle - Export Pricing. Payment - India's Export - Import **International Marketing Decision:** policy - Exim Policy - promotional Marketing Decision - Market Selection measures - Export oriented Units -Decision - Market Entry Decision -Deemed Exports - Export- Import Marketing Mix Decision. Documentation Kinds International Marketing Research: Marketing of Information System - Market Research -Documents – Principal Export Documents - Auxiliary documents -Marketing Research - Methodology for Marketing Research - International Research Documents in Import Trade - Export Documentation and procedures -Strategy - Desk Research and Filed Research -Demand Estimation – GDP Market Oriented Information – International Marketing Intelligence - Competitive Producer consumer target - Market segmentation. Intelligence. Ш **Planning For International** International Sales Contract: Major Laws -Marketing Marketing Research INCO Terms - Standard clauses of ,Marketing Information Sources, International sales Contract - Role of Indian Marketing Information System, Market Council of Arbitration / International Chamber Analysis Foreign Market Entry of Commerce in solving Trade disputes. Strategies - Exporting, Licensing, Joint International Trade Liberalization: General Ventures, Strategic Alliances, Agreement on Tariff and Trade (GATT) -Acquisitions Franchising, Assembly World Trade Organization (WTO) - GATS -Operations, Management Contracts, UNCTAD - Trade Blocks: Customs Union -Turnkey Operations, Free Trade Zones EU - Intra - African Trade: Preferential Trade Area (PTA) – European Free Trade Area (EFTA) - Central American Common Market (CACM) - Latin American Free Trade Association (LAFTA) – North American Free Trade Agreement (NAFTA)

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		<ul> <li>Association of South East Asian Nations</li> <li>(ASEAN) – CARICOM – GSTP – GSP –</li> <li>SAPTA – Indian Ocean RIM initiative – BIM</li> <li>ST – EC – World Bank, IMF, International</li> <li>Finance Corporation – Multinational</li> <li>Investment Guarantee Agency (MIGA). World</li> <li>Trade in Services – Counter Trade – World</li> <li>Commodity Markets and Commodity</li> <li>Agreements.</li> </ul>
IV	International Marketing Decisions Developing an International Product Line, Foreign Product Diversification, International Branding Decisions, International Packaging, International Warranties and Services. International Pricing Strategy - International Promotion Strategies- Promotion Mix- International Sales Negotiations - Patterns of Global Advertising, Global Advertising Regulations, Advertising Media, International Channels of Distribution- Retailing in International Scenario, International Physical Distribution - Technological Influences in international Marketing-Current trends in international Marketing.	India's Foreign Trade: Recent Tends in India's Foreign Trade – India's Commercial Relations and Trade Agreements with other countries – Institutional Infrastructure for Export Promotion in India – Export Assistance – Export Finance – Export Processing Zones (EPZs) – Special Economic Zones (SEZs) – Exports by Air, Post and Sea – Small Scale Industries (SSI) and Exports – Role of ECGC - Role of EXIM Bank of India – Role of Commodity Boards – Role of State Trading Agencies in Foreign Trade – STC, MMTC, etc. Export Regulations: Procedure for export of goods – Quality control and Pre-shipment Inspection – Excise Clearance – Customs Clearance – Port Formalities – Exchange Regulations for Export – Role of Clearing and Forwarding Agents. Procedure for Executing an Export Order – Export and Import Documentation - Export Packing – Containerisation – World Shipping – Liners and Tramps – Dry ports- Project Exports – Joint Ventures - Marine Insurance and Overseas Marketing - Export Payment – Different Modes of Payment and Letters of Credit.

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customers and selection method, E- Overview of Export - Import Policy of Ind	V	Marketing channels organization & controlling of the global marketing	World Trade and India: - Globalisation and Role of Multinational Enterprises (MNEs) - Overview of Export – Import Policy of India Basic Objectives, Role and Functions of Expo Promotion Councils.
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# **PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:**

Skill development	~	Entrepreneurial development
Employability		Professional Ethics
Gender Sensitization		Human Values
Social Awareness/Environment		Environment and Sustainability
Intellectual Property Rights		
	Employability Gender Sensitization Social Awareness/Environment	Employability Gender Sensitization Social Awareness/Environment

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#### Syllabus Revision- New Course

Semester: Semester : III (Marketing Elective) Course Code/Name: Advanced Selling and Negotiation Skills

Board: Management

Unit	Content
I	Concepts of Selling and Sales Organization: Sales Management - Evolution of sales function - Objectives of sales managemen positions - Functions of Sales executives - Relation with other executives. Sales Organization and Relationship: - Purpose of sales organization - Types of sales organization structures - Sales department external relations - Distributive network relations.
Π	<b>Theories of personal selling and selling strategies:</b> Theories of personal selling - Types of Sales executives - Qualities of sales executives - Prospecting, pre-approach and post-approach - Organizing display, showroom & exhibition -Sales Presentations.
111	Negotiation strategies and Stages: Negotiation strategies – Distributive Negotiations- Integrative Negotiations - Conflict and Dispute Resolution - Reasons for negotiations breakdowns - Legal aspects in Sales & Negotiation - Negotiation stages - The Preparation Stage - Preparing a range of objectives - Constants and variables - Researching the other party - The Discussion Stage - Rapport building - Opening the negotiation - Questioning techniques - Listening skills - Controlling emotions - Art of persuasion and emotions – ethics in sales.
IV	Negotiating Intelligence, Bargaining & Closing: Negotiating Intelligence - Influencing and assertiveness skills - Spotting the signs - non-verbal communication and voice clues - The Proposing Stage - Stating your opening position - Responding to offers – Adjournments - Administering Contracts and Role of Negotiations - The Bargaining and Closing Stage - Making concessions - Closing techniques - Confirming agreement.
V	Sales force Administration & Management: Sales Analysis - Sales quotas - sales budget - sales territory allocation - sales audit - Sales Force Management - Recruitment and Selection - Sales Training - Sales Compensation -Contemporary Issues.

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#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

$\checkmark$	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
$\checkmark$	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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Board: Management

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## Syllabus Revision- New Course

Semester: Semester : III ( Marketing Elective ) Course Code/Name: Marketing Analytics

Unit	Content
Ι	Marketing Analytics Framework: Introduction to Marketing Analytics and Models. Market Insight - Market Data Source – treatment of outliers, Market sizing, PESTLE Market analysis, Porter Five Force Analysis Market segment identification, targeting and positioning - Tools and Techniques: Regression, Cluster Analysis, and Perceptual Mapping Techniques.
II	Business Strategy and Operations: Analytics based strategy selection with strategic models - Strategic Scenarios, Strategic Decision Models, and Strategic Metrics. Business Operations: Forecasting - Predictive Analytics - Data Mining - Balanced Scorecard - Critical Success Factors.
111	<ul> <li>Product and Price Analytics: Product analytics: Conjoint Analysis model -</li> <li>Decision Tree Model - Portfolio Resource Allocation - Product/ service Metrics, Attribute Preference testing.</li> <li>Price Analytics: Pricing Techniques - Pricing Assessment - Profitable pricing -</li> <li>Pricing for Business Markets - Price Discrimination.</li> </ul>
IV	<b>Distribution and Promotions Analytics:</b> Distribution Analytics: Distribution Channel Characteristics - Retail Location selection, Channel Evaluation and Selection - Multi-channel Distribution. Promotion Analytics: Promotion Budget estimation - Promotion Budget Allocation - Ad value equivalence model - Promotion Metrics for traditional Media - Promotion Metrics for social media.
V	<b>Sales Analytics:</b> E commerce sales model, sales metrics, profitability metrics and support metrics - Rapid decision models - data driven presentations - contemporary issues and opportunities in application of marketing analytics in different sectors.

# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		-

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#### Syllabus Revision- New Course

Board: Management

Semester: Semester : III ( Marketing Elective ) Course Code/Name: New Product Strategies

Unit	Content	
I	<b>Basics of New Product Strategy:</b> New Product Strategy-decisions- consumer behavior adoption and diffusion of innovations; characteristics, purpose, risk in new products; PLC.	
II	Idea Generation and Development: Generation of new product ideas and	
	identifying new market opportunities, New Product Planning Process-stage gate system and its application.	
III	<b>The Product offer:</b> Selecting Market opportunity and Designing new market offers-Concept Generation and Evaluation, Developing and Testing Physical offers.	
IV	New Product Brand Development and Pricing Strategies: Importance of Brand decisions and Brand identity development; Pricing of a new product, Pre-test Marketing.	
V	<b>New Product Launch:</b> Entry Strategies - Pre-launch, during launch and Post launch preparations.	

## **PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:**

$\checkmark$	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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Semester : III (HRM Elective)

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#### Syllabus Revision- New Course

Board: Management

Course Code/Name: Human Resource Development

Unit	Content
Ι	<b>Introduction:</b> Definition, Scope and objectives - Evolution of HRD - Developmental Perspective of HRD - HRD at macro and micro levels: Outcomes of HRD in the National and Organizational contexts. Qualities and Competencies required in a HRD professional. Importance of HRD in the Present Context. Development of HRD Movement in India. Difference between HRM and HRD
	Organisation of HRD Function.
II	Human Resource Development System: HRD Mechanisms – Climate and Culture – Influences of Employee Behaviour – Model of Employee Behaviour – External and Internal Factors Influencing Employee Behaviour. Learning and HRD: Learning Principles – Maximizing Learning – Individual
	Differences in the Learning Process – Learning Strategies and Styles – Recent Developments in Instructional and Cognitive Psychology.
III	<b>Developing Human Capacity:</b> Aptitude - Knowledge - Values - Skills of Human Relations - Responsiveness - Loyalty and Commitment - Transparency - Leadership Development.
	<b>Evaluating HRD:</b> Human Resource Accounting - HR Audit and Benchmarking - Impact Assessment of HRD initiatives on the bottom-line of an organization.
IV	<b>Training and Development:</b> Meaning and Scope of training - education and development; Training need analysis - Types of training Internal and external – On -job Training & Job shadowing, SGTA- Outbound Training - Attitudinal training - Principles Involved in Selection of Training Method – Techniques of Training Different Levels - Training effectiveness.
V	Career Planning and Development: Definition - objectives – importance – career development –Career path defining- principles of theories career planning – steps involved – succession planning. Recent Trends in HRD: Training for trainers and HRD professionals – Goal- directed work system behavior- Dynamics of HR & Employee Engagement- Sustainable Human Development- Promoting Research in HRD.

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# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

1	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
$\checkmark$	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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Semester : III (HRM Elective )

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## Syllabus Revision

Branch: Management

<b>Course Code/Name</b>	Performance	Management
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Unit		Changes
I	Introduction, Role of performance in organization, Dimensions of Performance, Relevance of objectives in organizations, Organizational & individual performance, Performance management & human resources management, Performance Management Process – Performance Management & Performance Appraisal.	Introduction: Performance Management Definition – History, Dimensions of – Role in Organizations – Characteristics of an ideal Performance Management Systems – Challenges of a Poorly Implemented Performance Management System.
11	Performance planning, Performance analysis, KPAs, Components of Performance planning, Objectives of performance analysis, Process of Performance analysis - Implementation process, Factors affecting implementation - Pitfalls in implementation - Experiences in performance management - Traditional practices, Recent approaches - Balance Scorecard approach to PMS - Benchmarking process.	Performance Management Process: Defining Performance – Determinants of Performance – Approaches to Measuring Performance – Performance in Performance Management – Process of Performance Management – Performance Management and Human Resource Management.
	Purpose of Performance Appraisal, Who can Appraise, Performance appraisal factors, Pros & Cons of Appraising, Appraisal Methods on the basis of approaches – Ranking–Forced Distribution–Paired Comparison–Check List– Critical Incident– Graphic Rating Scale– BARS–MBO–Human Resource Accounting - 360 degree Feedback– Definition & Uses of 360 degree feedback– Rationale for 360 degree feedback– Scope of application in various industries – Advantage and disadvantage of 360 degree feedback	Performance Planning: Ongoing support and coaching Theories of Goal-setting – Setting Performance Criteria – Components of Performance Planning - Objectives of Performance Analysis – Performance standards; BIS, ISO 9001/27001/14001/18001- Crisis Management- Performance Analysis Process.
IV	Significance of review, Process of performance review, Performance rating, Rating Errors, Reducing raters bias, Performance review discussions, Objectives, Requisites, Process, Role of mentoring, Coaching in performance review discussions	Performing Review and Discussion: Performing Review and Discussion: Significance of Performance Review in Performance Management – Process of Performance Review. Performance Ratings: Factors affecting Appraisals – Methods and Errors – Reducing Rater Biases. Performance Review Discussions:

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		Objectives – Process – Role of Mentoring and Coaching in Performance Review.
V	Essentials of Good Performance Management System - Appraisals & HR Decisions, Reward systems & legal issues in PMS, Managing team performance – Role of Technology in Performance Management - Concept of Potential Appraisal – Requirements for an Effective Potential Appraisal system - Performance Appraisal and Potential Appraisal.	Managing Team Performance: Managing Team Performance: Types of teams and Implications for Performance Management – Purpose and Challenge of Team Performance Management – Rewarding Team Performance Implementing Performance Management System: Factors affecting Implementation – Pitfalls of Implementation – Traditional Practices in the Industry.

# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	~	Entrepreneurial development
	Employability	ž	Professional Ethics
1	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

Semester: Semester : III ( HRM Elective )

Board: Management

Course Code/Name: Organizational Development

Unit	Content
1	<b>Introduction:</b> Introduction- evolution- basic values and assumptions- foundations of OD- Process of OD - managing the phases of OD- Organizational diagnosis – OD Techniques - Questionnaire, interview, work task force- collecting, analyzing-feedback of diagnostic information.
II	<b>Approaches:</b> Key Organizational Designs – Procedures-Differentiation & Integration - Basic Design – Dimensions Determination of Structure-Forces Reshaping Organization – Life Cycles in Organization.
III	<b>Organizational culture:</b> Key Role of Organizational Culture - Functions & Effects of Organizational Culture - Leaders role in shaping and reinforcing culture, Developing a Global Organizational Culture.
IV	<b>Groups &amp; teams:</b> Work Groups & Teams - Preparing for the world of work Group Behavior - Emerging issues of Work Organization and Quality of Work Life – Career stage model – Moving up the career ladder.
V	Wellbeing: Stress and Well Being at Work: Four approaches to stress - Sources of stress at work, consequences of stress - Prevalent Stress Management - Managerial implications.

# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

V	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
$\checkmark$	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

Semester: Semester : III ( HRM Elective ) Course Code/Name: Industrial and Labour Relations

Unit	Content
I	<b>Industrial Harmony and Conflict:</b> Harmonious relations in industry- importance and means; cause of industrial disputes- Machinery for settling of disputes- Negotiation- Conciliation- Mediation- Arbitration and Adjudication- Strikes- Lock-outs- Lay-off and Retrenchment- Code of Discipline- Grievance procedure- Labour management co- operation; Worker's participation in management.
II	Labour Relations: Changing concept of management labour relations- Statute laws- Tripartite conventions- development of the idea of social justice- limitation of management prerogatives increasing labour responsibility in productivity. Joint Consultation: Principal types- Attitude of trade unions and management- Joint consultation in India.
III	<ul> <li>Trade Unions: Trade Unions and their growth- economic- social and political conditions leading to the development of trade unionism- Theories of trade unionism- Aim and objectives of trade unions- Structure and governing of trade unions.</li> <li>Problems and Role of Indian Trade Unions: Recognition and leadership-Finances and Membership- Compulsory versus free membership- Political activities- Welfare- Legislation- Majority and Minority unions- Social responsibilities- positive role in economic and social development.</li> </ul>
IV	Collective Bargaining: Meaning- Scope- Subject matter and parties- Methods and tactics- Administrations of collective bargaining agreements- Charter of Demands & Counter Demands- Fair and unfair labour practice. Tripartite Machinery: At the center and in the states- I.L.O. – Its functions and role in labour movement – Industrial health and safety- Industrial legislations.
V	

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

Board: Management

Semester: Semester : III ( HRM Elective ) Course Code/Name: Career Management

Unit	Content
I	<b>Introduction to Career Management:</b> Meaning and overview of career, career planning, career development and career management – Differences between Career Management, Career Development and Career Planning. Objectives and importance of career management.
II	Self-Assessment and Career Management: Self-Assessment and Career Management - Understanding the new career - Changing landscape of careers, Protean career, Career and identity, Understanding lifestyle and personal vision. Managing your career: Skills assessment and peer coaching.
III	<b>Contemporary Issues in Career Management:</b> Contemporary issues in Career Management - Developing Career and Work-life implications- Work, gender and dual career couples. Lifespan career development, Career Anchors, Fast track Careers Vs Slow track careers, Mid Life career blues. Career challenges and solutions for working families.
IV	Career Management System in Organization: Career Management from Organizational Point of View - Career Planning Vs Succession Planning, Process of Career planning and career development. Career management strategies. Career Management Systems. Career guidance and counseling. Managers Role in Career Management. Career Road Maps.
V	<b>Role of Learning in Career Growth:</b> Learning and Development for Career & Organizational growth; Strategies of getting organizations into learning mode; Expanding your Horizons. Learning Culture - Learning Management Systems.

# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

1	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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## Syllabus Revision- New Course

Semester: Semester : III ( HRM Elective ) Course Code/Name: HR Analytics

Board: Management

Unit	Content
1	<b>Introduction to human resource analytics:</b> Understanding HR indicators, metrics and data, HR Analytics Process, Frameworks for HR Analytics: LAMP Framework, HCM 21 Framework. Application of analytical techniques to evaluate human capital impact on business.
II	<b>Statistics for HRM:</b> Statistical analysis for HR, Toolkits, Compensation KPIs, Power interest stakeholder matrix, Data models, Creating dash boards, analyzing and reporting.
111	Best Practices in HR analytics: Staffing, supply and demand forecasting, Total compensation analyses, Performance Analytics, Attrition Analytics, Learning and Development Analytics, Diversity Analytics, Employee engagement analytics - Employee satisfaction analytics.
IV	Measuring HR contribution: Developing HR Scorecard, Developing HR Analytics Unit: Analytics Culture, Analytics for decision making, Analytics for Human Capital in the Value Chain- Balance Score card – ROI –Predictive Analytics.
V	<b>HR regulations and reporting requirements:</b> HR Policies, Procedures and guidelines, Key regulations and reporting requirements, connecting missions or goals to HR Benchmarks and metrics, Reporting & Advising - the 4 rules of reporting HR analytics - importance of data visualization.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course Semester: III (Elective HRM)

**Board: Management** 

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Course Code/Name: Learning and Development

Unit	Content			
I	Introduction: Learning & Development Foundation: The Design & Dynamics of Learning- Contemporary Skills for Efficient Facilitation- Contemporary Frameworks & Tools to Evaluate L&D Programs- Leadership & Management Development-Organizational Design & Development-Learning Vs Training, Training Cycle, Experiential Learning Cycles-Creating Learning ecosystems.			
11	Learning and Development Strategy: Objectives and learning outcomes- Sequencing learning content-Training & Learning Methods-Monitoring, Assessin and Evaluation-Building a Culture of Learning- Learning Strategy- Setting Up the Learning Landscape-Mapping organizational learning maturity, Setting up learning programs and strengthening the informal learning landscape; Skill Gap Analysis- Learning Key Techniques.			
111	<b>Delivery:</b> Delivery Styles, L&D activities, Physical Environment – Tools & Techniques, digital learning content, Delivery and Evaluations; Role of Learning and Development Practitioners-Issues, Design Thinking; Ethics in Learning and Development.			
IV	<b>Coaching Strategy:</b> Introduction to Coaching -Evidence-Based Coaching- Coaching Process- Models- Benefits; Mentoring Process- Models- Benefits; Social Media and Collaborative Learning; Learning & Development In Organisations: Strategy, Evidence And Practice.			
V	Learning Engagement, Evaluation and Learning Analytics: Learner Engagement, Factors affecting Learning, Psychology and Neuroscience of Learning-Strategies for learning enhancement and engagement. Learning Evaluation theory and thinking -process and practice-Evaluation Methods, Approaches, Tools- Analyzing and reporting recommendations. Learning Analytics: Collecting Learning Data -Implementing Learning Analytics.			

#### PERCENTAGE OF SYLLAUS REVISED: 100 **COURSES FOCUS ON:**

1	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

**Board: Management** 

Semester: III (Elective HRM) Course Code/Name: Organizational Change

Unit	Content
Ι	<b>Organizational Change:</b> Meaning, Nature, Forces for change- change agents- Change process-Types and forms of change- Models of change- Resistance to change – individual factors – organizational factors – techniques to overcome change- Change programs –job redesign.
II	<ul> <li>Management of Change: Diagnosing the organization, determining the desired future state, Implementation Action, Evaluating the Action, Institutional Action Research.</li> <li>Effective Ways of Managing Change: Evolutionary and Revolutionary change in organization: Continuous versus discontinuous changes, Uni-directional and cyclic changes.</li> </ul>
III	<b>Change Agents:</b> Change Agents: Skills – External and Internal Change Agents - Resistance to change - Managing the resistance to change - Levin's change model.
IV	<b>OD Intervention:</b> Human process interventions-Individual, group and inter-group human relations- structure and technological interventions- strategic interventions – sensitivity training – survey feedback, process consultation – team building – inter-group development.
V	HR Management Interventions: Performance management, employee development, Workforce diversity and wellness. Strategic interventions - Mergers and acquisitions - Organizational Culture Change - Team Intervention, third-party peace-making, Structural Intervention, Comprehensive OD Interventions.

## PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# **Syllabus Revision**

# Semester: III (Elective HRM)

**Board: Management** 

Course Code/Name: Talent Management

Exp. No	Existing	Changes
	Introduction to Talent Management: Overview, History, Scope and Need of Talent Management, Source of Talent Management, Tools for Managing Talent Role of HR in Talent Management, Role of the HR Manager, Talent Management Process	Introduction to Talent Management: Definition, Meaning of Talent Management, Objectives & Role of Talent Management in building the sustainable competitive advantage to a firm, Key Processes of Talent Management, Benefits of Talent Management, Talent vs. knowledge people, Source of Talent, Consequences of failure in managing talent, Tools for Managing Talent. Building blocks of talent management: competencies – performance management, conducting performance reviews, Appraising executive talent, selecting the right appraisal.
<b>Π</b>	BuildingBlocksforTalentManagement:E, TalentManagementSystem , EffectiveTalentManagementSystem,BuildingBlocks ofEffectiveTalentManagementSystem,CriticalSuccessFactorstoCreateTalentManagementSystem,KeyElements ofTalentManagementSystem,KeyTalentManagementSystem,Key	Talent Planning – Understanding the needs and mind set of employees, Succession management process, Integrating succession planning and career planning, designing succession planning program, talent development budget, contingency plan for talent; building a reservoir of talent, compensation management within the context of talent management.
III	Approaches to Talent Management: Developing a Talent Management Strategy, Mapping Business Strategies and Talent Management Strategies Talent Management and Organisational Environment - Shaping Talent Planning and Developing Values, Promoting Ethical Behaviour	Talent Acquisition and Retention – Talent Acquisition- Defining Talent Acquisition, Develop high potential employees, High performance workforce, Importance of Talent Development Process, Steps in developing talent. Talent Retention: SMR Model (Satisfy, Motivate and Reward), Employee Retention Programs, Career Planning and Development, Best practices in employee retention.

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IV	Talent Planning, Acquisition, Engagement and Retention: Talent Planning, Objectives of Talent Planning, Steps in Strategic Talent Planning, Talent Acquisition, Recruiting Process, Talent Engagement and Retention, Employee Engagement and Retention, Improving Employee Retention	<b>Competency Mapping:</b> Concepts and definition of competency; types of competencies, Features of competency, approaches to mapping methods, Competency mapping procedures and steps , 5- level competency model, Developing competency models from raw data- data recording, analyzing the data, content analysis of verbal expression, validating the competency models, how competencies relate to career development and organizational goals.
V	Compensation and reward strategies for Effective Talent Management: Sustainable Talent Management and Reward Model, Strategic Compensation plan for Talent Engagement, Talent Management and Corporate Restructuring; Corporate Reconstruction, Timing the Corporate Reconstruction, Organisational Issues and Talent Management Challenges	Methodology of Competency Mapping: Competency models people capability maturity model, developing competency framework, competency profiling, competency mapping tools, use of psychological testing in competency mapping, competency-based interviewing, assessment of competencies through 360 degree feedback, BEI, CIT, validation of competencies.

# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development		Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization	~	Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

Semester: III (Elective HRM) Course Code/Name: Stress Management

**Board: Management** 

Unit	Content
I	Introduction to Stress Management: Introduction to stress: Meaning, Definition, Eustress, Distress, Stressor-emotional, intellectual, environmental, occupational/educational performance, social, physical, and spiritual stressors- Types of stress: Acute stress, Episodic Acute stress and chronic stress, Sources of stress, signs and Symptoms,
11	<b>Impact of Stress:</b> Physiological Impact of stress, Psychological Impact of stress, Social Impact of stress, Types of intervention, The General Adaptation Syndrome - Fight or flight response, Stress warning signal
III	Stress Reduction Techniques: Challenging Stressful Thinking, Problem Solving and Time Management, Psychological and Spiritual Relaxation Methods, Physical Methods of Stress Reduction, Preparing for the Future: College and Occupational Stress
IV	<b>Coping Strategies:</b> Coping Mechanisms: Appraisal focused, Emotional focused and Problem focused - Stress problem solving Sequence - ABCDE problem solving Model
V	<b>Developing Resilience to Stress:</b> Understanding stress level, Role of Personality Pattern, Self Esteem, Locus of Control, Role of Thoughts Beliefs and Emotions, Life Situation Intrapersonal: Assertiveness, Time Management

# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

1	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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**Board: Management** 

#### Syllabus Revision

Semester: III ( Elective Logistics and Supply Chain) Course Code/Name: Supply Chain Management

Exp.No	Existing	Changes
1	The concept of Supply Chain Management - The Supply Chain Revolution - Extended organization - Integrative Management – Responsiveness – Financial Sophistication – Globalization - Digital Business Transformation	<b>Introduction to Supply Chain:</b> Historical perspective Understanding Supply Chain key issues in supply chain management Objectives, importance, Decision phases - Examples of supply chains Supply chain strategies, The supply chain becomes value chain Supply chain as a competitive weapon
11	II Building Blocks of a Supply Chain Network – Performance Measures – Decisions in the Supply Chain World – Models for Supply Chain Decision- making – Economic Order Quantity Model – Reorder Point Model	Supply chain synergies: Collaborate with supply chain partners Supply Chain Drivers and Design Drivers of supply chain performance: Framework for structuring Facilities, including warehouse, Inventory, Transportation, Information, Sourcing, and Pricing – Yield management /Revenue management
111	Supply Chain Process - Supply Chain Planning – Supply Chain Facilities Layout – Capacity Planning – Inventory Optimization – Dynamic Routing and Scheduling	Sales and Operations Planning: Demand management Demand forecasting, Aggregate Planning and Managing Supply, Demand and Inventory Aggregate Planning in a Supply Chain: role, aggregate planning problems, strategies, role of IT, Implementation Responding to predictable variability in supply chain – Types of supply chains-creating responsive supply chains lean and agile supply chain their characteristics.
IV	procurement – E-Logistics – Internet Auctions – E-Markets – E commerce advantages and disadvantages for SCM – EDI – Exchanges, hubs and marketplaces – ERP.	Leadership and Control: Customer value and supply chain management: Dimensions of customer value-value added services – customer value measures Push-pull boundary –mass customization and supply chain management outsource – Third and Fourth - Party Logistics providers – managing risk in supply chains Creating a sustainable supply chain.
V	Evolution of world class supply chains - Global Supply Chain Integration- Supply Chain Security-International Sourcing	Supply chain analytics: Use of computer software in supply chain problems -Electronic commerce – emerging mega trends supply chain of the future –seeking structural flexibility–The multi-channel revolution 2020 vision.

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#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development		Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization	~	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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## Syllabus Revision- New Course

Semester: III (Elective Logistics and Supply Chain)

**Board: Management** 

Course Code/Name: Principles and Practice of Logistics Management

Unit	Content
I	Concepts of Logistics – Evolution – Nature and Importance – Components of Logistics Management – Competitive Advantages of Logistics – Functions ofLogistics management – principles – Logistics Network – Integrated Logistics system.
II	Elements of Logistics and Inventory carrying – Ware housing – Material handling – Order processing – Transportation – Demand Forecasting – Impactof Forecasts on Logistics and Performance measurements
111	Transportation – participants in Transportation Decisions – Modes of Transportation – Factors influencing Transport economics – documents in Transport Decision Making Warehousing / Distribution – Functions of Warehouse – benefits of Warehouse – Service – Warehousing Alternatives – Warehouse site selection – Factors while initiating Warehouse Operations – Warehouse Management System.
IV	Packing and Materials Handling – Functions of packaging – Communication – Packaging cost – Types of Packaging Material – Unitization – Containerization – Designing a package factors affecting choice of packaging materials.
V	Organization for effective logistics performance – centralized and decentralized structures – stages of functional aggregation in organization, financial issues in logistics performance – Measures – Steps in ABC costing – Financial Gap Analysis integrated Logistics – Need for Integration - Activity Centers in Integrated Logistics Role of 3PL and 4PL – Principles of LIS.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	1	Entrepreneurial
		•	development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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## Syllabus Revision- New Course

Semester: III (Elective Logistics and Supply Chain) Course Code/Name: Inventory & Warehousing Management

**Board: Management** 

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Unit	Content
1	Introduction to Inventory – Definition, principles, role, functions and importance of Inventory, Types of Inventory, Inventory Policy, Costs Associated with Inventory, Inventory and Profitability, Impact of Inventory on total logical cost – Inventory management – objectives / importance, symptoms of poor inventory management, Improving effectiveness of inventory management.
II	Inventory Control and models – Importance and scope of Inventory control, Selective Inventory control, Inventory Models – Economic Lot size, EOQ, Economic Batch Quantity [EBQ], ROL – reorder level, P model, Q model, two bin system, fair share allocation model, MRP, ABC analysis, Just in Time (JIT). Modern methods Kanban, DRP and ERP.
III	Inventory Methods – Inventory ranking methods and Quadrant technique, FIFO. LIFC, Weighted average method, Inventory under certainly and uncertainly, Risk Management, Work in progress inventories, Finished Goods Inventories, Spare parts inventories, Use of Computers in Inventory Management – RFID, EDI, Satellite tracking system.
IV	Warehouse Management – Definition, Principles, Roles, Importance of Warehouses, Need for Warehousing, Warehouse selection and planning, functions and operations of a warehouse, Warehouse location, Area of Warehouse, Factors affecting warehousing cost, Warehouse layout, Design principles.
V	Planning – codification and standardization of the Materials, Incoming Materials Receipts, Retrieval and Transaction Processing System, Security and Loss Prevention, Consumption Based Planning – MRP and lot sixing procedure, Forecasting parameter and result, planned order planning file consolidation, Break bulk, Cross docking, Mixing, Assembly – competitive advantage, production support warehouse – ERP, Role of IT in warehousing.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

**Board: Management** 

Semester: III (Elective Logistics and Supply Chain) Course Code/Name: Domestic and International Logistics

Unit	Content
1	Vehicle Selection – Types of Vehicles – Types of Operations – Load types and characteristics – main types of vehicle body – Implications of vehicle selection – vehicle acquisition.
11	Need for planning – fleet management – main types of road freight transport – transport resource requirements – vehicle routing and scheduling issues – data requirements – computer routing and scheduling – information system applications – GPS – RFID.
III	Legislation – Operator licensing – Driver licensing – Driver's Hours regulations – Road transport directive – tachographs – vehicle dimensions.
IV	Introduction to Air Cargo; Aviation and airline terminology – IATA areas – Country – Currency – Airlines – Aircraft layout – different types of aircraft – aircraft manufacturers – ULD – International Air Routes – Airports – codes – Consortium – Hub and spoke – Process Flow.
V	Air freight forwarding; Air Freight Exports and Imports – Special Cargoes – Consolidation – Documentation – Air way Bill (AWB) – Communications – Handling COD Shipments – POD – conditions of contract – Dangerous (DGR) or Hazardous goods.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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## Syllabus Revision- New Course

Semester: III (Elective Logistics and Supply Chain)

**Board: Management** 

Course Code/Name: Purchasing Management Logistics legal framework and Maritime documents

Unit	Content
1	Indian Contract Act, 1872-Contract–Meaning–Essential Elements –Offer and Acceptance– Consideration–Capacity–Consent–Legality of object–Quasi contract- Discharge of Contract–Breach of Contract– Remedies. Contract of Indemnity and Guarantee - Bailment: Rights and Duties of Bailor and Bailee–Contract of Agency – Creation of Agency– Rights and Duties of Agent and Principal–Termination of Agency
Π	Lawson Carriage of Goods: The Bills of Lading Act 1855 And The Carriage Of Goods By Sea Act 1992 -Non-Contractual Actions- Functions Of The Bill Of Lading Contracts Of Carriage - Modifications To The Traditional Carriage Contract Model-Third-Party Rights Under The Initial Carriage Contract Act Common Law And In Equity - Statutory Transfers.
III	The Cargo Claim Enquiry- Duties, Rights and Liabilities of Common Carriers under:(i) The Carriers Act, 186. (ii)TheRailwaysAct, 1989,(iii)The Carriage By Road Act, 2007 (iv) The Carriage by Air Act, 1972– Indian Consumer Protection Act, 1986: Objects – Rights of Consumers – Consumer Dispute–Procedure of Filing Complaint–Procedure for redressal of Complaints.
IV	Maritime Logistics: Concept, objectives, Importance and relevance to global marketing and Supply chain management- Coastal and Ocean transportation- World Sea-borne Transport- Global Sea Routes and the trade volume- Characteristics of shipping transport. Types of Ships- Container, Roll-on/roll-off (ro-ro) vessels, General cargo ships, Bulk carriers, Tankers, etc Busiest Sea routes: East-West and North-South and Intra Region International Maritime Organization (IMO): Formation and functions-Regulations concerning dangerous and polluting cargoes, including the class structure.
V	Chartering Principles and Practices – Types of Charters- Voyage, Time and Bare Boat charters- Freight Determination and Determinants- Conference System Vs Competitive System- Freight structure and practice – Rate Dynamics- Multi- modal Transport system- Technological Developments in ocean transportation: Size, Tracking, Speed and Security.

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#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	✓ Entrepreneurial development
	Employability	Professional Ethics
√. <sup>2</sup>	Gender Sensitization	Human Values
1	Social Awareness/Environment	Environment and Sustainability
	Intellectual Property Rights	

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#### Syllabus Revision- New Course

**Board: Management** 

Semester: III (Elective Logistics and Supply Chain) Course Code/Name: Export & Import Management

Unit	Content
1	<ul> <li>Export &amp; Import – Introduction, Definitions. Evolution of Export &amp; Import.</li> <li>Foreign Trade Institutional Framework and Basics. Multinational Organizations&amp;</li> <li>Structure, International Business Scenario.</li> </ul>
11	Export-Import—Documentation and Steps, Export–Import Strategies and Practice, Export Marketing, Business Risk Management and Coverage, Export Incentive Schemes.
III	Logistics and Characteristics of Modes of Transportation, Characteristics of Shipping Industry, World Shipping, Containerization and Leasing Practices.
IV	Export Procedures and Documents, Customs Clearance of Import and Export Cargo, Methods and Instruments of Payment and Pricing Inco terms, Methods of Financing Exporters.
V	Information Technology and International Business, Export & Import with European continent, Africa, Middle East Countries, ASEAN Countries, Australia and New Zealand, China and Japan.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

Semester: III (Elective Logistics and Supply Chain) Course Code/Name: Strategic Logistics Management

**Board: Management** 

Unit	Content
Ι	<b>Strategy:</b> Introduction - Strategic planning and strategic management: Levels of strategic planning - Process of strategic planning - dimensions of strategic decisions - Strategic management process
Π	<b>Environmental analysis:</b> environmental scanning - Industry analysis - Competitive analysis -Internal analysis: Resource Based view, SWOT / PEST / ETOP analysis, Value Analysis- Strategy formulation/ alternatives: Corporate strategies: grand strategies- stability, expansion, retrenchment and combination
III	Business level strategies: - acquiring core competencies – Porter's Generic Strategies Model – Functional level strategies: Production and Operations – Finance – HR – Marketing and R & D Strategies
IV	Strategic analysis and choice: Portfolio Analysis-BCG Growth-Share Matrix, GE Business Screen, Shell's Directional Policy Matrix, Hofer's Product – Market Matrix Strategic implementation: Steps- structural issues- behavioral issues- strategic leadership
V	<b>Strategic evaluation and control:</b> Balanced Score Card approach –EVA and MVA - ERP– Stake holder analysis – Systems thinking approach, Strategic control - operational control - process and Techniques.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

1	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course Semester: III (Elective Logistics and Supply Chain)

**Board: Management** 

Unit	Code/Name: Distribution Management Content
I	Introduction to Distribution Distribution – Definition – Need for physical distribution – functions of distribution – marketing forces affecting distribution. The distribution concept – System perspective. Physical distribution trends in India. Transportation: Scope – principles of transportation function – relationship of transportation to other business functions.
11	Planning & Decision Making: Steps in Planning Process – Scope and Limitations – Short Term and Long Term Planning – Flexibility in Planning – Characteristics of a Sound Plan – Management By Objectives (MBO). Strategic Management Process Decision Making Process and Techniques. Business Models
111	Nature of Organizing: Organization Structure and Design - Authority Relationships – Delegation of Authority and Decentralization – Interdepartmental Coordinator – emerging Trends in corporate Structure, Strategy and Culture – Impact of Technology on Organizational design – Mechanistic vs. Adoptive Structures – Formal and InformalOrganization. Span of control – Pros and Cons of Narrow and Wide Spans of Control –Optimum Span - Managing Change and Innovation.
IV	Leadership and Control: Leadership: Approaches to Leadership and Communication. Control: Concept of Control – Application of the Process of Control at Different Levelsof Management (top, middle and first line). Performance Standards – Measurements of Performance – Remedial Action - An Integrated Control system in an Organization – Management by Exception (MBE)
V	Business Ethics: Importance of Business Ethics – Ethical Issues and Dilemmas in Business - Ethical Decision Making and Ethical Leadership – Ethics Audit - Business Ethics and - CSR Models.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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**Board: Management** 

#### Syllabus Revision- New Course

Semester: III (Elective Logistics and Supply Chain) Course Code/Name: Multi-Modal Transportation

Unit Content Multi Modal Transportation: Multi modal transportation - Introduction, growth 1 and components, Physical multi modal operations - Inter relationship of transport mode, Modal interfaces - Function of infrastructure in various modes - Ports, airports, inland depots, railheads - Intermodal systems - road/rail/ sea - sea/ air road/ air - road / rail. Multimodal Trade Routes: Multimodal trade routes - factors affecting Mode and 11 Route choices, Multimodal transport operators - Types of Vessel Operators - Other provisions through Transport services. Corporate Structures In Multimodal: Corporate structures in Multimodal Ш Transport, Pricing aspects in transport modes - price measurements -relationship between price and demand - importance of revenue and cash flow - pricing strategies - Calculation of through transport pricing - Multimodal carrier service contracts - Modern Freight Tariffs, Tracking the Container Fleet. International conventions: pertaining to multimodal transport - Hague Rules -IV Hague V is by Rules - Hamburg Rules - Rotterdam Rules - CMR - CIM - TIR -Warsaw Convention - Montreal convention - Regulations regarding Carriage of Dangerous Goods by various modes Marketing of Multimodal Transport: Indian Multimodal Act-1993, Conventions V related to Multi modal transport-Cargo liability conventions, Conventions relating to Dangerous Goods-Customs conventions-Statutory Regulations and Restrictions-National and International restrictions on the movement of goods-WTO. Measurement of quality of services - Importance of Quality management systems (ISO 9000) - Application of Total Quality Management (TQM) - Benchmarking.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
<b>√</b>	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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## Syllabus Revision- New Course

**Board: Management** 

Semest	: III ( Elective Logistics and Supply Chain)	)
Course	ode/Name: Logistics Infrastructure	(*)
Unit	Contant	

Unit	Content
I	Infrastructure: Salient Features - Importance - Types - Commercialization of Infrastructure - Infrastructure and Environment - Infrastructure and the poor-Policy framework -Indian Scenario - Phases of project development - Slow progress.
II	FTP, intranet and extranet, Cloud Service Models – SAAS, PAAS, IAAS, Cloud Deployment Models – Public Cloud, Private Cloud, Hybrid Cloud, Auto-Scaling in the Cloud, Internet information publishing technology-basics of websever hardware and software.
111	Transportation Selection – Tradeoff – modes of transportation – models for transportation and distribution – factors affecting network effectiveness– 3PLadvantages – Indian transport infrastructure – IT solutions–EDI, e-Commerce, e-Procurement – Bar Coding and RFID technology
IV	Storehouse Operations and Control: Introduction, Objectives, Storehouse Operations and its Objectives, Daily Activities of Stores, Organizing a Store, Store Location and Layout, Selecting appropriate storage system, Centralisation, Decentralisation and variety reduction of stores, Store Housekeeping, Stores Accounting
V	Infrastructure and Layout Of Container Terminals: Infrastructure and layout of container terminals - Berth and quay characteristics- Apron width, quay crane rails - Container yard size, layout and markings Container Freight Station (CFS) -Gates, offices, maintenance facilities, fencing and traffic control. Types and purpose of equipment used in container terminals - Ship to shore handling equipment – Yard equipment for transfer, storage and delivery - CFS and other terminal equipment, Terminal automation.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

V	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

Semester: III (Elective Hospital Management)

**Board: Management** Course Code/Name: Health Policy and Health Care System Unit Content Determinants of Health; Life Style - Socio - Economic conditions - Heredity -T Environment - Health and Family Welfare Services - Other Factors - Health Scenario of India. 11 Organizations for Health; Voluntary health agencies in India - Indian Red Cross Society - Indian Council for child welfare - Tuberculosis Association of India -RAI - Rockefeller Foundation - Ford Foundation - CARE - International organizations - WHO - UNICEF - UNDP. Health Policy; Meaning - Need - National health policy - features - National 111 health programmers in India - Health planning - Planning under Five Year Plans -Plan Outlays. - National Population Policy. Health care; concept of health care - Levels; Primary, Secondary, Tertiary -IV Health for all by 2000 A.D. - Health care system in India - Structure of Government Machinery - Private, Government, Corporate Hospitals. Medical Tourism; Role of Medical Tourism, Methods to attract Foreign V Medical; Tourists, Facilities available for foreign patients, Role of travel Agencies, Govt. Policy on Medical Tourism.

PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

Skill development	✓ Entrepreneurial development
Employability	Professional Ethics
Gender Sensitization	Human Values
Social Awareness/Environment	Environment and Sustainability
Intellectual Property Rights	
	Employability Gender Sensitization Social Awareness/Environment

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#### Syllabus Revision- New Course

Semester: III (Elective Hospital Management) Course Code/Name: Hospital Planning and Admin

Board: Management

Unit	Content Content
I	Hospital: Classification – Changing role of hospitals – Role of hospital administration – Hospital system – Need for scientific planning and design of hospitals.
II	<b>Planning:</b> Principles of Planning – Planning process – Size of the hospital – Size selection – Location Layout – Hospital architect – Selection of architect – Equipping a hospital – Graphics and design.
111	<b>Technical analysis:</b> assessment the extent need for the hospital services – Demand and need – Factors influencing hospital utilization – Bed planning – Project cost – Land requirements – Space requirements – hospital drawings and documents
IV	Hospital Design: Building requirement – Entrance and ambulatory zone – diagnostic zone – Intermediate zone – Critical zone – Service zone – Administrative zone.
V	<ul> <li>Facilities Planning: Transport – Food Services – Communication – Information System – Minor facilities – others.</li> <li>Standard in Hospital: General Standards – Voluntary and mandatory Standards – Mechanical Standards – Electrical Standards – Standard for centralized medical gas system – Biomedical waste handling.</li> </ul>

PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
~	Social Awareness/Environment	3	Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

Semester: III (Elective Hospital Management) Course Code/Name: Hospital Records Management

**Board: Management** 

Unit	Content
1	Hospital Records; Meaning – Functions – Importance of medical records to Patients, Doctors, Hospitals, Public Health, Press, LIC, Police – court of Law, Education and Research.
II	Records Management; Registers, Forms; Meaning and importance – Principles of records keeping – Merits and limitations – Principles of records keeping – Merits and limitations – latest trends in record maintenance – Electronic forms of records maintenance
111	Types – Out - patient record, in-patient records, causality, emergency, surgery, obstetrics and gynaecology, paediatrics, investigation and diagnosis.
IV	Records Organization and Management; Classification of records – Bases for Classification – Indexing and filling of records – Problems associated with medical records.
V	Medical Registers; Meaning - Types - Purpose - Advantages - Principles of designing records - Registers in various departments - Common issues. Medical Forms and Reports; Meaning - types and significance - Principles of designing - Statutory registers and reports to be maintained - Specimens.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

Skill development	~	Entrepreneurial development
Employability		Professional Ethics
Gender Sensitization		Human Values
Social Awareness/Environment		Environment and Sustainability
Intellectual Property Rights		
	Employability Gender Sensitization Social Awareness/Environment	Employability       Gender Sensitization       Social       Awareness/Environment

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BOS

## Syllabus Revision- New Course

#### Semester: III (Elective Hospital Management) Course Code/Name: Hospital Core Services

**Board: Management** 

Unit	Content
I	Hospital Services: Meaning – Types – Clinical – Non-Clinical – Nursing and Administrative Services, Departments in the Hospital Management.
11	Clinical Services: Part I - Meaning – Importance- Types – Overview of each service. Clinical Services: Part II – Types Anesthesia – Internal medicine- Cardiology – Dermatology – Endocrinology – Gastroenterology – Nephrology – Neurology – Oncology – Orthopedics – Plastic Surgery – General Pediatrics – Urology – Obstetrics and Gynecology – Neonatology – Physiotherapy
111	Non-Clinical Services: Blood Bank Management, Meaning – Importance – Types         – Blood Bank, Non-Clinical Services: Diagnostic Services (Laboratory Services):         Clinical bio-chemistry – Clinical pathology – Clinical hematology –         Histopathology – Microbiology-Immunology, Non-Clinical Services: Radiology         and Imaging Services – Nuclear medicine – Radiotherapy, Non-Clinical Services:         Pharmacy – Staff health – Medical staff organization and community health.
IV	Nursing Services: Objectives – Nursing administration – Duty of nursing officers – Nursing and support staff in the ward – Nursing by-laws, rules, policies and procedures – Nursing meetings, Nursing Audit: Determining nursing complement in hospital – Health education.
V	Hospital Administrative Services: Hospital administration – Hospital administrator – Duties of hospital administrator – Teaching – Training services (in-service education, attached medical college or paramedical sciences etc.), Hospital General Services: General and medical purchase – General stores, Hospital Information System: Computer and hospital information system.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
$\checkmark$	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

## Syllabus Revision- New Course

Semester: III (Elective Hospital Management) Course Code/Name: Health Policy and Health Co

**Board: Management** 

Unit	Content Content
I	Basics of Hospital Support Services: Principles and methods of organizing, clinical and support services for hospitals. Role of supportive services / departments in the hospital management Nursing Care and Ward Management.
11	Laboratories and Rules: Duties and responsibilities – Documentation and records Emergency Services: Ambulance service – First aid measures. Meaning- Importance of various services relate to Emergency Laboratories for Investigation: Laboratory rules – Conduct – Housekeeping.
111	Laundry and Linen Services: Safety in the laboratory – Blood bank management Linen and Laundry: Meaning – Importance – Type of service. Laundry arrangements – Washing materials – Washing arrangements.
IV	General Kitchen Equipment Store: Dietary Services and Hospital Diets: Important and function Equipment – Store – Day store – Visual arrangements General kitchen – Special diet kitchen – Food distribution
V	Holistic Approach to Health: Occupational Hazards –Physical Hazards, Chemical hazards, Biological hazards, Psycho-social Hazards, Prevention and Control Hazards. Evolution of Health Care delivery system– Changing trends in evolution of health care delivery system.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

V	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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## Syllabus Revision- New Course

Semester: III (Elective Hospital Management)

**Board: Management** 

Unit	Code/Name: Quality Assurance in Health Care Content
1	Quality-meaning, concept, importance-Quality terminologies-quality philosophies- Deming's 14 points, Juran & Crosby.
11	Quality planning for service organization-Customer satisfaction-cost of quality, determinants of quality in medical care-norms for medical staff-Medical Audit. Medical Audit Committee.
111	Tools of evaluating quality in medical care-Aspects of medical care that need evaluation-TQM concept- ISO 9000 Series, its implication on hospitals; Quality control techniques-Elective Competence, Bench marking.
IV	Quality Assurance-major functions of Quality Assurance-patient care evaluation- Utilisation review, Continuous medical Education, Continuous Monitoring and Credentialing-Documentation Process-Communication System.
V	Quality improvement-Problem solving-Employee Participation-instruction & measurement-Quality Circle-Quality Recognition-Quality Awards.

#### PERCENTAGE OF SYLLAUS REVISED: 100 **COURSES FOCUS ON:**

√	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

Semester: III (Elective Hospital Management) Course Code/Name: Operations Management in health care

**Board: Management** 

Unit	Content
1	Operations Management in Healthcare: Key functions of Healthcare Operations Management - Goals for the operations manager in the Healthcare Facilities - Trends in Operations Management - The Challenge and the Opportunity -History of Performance Improvement- Evidence-Based Medicine and Pay-for- Performance. Healthcare Operations and Systems Management
II	Planning and Scheduling: Basic principles of forecasting- Forecasting patient demand and volumes-Capacity planning: Aligning capacity with demand, Scheduling and Capacity Management. Process Improvement and Patient Flow
111	The planning process: Analyze operations and environment -Implement, measure and revise. Tools for Problem Solving and Decision Making, Using Data and Statistical Tools for Operations Improvement, Quality Management: Focus on Six Sigma, The Lean Enterprise-Simulation
IV	<b>Operational Metrics:</b> Financial distress in healthcare. Operational Metrics, Benchmarking, and Analysis- Productivity and Operational Planning- Purchasing and Inventory Management
V	<b>Implications of Supply Chain:</b> Define supply chains- Flows in supply chain- Supply chain strategy for hospitals- Forecasting and Supply Chain Management- Implications for Operations and Logistics Management -

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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## Syllabus Revision- New Course

Semester: III (Elective Hospital Management) Course Code/Name: Health care Governance and Technology

**Board: Management** 

Unit	Content
1	<b>Code of Medical Ethics:</b> Code - Duties of Physician to their patents - Duties of Physician to the profession at large - duties of Physician to the profession in consultation - Duties of Physician to the profession to the public - Disciplinary action - NAB
II	Medico Legal Aspects – The Medical Termination of Pregnancy Act 1971: Indication or Grounds of MTP - Requirements for MTP - Complications of MTP - doctor and Criminal abortion - The Prenatal Diagnostic Techniques act 1994 Regulation of genetic counselling centre - Regulation of pre -natal diagnostic technique - Death Certificate - Precautions while issuing death certificate - contents of Death Certificate - Importance of Death certificate- Tamil Nadu clinics Act
111	Medical Jurisprudence: Introduction & Legal Procedure - Medico legal aspects of death injuries - General aspects - Medical ethics - consumer Protection Act
IV	Legal Framework – Introduction to Legal framework - Patent's rights & provider's responsibility - Medical Malpractice
V	Healthcare Technology Evolution of cyber medicine, the future of healthcare industry. Healthcare information systems. Global perspective on health informatics business.

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial
			development
	Employability		Professional Ethics
✓	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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**Board: Management** 

#### Syllabus Revision- New Course

Semester: III (Elective Hospital Management)

Course Code/Name: Total Quality Management in Hospital Unit Content TQM & Six-Sigma: TQM Definition - Principles of TQM - Implementing TQM I Concepts in Hospital Departments - Six Sigma - Features - Benefits and Goals of Six Sigma - Scope of Six Sigma in Hospital - Pareto Analysis- Root Cause Analysis - Quality Improvement Teams. Process Approach to Quality Management in Hospitals: Process - Process II Management - Triple Role of Process Team - PDCA Cycle - Preparation of process flow diagrams for distinct processes in a hospital - Quality Aspects of processes in Hospitals Diagnostic services - Nursing services - House Keeping -Blood Bank - Pharmacy - OPD - Surgery - ICU - Emergency and Trauma care -Canteen - Hospital Stores. Quality Assurance Methods: Definition - Principles of Quality Assurance 111 Quality Policy - Quality Manual - Hospital Sop's - 5'S Techniques -Specification limits - Process Control limits - Process capability analysis tools -Product Testing - Prototype Testing - Failure Testing - Process Mapping -Process Mapping Tools - Quality Audit - Business Process Reengineering -Essence of Re-engineering. Quality Certification Systems: Introduction - International Standards ISO 9000 -IV 9004 - Elements of ISO 9000 - Areas of ISO 9000 - Family of ISO9000 - ISO 14001 - Environment Management Systems - ISO 14000 Family - Stages of Environmental Management Standards - Evaluation and Compliance. V Quality Accreditation in Hospitals: Accreditation System - Process - Procedure - Joint Commission International (JCI) - Mission -Benefits - Value -Accreditation in 15 Areas - JCI for primary care centers - JCI Accredited Hospitals in India - Basic Objectives of National Accreditation Board for Hospitals (NABH) - Standards of NABH - Documentation Procedure - Patent Rights and Education - Benefits of NABH to Hospital - Employees - Patents and TPA's

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#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	$\checkmark$	Entrepreneurial development
	Employability		Professional Ethics
√	Gender Sensitization	*	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

Semester: III (Elective Hospital Management)

**Board: Management** 

Unit	Code/Name: Health care accreditation and Law Content
1	<b>Evolution of Quality Management:</b> Definition, origin & growth of Qualit Management, Need & Benefits for quality management in healthcare, Qualit Management Programme, ISO clauses, quality manual, quality of clinical services Critical Pathways, Medical Audits, Performance review – Assessment / Methods Quality Management of diagnostic facilities, Assessment of Client satisfaction Importance and Significance of TQM for Hospitals; Prerequisites of Quality Management in Hospitals; Role of Medical Record in Quality Management Quality Circles; Quality Assurance.
II	Benchmarking of Quality Standard: Hospital Accreditation: Concept o Hospital Accreditation; ISO 2000 & 14000, Role of Quality Council of India (QCI), NABL, NABH, JCI, BIS, ACHS Accreditation- Implementation strategies for Quality Programmes- Top Management Commitment, Organizing Implementation, Action Plan, Group Meeting, Training, documentation, interna audit, application for certificate, final audit, Leadership issues. Selection of pilot projects, Quality initiatives in Indian Health Care Organization.
III	Laws Relating to Healthcare Formation: Promotion-Forming society-The Companies Act-Law of Partnership-A Sample Constitution for the Hospital-The Tamil Nadu Clinics Act – Medical Ethics –Formation of a Health care Organization under Partnerships and Corporate basis (private and public); Public Private Partnerships in health care; National Medical Council; Physician Patient relationship; Duties towards patients by medical and Para-medical staff; Medical ethics & Oaths; Code of conduct.
IV	Healthcare Services and Law: Contractual obligations in Hospital Services- Requisites of a valid contract; Contractual liability and damages; Criminal liability and defenses available to hospitals and medical staff; tortuous and vicarious liability; Legal remedies available to patients, Hospital as a bailee; CP Act, RTI-Central Births and Deaths Registration Act, 1969- Recent amendments – Medical Termination of Pregnancy Act, 1971 – Infant Milk Substitutes, Feeding Bottles and Infant Food Act, 1992
V	Laws Pertaining to Hospitals: Transplantation of Human Organs Act, 1992. Pre-natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994 – Medical Negligence – Medico Legal Case – Dying Declaration-MCI act on medical education. The Biomedical Waste (Management and Handling) Rules- Radiation Safety System.

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#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Board of studies

Minutes of Meetings

# Department of Commerce

## Date: 26.06.2023



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## MEMBERS IN THE SIXTEENTH BOARD OF STUDIES MEETING



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## MEMBERS IN THE SIXTEENTH BOARD OF STUDIES MEETING

Beard: Cummerce

Date: 26.06.2023 Time: 11.50 AM

Venue: PSB Block

#### The following members were present for the Board of Studies meeting S. No. (Neuro-Decree)Theoremation Institute/Organization/ Online/

S.No.	Name/Degree/Designation	Full address	Physical
1.	Dr.S.Rajendran, HOD M.Com, MBA., M.Phil. M.Ed., Ph.D Professor & Head Despriment of Commerce	Chairman Ponnaiyab Ramajayam Institute of Science & Technology (PRIST) Decemed to be University', Thanjayur	Physical
2.	Dr.R.Swaminathan, M.Cam., MBA., M.Phil., Ph.D Associate Professor of commerce	External Member Centre for Distance &Online Education Bhanthidasan University Thirachirapalli-24.TN	Physical
3.	CA.S.Venkaturausan, M.Cam., ACMA., FCA Characted Accountant	External Member Charted Accountant No.46, "SUBAILLAM", New Cauvery Nagar, Muniy andar Colony, Main Road, Nanjikkottai Road, Thanjavar613001.	Physical
4	Dr.S.Kamarnju M.Com., M.Phila, Ph.D Department of Commerce	Professor Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University. Thanjuvur	Physical

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Physical 5 Dr.A.Chandrasekaran Professor Ponnaiyalı Ramajayam M.Cout., M.Phil., Ph.D Institute of Science & Professor Technology (PRIST) Department of Commerce Deemed to be University, Thonjayor Physical Associate Professor Dr.G.Karthiga 6. Pontaiyah Ramajayara M.Com., M.Phil., Ph.D Institute of Science & Department of Commerce Technology (PRIST) Deemed to be University, Thanjavar Physical Associate Professor Dr.D.Anand 7 Ponnaiyah Ramajayam M.Com., MBA., M.Phil., Ph.D Institute of Science & Department of Commerce Technology (PRIST) Deemed to be University. Thanjavar Physical Assistant Professor Mrs.K.Sathya 8 Ponasiyah Ramajayam M.Cotta., M.Phil., B.Ed., ( Ph.D) Institute of Science & Department of Commerce Technology (PRIST) Deemed to be University. Thanjavur Physical Assistant Professor Mrs.B.Amotha Mary Jency 9. M.Com., MBA., M.Phil., (Ph.D) Ponnaiyah Ramajayam Institute of Science & Department of Commerce Technology (PRIST) Deemed to be University. Thanjavar Physical Alumina 10. M. Prabhakaran M.Com, Ponnaiyah Ramajayam Student Institute of Science & Technology (PRIST) Deemed to be University, Thanjavur

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	V.Navcen B.Com C adem	2.	Student Representatives Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayar	Physica) Physical
	2. Anijali B.Com Student		Student Representatives Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University Thanjayar	
	Dr.K.Arivukkani HOD , Assistant Pr Department of Tam	offessor	Co-opted Member Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thuniayur	Physical
14	S.Rasakumar MA Assistant Professor Department of Bug		Co-opted Member Ponnaiyah Ramajayum Institute of Science & Technology (PRIST) Decemed to be University, Thanjayur	Physical
15	Ms.M.Aarthi MCA, M.Phil.M. Assistant Professe Department of Co Science	15	<u>Ce-opted Member</u> Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University. Thanjayar	Physical
K	5 Dr.Kirubakaran Associate Profes Department of M	sor	Co-ontest Member Ponneiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayur	Physical

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()pare: 3)	ATTENDANCE OF THE SIXT Commense 5.06.3923	TEENTH BOARD OF STUD	IES MEET	ING
	1.30 AM		ră	
Visa fol	PSB Black howing members were present for Name/Degree/Designation	the Board of Studies meeting bustitute/Organization/ Full address	Onlino' Physical	Signature (scan, if anlise)
3.	He.S.Rajendran, HOD M.Com., M.Phil., M.Ed., M.Phil., Ph.D Professor & Head Deeptment of Commerce	Chairman Poenaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayar	Payoical Po Physical	Depart HOO Depart And Comments International American
2.	Br.R.Socaninations, M.Com., MDA., M.Phil., Ph.D Associate Professor of comments	Bharathidasan University Thirachimpalli-24.TN	Dr. R. SAI Associate P Series For Dist Based	VINATHAN, Ph.D., schestor of Commerce area and Orders Education Markes University
3	CA.S.Venkataraman, M.Com., ACMA., FCA Chartered Accountiant	External Meather Charted Accountant No.46, "SUBAILLAM", New Cauvery Nagar, Moniyandar Colong Main Road, Narjikkottai Road, Thanjavur, 613001.		Lora
	<ol> <li>Br.S.Kamaraju M.Com., M.Phil., Ph.D Department of Commerce</li> </ol>	Professor Ponnsiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayar	Physics	A. bronder



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PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST) BOS Physical Dr.A.Chandrasekaran Professor M.Com., M.Phil., Ph.D. Ponnaiyah Ramajayam Institute of Science & Professor Department of Commerce Technology (PRIST) Deemed to be University, Thanjayur Physical Associate Professor 6. Dr.G.Karthiga M.Com., M.Phil., Ph.D. Ponnziyah Ramajayam Institute of Science & Department of Commerce 2616 Technology (PRIST) Deemed to be University, Thanjavur Physical Associate Professor 7. Dr.D.Anand M.Com., MBA., M.Phil., Ph.D Ponnaiyah Ramajayam Institute of Science & Department of Commerce Technology (PRIST) Deemed to be University. Thanjavar Physical 8. Mrs.K.Sathwa Assistant Professor M.Com., M.Phil., B.Ed., ( Ph.D) Poenaiyah Ramajayam Institute of Science & Department of Commerce Technology (PRIST) Deemed to be University, Theojavur Physical Assistant Professor Mrs.B.Amotha Mary Jency ij, M.Com., MBA., M.Phil., (Ph.D) Ponnaiyah Ramajayam Institute of Science & Department of Commerce Technology (PRIST) Deemed to be University, Thanjawar Physical Alumina 10. M. Prabhakaran M.Com, Ponnaiyah Ramajayam Student Institute of Science & Technology (PRIST) Deemed to be University. Thanjavar



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	P.V.Navcen B.Com CA Studern	Student Representatives Ponnaiyals Ramajayam Institute of Science & Technology (PRIST) Deemed to be University. Thanjayur	Physical	Je Stophane
12	R.Anjali B.Com Student	Student Representatives Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayur	Physical	RANZALE
and a second	Dr.K.Arivukkani Ph.D HOD . Assistant Professor Department of Tamil	Co-opted Member Ponnatyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayar	Physical	asaff
14	S.Rasakumar MA., M.Phil, Assistant Professor Department of English	Co-opted Member Pennaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayar	Physical	2-3
15	Ms.M.Aarthi MCA, M.Phil.M.Tech., Assistant Professor Department of Computer Science	Cu-opted Member Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayur	Physical	36161205
16	Dr.D.R.Kirabakaran Ph.D Assistant Professor Department of Mathematics	Co-upted Member Ponnalysh Ramajayam Institute of Science & Technology (PRIST) Deemed to be University, Thanjayor	Physical	ين يد



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#### PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

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PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST) DESCRIPTION OF STREET, D. C. S. ME. MANUEL MERSER MICH. 2, of SPECTRAL, 1998. 005 Alapon BOS Chairman-HOD 11013 Department of Cansogree Forman at Planet of mission of Selector & Ferning (PRIST) 1442-600 P-613 423. Date 26.06.2023 Online meeting link NOTE: Mandatory Attachments: Minutes of the previous BoS meeting minutes and report on the follow-up action taken.
 BoS Meeting "Southeation" sent to all members, including online meeting link.
 Online Screenshots and geo-tagged photos in the verse.
 Attendance sheet print of coline attendars.
 Detailed synthesis with PLOS POS COS, etc. (in Annexares), if new Programme(s) introduction - Lutriculum revision is discussed



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SCHOOL OF COMMERCE AND MANAGEMENT DEPARTMENT OF COMEMRCE

Ref. PRIST/COM/IIOS/02/2023-24

#### TO

Ca.S.Veekataraamaa Ca.S.Vessataranes Charted Accountiant No.45, "SUBAILLAM", New Convery Magar; Muniyardar Celony, Main Road, asomyandar Colony,Main Road, Nanjikoutai Raad, Thaajavur.-613001. E.Mait: andhorsefinedifferail.com Phone No. 9443134485

Subs Roard of Studies Meetleg - Informion and Requisition to attend- reg-

Hope this lenter finds you in good health. It is kindly informed that the Board of Studies menting, which has been acheduled to be held on 26.06.2623 at 11.00 am. In the department of Commerce PS3 01.0CN, Ponnsiyah Ramajayura Institute of Science & Technology (PRIST). Thankayar.

We would like to invite you to the RDS meeting is give your valuable suggestion on our corriculum and syllabus for our institution.

Kloddy communicate your acceptance in this regard.

#### Thunking you,

Copy to:

- 1. Dean School of Consensus and Management
- 2. Dean Academic Affairs
- 3. Registrar Office
- 4. Flie copy

Date: 19.06.2023

DEAN School of Commerce and Management Ponnalyah Ramajayam Institute of Science & Technology (PRIST) TUAM IMOIR . 613 403.



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Board of Studies Meeting - Intimation and Requisition to attend - reg. 🔮	Board of Studies Meeting - Intimation and Requisition to attend - $\mathbb{Q}_{\times}$ . E acceptance - reg. $ \mathbb{G}_{\times}$
1 attachment	venkataraman <auditorsv@rediffmail.com></auditorsv@rediffmail.com>
() Hag for follow up. Completed on 26/06/2023.	I AM RECEIPT OF YOUR LETTER AND I ACCEPT THE INVITATION AND I WILL
ss saminathan sami «drrsaminathan@gmail.com» 0 6 6 6 8	VENUE,
To: DEAN PSB THANJAYUR Man 26/26/2023 16 Dear Dean.	THANK YOU.
Iam happy to accept and participate in BOS meeting, which will conduct by your Department.	YOURS
With regards	S.Venkataraman, M.Com, FCA, FCMA,
R.Saminathan	V.Dinesh, B.Com, ACA, ACS,
····	Chartered Accountants
······································	No.46, New Cauvery Nagar
Thank you for your confirmation. Thank you for your response.	Near Income tax Office
	Nanjikkottai Road
Wonderful, thank you!	Thanjavur 613 001 Cell: Ca.V.Dinesh: 9095206380; Ca.S.Venkataraman: 9443134146 Off; 04362-
de la constanción de	255146 GST Ar. S.Sethuraman: 9442534751 Res: 04362-233146
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BOS

## SCHOOL OF COMMERCE AND MANAGEMENT

## DEPARTMENT OF COMMERCE

## MINUTES OF THE MEETING OF THE BOARD OF STUDIES (BOS)\*

#### **Board: Commerce**

## The Meeting of Board of Studies (BOS) was held as given below:

Board of Studies
Commerce
16
26.06.2023 and 11.00 am
PSB Block
The details are given in the ANNEXURE-I

AGENDA
To confirm the minutes of BOS meeting held on 06.05.2022
Action taken on the previous Meeting Minutes.
Discussion on the development of the B.Com New Curriculum under R 2023
Discussion on the development of the B.Com CA New Curriculum under R 2023
Discussion on the development of the M.Com New Curriculum under R 2023
Discussion on Four years Under Graduate Programme (FYUGP) B.Com Hons &
B.Com CA Hons
Discussion on Value added courses
Any other matters
Panel of Examiner (UG / PG)



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#### MINUTES OF THE BOARD OF STUDIES MEETING

**Board: Commerce** 

The 16<sup>th</sup> Board of Studies Meeting of the Department of Commerce, School of Commerce and Management, Ponnaiyah Ramajayam Institute of Science and Technology was conducted as per the guidelines of the University Grants Commission on 26.6.2023 at 11.00 at PSB Block. The following Members were present in the meeting.

Dr.S.Rajendran, Chairman of the Board of Studies Meeting welcomed the Members and in her introducing speech, she explained the details of the Agenda and the academic matters to be discussed. The agenda of the meeting was taken up for discussion. The following points were discussed during the meeting. The resolutions made in the Meeting are given below.

The committee appreciated the formulation of syllabus for B.Com and B.Com CA programme to meet out the criteria of the Education Empowerment and Social Relevance. In Addition, the Committee suggested the following corrections/modifications/ Suggestions in the Programme syllabus

- □ Programme outcomes (PO) and Programme Specific Outcomes (PSO) to be restructured.
- $\Box$  Course Outcomes (CO) to be restructured for all the Courses.
- □ Recent reference books to be included in each course.



- No

# PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

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	marrad h	e minutes of the Board of Studies meeting held on the comments received have been incorporated and the Academic council.		+
Resolut	ion: The	e Board resolved to accept the same. ction taken on the previous Meeting Minutes.		
COMPANY AND	•	the taken report of the necision made in the p-	evious BOS and a	pproved by
Discuss	ie count	il. Action taken report was presented in the BOS		
academ	ie courre			
		PONNAIYAH RAMAJAY SCIENCE & TECHNOLO	AM INSTITUTE	OF
		Stand as DEEMED-TO-BE-UNI	VERSITY	
		School of Commerce and Mana	gement	
		Department of Commerce	e	
		Action taken report		
1.	Summa	ary of the feedback obtained		A the Oler N
	S.No	Feedback statement	Stakeholder	Action (Yes/N
		More number of industrial visits can be	Alumni	yes
	1			
		arranged	Qu. Janta	Yes
	2	Syllabus content need to be reduced. The	Students	105
		content is vast for some of the courses.		
		Satisfied with the content of current syllabus.	Employer	yes
	3	Satisfied with the content of current synthesis		
1		TALLY Paper can be included in the syllabus.		and the second
		to be added in	Teacher	yes
	4	Industry based curriculum to be added in	Toucher	
		curriculum and more soft skills are required		
			κ.	



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Feedback statement: Syllabus content	Feedback Ref.No
need to be reduced. The content is vast for	SCM/2022-2023/001
some of the courses	SCM/2022-2023/002

Faculty Members are advised to take stadents to industrial visits for their courses.

Feedback Ref.No SCN6/2022-2023/001 SCN6/2022-2023/001
SCN4/2022-2023/001
SCN4/2022-2023/001
STOL NOT STREET AND A TRADE AN
Feedback Ref.No
SCM/2022-2023/12
SCM/2022-2023/14
-

The course will be recommended during the curriculum,

Scinoal of Communice and Minisgoment Ponuaryan Parmaloyam Institute of Science & Tuchnelogy (FIRIST) THANNANUN - 613 403.

Alumni feedback: Refer to Annexure I for the same. Employer Feedback: Refer to Annexure 2 for the same.



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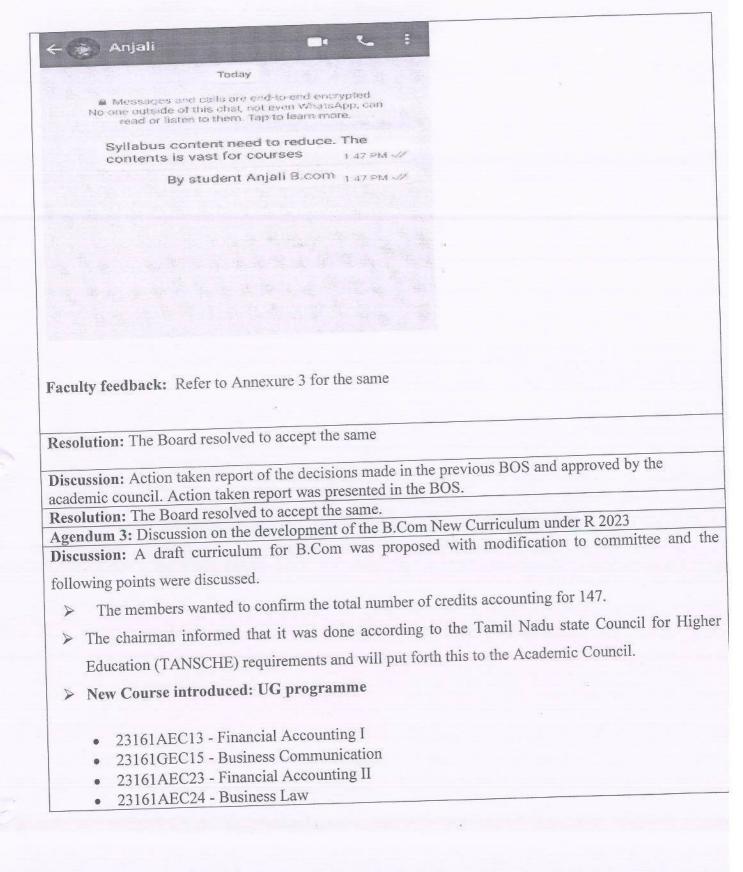
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Student feedback:



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- 23161GEC25 Business Environment
- 23161GEC26 Insurance and Risk
- 23161AEC33 Corporate Accounting I
- 23161AEC34 Company Law
- 23161GEC35- International Trade
- 23161GEC36- Principles of Marketing
- 23161AEC43- Corporate Accounting II
- 23161AEC44- Business Mathematics & Statistics
- 23161GEC45- Business Legislations Laws
- 23161GEC46- Consumerism & Consumer Protection
- 23161AEC52- Banking Law and Practice
- 23161AEC53- Income Tax Law and Practice I
- 23161DSC54- Auditing and CorporateGovernance
- 23161DSC55 A- Entrepreneurial Development
- 23161DSC55 B- Direct Taxation
- 23161DSC56A- Human Resource Management
- 23161AEC61- Cost Accounting II
- 23161AEC63- Income Tax Law &Practice II
- 23161DSC64 B- Logistics and Supply Chain Management
- 23161DSC65 A- Basics of MS-Excel
- 23161DSC65 B- Computer Application in Business

#### Skill Enhancement Course

- 23161SEC17- Managerial Skill Development (NME)
- 23161SEC27- E-Business (NME)
- 23161SEC28- Elements of Insurance
- 23161SEC37- Intellectual Property Rights
- 23161SEC38- Tally. ERP 9
- 23161SEC47- Information Technology Concepts
- 23161SEC48- Salesmanship
- 23161SEC57- Summer Internship/Industrial Training
- 231SECD67- General awareness for Competitive Examinations
- Ability Enhancement Compulsory course
  - 231AECCCMS Communication Skills
  - 23161RMC39- Research Methodology
  - 231AEAECCEVS Environmental Studies
  - 231ECCVED Value Education
- Audit Course



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- 231LSCUV Universal Human Values
- 231SSCBE Basic Behavioural Etiquette
- 231ACLSOAN Office Automation
- 231LCSCLS Leadership and Management Skills
- 231ACLSPSL Professional Skills

Course Code	Course Title	L	T	P	С
Course Coue	THEORY				
23111AEC11/23132A EC11/23135AEC11	Tami – I/Advanced English-I/Hindi-I/ French - I	3	0	0	3
23111AEC12	English-I	3	0	0	3
23161AEC13	Financial Accounting I	4	0	0	4
23161AEC14	Principles of Management	4	0	0	4
23161GEC15	Business Communication	4	0	0	3
23161GEC16	Business Economics	4	0	0	3
	Skill Enhancement Course				
23161SEC17	Managerial Skill Development (NME)	2	0	0	2
23161SEC18	Foundation course/Bridge Course	2	0	0	2
A	bility Enhancement Compulsory course (AECC1)				
231AECCINC	Indian Constitution	2	0	0	2
231LSCUV	Universal Human Values	-	-	-	1
	Total	28			24
	SEMESTER – II				
23110AEC21/23111 AEC21/23132AEC2 1/23135AEC21	Tamil – II/ Advanced English-II/Hindi-II/ French – II	3	0	0	3
23111AEC22	English-II	3	0	0	3
23161AEC23	Financial Accounting II	4	0	0	3
23161AEC24	Business Law	4	0	0	3
23161GEC25	Business Environment	4	0	0	3
23161GEC26	Insurance and Risk	3	0	0	3
	Skill Enhancement Course				
23161SEC27	E-Business (NME)	2	0	0	2



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23161SEC28	Elements of Insurance	2	0	0	2
1	Ability Enhancement Compulsory course (AEC	C2)			
231AECCCMS	Communication Skills	2	0	0	2
231SSCBE	Basic Behavioural Etiquette	0	0	0	1
	Total	30			24
	SEMESTER – III				
23110AEC31/23132A EC31/23111AEC31/2	Tamil – III/Hindi-III/Advanced English-III/ French – III	3	0	0	3
3135AEC31		2	0	0	2
23111AEC32	English-III	3	0	0	3
23161AEC33	Corporate Accounting I	4	0	0	3
23161AEC34	Company Law	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	1.125	0	250
23161GEC35	International Trade	3	0	0	2
23161GEC36	Principles of Marketing	3	0	0	2
	Skill Enhancement Course				
23161SEC37	Intellectual Property Rights	2	0	0	2
23161SEC38	Tally. ERP 9	2	0	0	2
A	bility Enhancement Compulsory course (AEC	C3)			_
23161RMC39	Research Methodology	2	0	0	2
231ACLSOAN	Office Automation	0	0	0	1
	Total	30			22
	SEMESTER – IV			0	3
23110AEC41/23111 AEC41/	Tamil-IV/Advanced English-IV /Hindi-IV/ French – IV	3	0		
23111AEC42	English-IV	3	0	0	3
23161AEC43	Corporate Accounting II	4	0	0	3
23161AEC44	Business Mathematics & Statistics	4	0	0	3
23161GEC45	Business Legislations Laws	3	0	0	3
23161GEC46	Consumerism & Consumer Protection	3	0	0	3
	Skill Enhancement Course				
23161SEC47	Information Technology Concepts	2	0	0	2
	Salesmanship	2	0	0	2



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- BOS
- The members of the Board approved the syllabus for "New Courses Introduced in UG B.Com" that was proposed to them. Refer to Annexure I for the same
- The LOCF document was presented to the BOS members. The BOS members confirmed that the syllabus-related matter has been incorporated into the LOCF document. Refer to the LOCF document for the same.
- The syllabus for the course "Indian Knowledge System" was presented and discussed with the BOS members, followed by their approval. Refer to Annexure II for the same.
- The syllabus for the course "Disaster Management" was presented and discussed with the BOS members, followed by their approval. Refer to Annexure IV for the same.
- It was proposed that advanced learners should actively participate in peer teaching and be motivated to participate in more than one online course. Activities like the departmental newsletter, student-organised seminars, and journal club discussion forum should be coordinated by them. It was also recommended to conduct a departmental-level finishing school programme for the graduating batch of students. Board members also opined to encourage students to join individual summer internship programmes in reputed research.

**Resolution:** The Board resolved to accept the same. New syllabus for B.Com approved. It will be effective from the Academic year 2023-2024.

Agendum 4: Discussion on the development of the B.Com CA New Curriculum under R 2023.

A draft curriculum for B.Com CA was proposed with modification to committee and the following points were discussed.

> The members wanted to confirm the total number of credits accounting for 147.



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The chairman informed that it was done according to the Tamil Nadu state Council for Higher Education (TANSCHE) requirements and will put forth this to the Academic Council

	SEMESTER – I				
Course Code	Course Title	L	T	P	C
	THEORY	-	-		
	SEMESTER – I				
23111AEC11/ 23132AEC11/ 23135AEC11	Tami – I/Advanced English-I/Hindi-I/ French - I	3	0	0	3
23111AEC1 2	English-I	3	0	0	3
	Financial Accounting I	4	0	0	4
23198AEC14	Principles of Management	4	0	0	4
23198GEC15	Programming in c and lab	4	0	0	3
23198GEC16	Python Programming and lab	4	0	0	3
	Skill Enhancement Course	-			
23161SEC17	Managerial Skill Development (NME)	2	0	0	2
23161SEC18	Foundation course/Bridge Course	2	0	0	2
	Ability Enhancement Compulsory cour	se (AE	CC1)		
231AECCIN C	Indian Constitution	2	0	0	2
231LSCUV	Universal Human Values	-	-	-	1
	Total	28		24	24
	SEMESTER – II				
23110AEC2 1/23111AEC 21/23132AE C21/23135A EC21	Tamil – II/ Advanced English-II/Hindi- II/ French – II	3	0	0	3
23111AEC2	English-II	3	0	0	3



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2					
23198AEC23	Financial Accounting II	4	0	0	3
23198AEC24	Business Law	4	0	0	3
23198GEC25	Office Automation and lab	4	0	0	3
23198GEC26	Programming in C++ and lab	3	0	0	3
	Skill Enhancement Course	0750	1		1 100
23161SEC27	E-Business (NME)	2	0	0	2
23161SEC28	Elements of Insurance	2	0	0	2
	Ability Enhancement Compulsory cours	se (AE	CC2)		
231AECCCM S	Communication Skills	2	0	0	2
231SSCBE	Basic Behavioural Etiquette	0	0	0	1
	Total .	30		24	24
	SEMESTER – III				
23110AEC31/ 23132AEC31/ 23111AEC31/ 23135AEC31	Tamil – III/Hindi-III/Advanced English- III/ French – III	3	0	0	3
23111AEC3 2	English-III	3	0	0	3
23198AEC33	Corporate accounting I	4	0	0	3
23198AEC34	Business Mathematics and statistics	4	0	0	3
23198GEC35	Programming in JAVA and Lab	3	0	0	2
23198GEC36	Web Technology (PHP) and Lab	3	0	0	2
	Skill Enhancement Course				
23161SEC37	Intellectual Property Rights	2	0	0	2
23161SEC38	Tally. ERP 9	2	0	0	2
	Ability Enhancement Compulsory cours	e (AE	CC3)		
23161RMC39	Research Methodology	2	0	0	2
231ACLSOAN	Office Automation	0	0	0	1
	Total	30		22	22
	SEMESTER – IV				
23110AEC41/2 3111AEC41/	/Hindi-IV/ French – IV	3	0	0	3
23111AEC42	English-IV	3	0	0	3
23198SEC43	Corporate Accounting II	4	0	0	3
23198SEC44	Company Law	4	0	0	3



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23198GEC45	Relational Database Management system	3	0	0	3
23198GEC46	Introduction to Data Science	3	0	0	3
	Skill Enhancement Course	1 .			
23161SEC47	Information Technology Concepts	2	0	0	2
23161SEC48	Salesmanship	2	0	0	2
and the second second second second second second	Ability Enhancement Compulsory cour		CC4)		
231AEAECCEV		2	0	0	2
S					
231LCSCLS	Leadership and Management Skills	0	0	0	2
	Total	30		20	27
	SEMESTER – V				
23198AEC51	Cost Accounting -I	4	1	0	4
23198AEC52	Banking law and Practice	4	1	0	3
23198AEC53	Income Tax Law and Practice -I	5	0	0	4
23198DSC54	Auditing and Corporate Governance	5	0	0	4
23198DSC55	Financial management (OR)	4	0	0	3
2517005000	Indirect Taxation				
23198DSC56	Software Engineering + (UML Lab) (OR) Object oriented Analysis and Design + (UML Lab)	4	0	0	3
	Skill Enhancement Course				
23161SEC57	Summer Internship/Industrial Training	-	-	-	2
231ECCVED	Value Education	2	0	0	2
231ACLSPSL	Professional Skills	0	0	0	1
	Total	30		27	27
	SEMESTER – VI				
23198AEC61	Cost Accounting -II	6	0	0	4
23198AEC62	Management Accounting	6	0	0	4
23198AEC63	Income Tax Law and Practice -II	6	0	0	4
23198DSC64	Entrepreneurial Development (OR) Human Resource Management	5	0	0	3
23198DSC65	Introduction to Oracle and SQL (theory) (OR) SQL Applications using Oracle (practical)	5	0	0	3
23198PRW66	Project Work				4



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231SECD67	General awareness for Competitive Examinations	2	0	0	2
231EXACT	Extension activity	-	-	-	1
231AC	Indian Knowledge System	0	0	0	2
	Total	30	0	0	24
Total Credits -Programme					141
Total Credits - Audit Courses					06
<b>Total Credits</b>					147

Agendum 5: Discussion on the development of the M.Com New Curriculum under R 2023. A draft curriculum for M.Com was proposed with modification to committee and the following points

were discussed.

- $\Box$  The members wanted to confirm the total number of credits accounting for 91.
- □ The chairman informed that it was done according to the Tamil Nadu state Council for Higher Education (TANSCHE) requirements and will put forth this to the Academic Council.

	SEMESTER – I				
Course Code	Course Title	L	T	P	C
	THEORY				
	SEMESTER – I	32			
23261CC I	Core I - Business Finance	5	0	0	4
23261CC II	Core II - Digital Marketing	5	0	0	4
23261CC II	Core III - Banking and Insurance	5	0	0	4
23261GDS I	Elective I A - Security Analysis and Portfolio Management (or) I B - Operations Research	5	0	0	3
23261GDS II	Elective II A - Labour Laws (or) II B - Strategic Human Resource Management	5	0	0	3
23261SEC 1	Principles and Practice of Insurance	3	0	0	2
	Ability Enhancement - Soft Skills – I		0	0	1
23261RLS	Research Led Seminar	2	-	-	1



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	Total	30	0	0	22
	SEMESTER – II				
23261CC IV	Core IV - Strategic Cost Management	6	0	0	4
23261CC V	Core V - Corporate Accounting	6	0	0	4
23261CC VI	Core VI - Setting up of Business Entities	6	0	0	4
2326GDS III	Elective III A - Business Ethics and Corporate Sustainability (or) III B – Audit and Due Diligence	4	0	0	3
23261GDS IV	Elective IV A - Rural and Agricultural Marketing (or) IV B - Logistics and Supply Chain Management	4	0	0	3
222(10)/(0	Descent Mathedology	3	0	0	2
23261RMC	Research Methodology	2	0	0	2
23261BRC 23261SEC 2	Participation in Bounded Research Principles and Practice of Banking	2	0	0	1
	Ability Enhancement - Soft Skills – II	2	0	0	1
	Internship/Industrial Activity*	-	-	-	-
	Total	33	0	0	23
	SEMESTER – III				
23261CC VII	Core VII - Taxation	6	0	0	4
23261CC VIII	Core VIII - Research Methodology	6	0	0	4
23261CC IX	Core IX - Computers in Business	6	0	0	4



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23261GDS V	Elective V A - Strategic Management	4	0	0	3
	(or) V B - International Financial	-			
	Management				
23261CIM	Core Industry Module	4	0	0	3
23261SRC	Participation in Scaffold Research (Societal Project)		-	-	2
23261SEC 3	Term Paper and Seminar Presentation SEC 3	2	0	0	1
1	Soft Skills – 3	2	0	0	1
	Internship/Industrial Activity (Credits)	2	0	0	-
	Total	32	0	0	22
23261CC X	SEMESTER – IV Core X - Corporate and Economic Laws	6	0	0	4
23261CC X 23261CC XI	Core X       - Corporate and Economic Laws         Core XI       - Human Resource Analytics	6	0	0	4
				0	3
23261CC XII	Core XIII - International Business	6	0	0	3
23261GDS VI	Elective VI A- Organisational Behaviour (or) VI B - Insolvency Law and Practice	4	0	0	3
23261SEC	Professional Competency Skill – SEC	2	0	0	2
	Soft Skills – 4	2	0	0	2
	Extension Activity	-	-	-	1
	Project with Viva	4	0	0	3
23261PRW45			3		
23261PRW45 23261PEE	Program–Exit Examination	-	-	-	2



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BOS

#### SCHOOL OF COMMERCE AND MANAGEMENT DEPARTMENT OF COMMERCE B.Com Syllabus Revision

Board: Commerce

Semester: I

Course	Code/Name:	Financial	Accounting I

Unit	Content
Ι	<b>Fundamentals of Financial Accounting</b> Financial Accounting – Meaning, Definition, Objectives, Basic Accounting Concepts and Conventions - Journal, Ledger Accounts– Subsidiary Books – Trial Balance - Classification of Errors – Rectification of Errors – Preparation of Suspense Account – Need and Preparation - Bank Reconciliation Statement
Π	<b>Final Accounts</b> Final Accounts of Sole Trading Concern- Capital and Revenue Expenditure and Receipts – Preparation of Trading, Profit and Loss Account and Balance Sheet with Adjustments.
III	Depreciation and Bills of ExchangeDepreciation - Meaning - Objectives - Accounting Treatments - Types -Straight Line Method - Diminishing Balance method - Conversion method.Annuity Method - Depreciation Fund Method - Insurance Policy Method -Revaluation Method - Depletion Method - Sum of Digits Method - MachineHour Rate Method.Bills of Exchange - Definition - Specimens - Discounting of Bills -Endorsement of Bill - Collection - Noting - Renewal - Retirement of Bill underrebate - Insolvency of Acceptor - Accommodation
IV	Accounting from Incomplete Records         Incomplete Records - Meaning and Features - Limitations - Difference between         Incomplete Records and Double Entry System - Methods of Calculation of         Profit - Statement of Affairs Method – Preparation of final statements by         Conversion method.         Average Due Date and Account Current.
V	Royalty and Insurance of ClaimsMeaning – Minimum Rent – Short Working – Recoupment of Short Working –Lessor and Lessee – Sublease – Accounting Treatment.Insurance Claims –Calculation of Claim Amount-Average clause (Loss of Stock only)

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#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	~	Entrepreneurial development
~	Employability	.1	Professional Ethics
<u>Prine</u>	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision**

Board: Commerce

#### Semester: I

<b>Course Code/Name</b>	PRINCIPLES	OF MANAGEMENT
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Unit	Content
Ι	Introduction to ManagementMeaning- Definitions – Nature and Scope - Levels of Management – Importance- Management Vs. Administration – Management: Science or Art –Evolution ofManagement Thoughts – F. W. Taylor, Henry Fayol,Peter F. Drucker, Elton Mayo - Functions of Management - Trends andChallenges of Management. Managers – Qualification – Duties &Responsibilities.
II	PlanningPlanning – Meaning – Definitions – Nature – Scope and Functions – Importanceand Elements of Planning – Types – Planning Process - Tools and Techniques ofPlanning – Management by Objective (MBO). Decision Making: Meaning –Characteristics – Types - Steps in Decision Making – Forecasting.
III	Organizing Meaning - Definitions - Nature and Scope – Characteristics – Importance – Types - Formal and Informal Organization – Organization Chart – Organization Structure: Meaning and Types - Departmentalization– Authority and Responsibility – Centralization and Decentralization – Span of Management.
IV	StaffingIntroduction - Concept of Staffing- Staffing Process – Recruitment – Sources ofRecruitment – Modern Recruitment Methods - Selection Procedure – Test-Interview– Training: Need - Types– Promotion –Management Games –Performance Appraisal - Meaning and Methods – 360 Performance Appraisal –Work from Home - Managing Work from Home [WFH].
V	Directing Motivation –Meaning - Theories – Communication – Types - Barriers to Communications – Measures to Overcome the Barriers. Leadership – Nature - Types and Theories of Leadership – Styles of Leadership - Qualities of a Good Leader – Successful Women Leaders. Supervision.Co-ordination and Control Co-ordination – Meaning - Techniques of Co-ordination. Control - Characteristics - Importance – Stages in the Control Process - Requisites of Effective Control and Controlling Techniques – Management by Exception [MBE].

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#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUS ON:

~	Skill development	✓ ,	Entrepreneurial development
$\checkmark$	Employability	4,0	Professional Ethics
	Gender Sensitization	$\checkmark$	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision**

Board: Commerce

Semester: I

Course Code/Name: Business Communication

Unit	Content
I	Introduction to Business Communication Definition – Meaning – Importance of Effective Communication – Modern Communication Methods – Barriers to Communication – E-Communication - Business Letters: Need - Functions – Essentials of Effective Business Letters
Π	<ul> <li>Layout</li> <li>Trade Enquiries</li> <li>Trade Enquiries – Orders and their Execution – Credit and Status Enquiries –</li> <li>Complaints and Adjustments – Collection Letters – Sales Letters – Circular</li> <li>Letters</li> </ul>
III	Banking CorrespondenceBanking Correspondence – Types – Structure of Banking Correspondence –Elements of a Good Banking Correspondence – Insurance – Meaning andTypes – Insurance Correspondence – Difference between Life and GeneralInsurance – Meaning of Fire Insurance – Kinds – Correspondence Relating toMarine Insurance – Agency Correspondence – Introduction – Kinds – Stagesof Agent Correspondence – Terms of Agency Correspondence
IV	Secretarial Correspondence         Company Secretarial Correspondence – Introduction – Duties of Secretary –         Classification of Secretarial Correspondence – Specimen letters – Agenda         and Minutes of Report writing – Introduction – Types of Reports –         Preparation of Report Writing
V	Application Letters Application Letters – Preparation of Resume – Interview: Meaning – Objectives and Techniques of Various Types of Interviews – Public Speech – Characteristics of a Good Speech

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

V	Skill development	~	Entrepreneurial development
~	Employability	1	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		TOD

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BOS

#### Syllabus Revision

Board: Commerce

Semester: I Course Code/Name: Indian Economic Development

Unit	Content
I	Economic Development and Growth Concepts of Economic Growth and Development. Measurement of Economic Development: Per Capita Income, Basic Needs, Physical Quality of Life Index, Human Development Index and Gender Empowerment Measure
Π	<b>Economic Development</b> Factors affecting Economic Development - Characteristics of Developing Countries- Population and Economic Development- Theories of Demographic Transition. Human Resource Development and Economic Development
III	National IncomeMeaning, Importance, National Product-Concept, types of measurement,Comparison of National Income at Constant and Current Prices. SectorialContribution to National Income. National Income and Economic Welfare
IV	Public FinanceMeaning, Importance, Role of Public Finance in Economic Development, PublicRevenue-Sources, Direct and Indirect taxes, Impact and Incidence of Taxation,Public Expenditure-Classification and Cannons of Public Expenditure, PublicDebt-Need, Sources and Importance, Budget-Importance, Types of Deficits -Revenue, Budgetary, Primary and Fiscal, Deficit Financing
V	Money Supply Theories of Money and Its Supply, Types of Money-Broad, Narrow and High Power, Concepts of M1, M2 and M3. Inflation and Deflation -Types, Causes and Impact, - Price Index- CPI and WPI, Role of Fiscal Policy in Controlling Money supply

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

1	Skill development	✓ .	Entrepreneurial development
1	Employability	4	Professional Ethics
$\checkmark$	Gender Sensitization	~	Human Values
~	Social Awareness/Environment		Environment and Sustainability

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#### **Syllabus Revision**

Board: Commerce

Semester: I Course Code/Name: Business Economics

Unit	Existing	Changes
I	Definition – Methods of Economics – Meaning of Business Economics – Objectives of Business Economics – Nature of Business Economics – Economics Laws – Micro – Macro Economics.	Introduction to Economics Introduction to Economics – Wealth, Welfare and Scarcity Views on Economics – Positive and Normative Economics - Definition – Scope and Importance of Business Economics - Concepts: Production Possibility frontiers – Opportunity Cost – Accounting Profit and Economic Profit – Incremental and Marginal Concepts – Time and Discounting Principles – Concept of Efficiency- Business Cycle:- Inflation, Depression, Recession, Recovery, Reflation and Deflation.
II	Demand Analysis – Demand Curves – Elasticity of Demand – Indifference Curves.	Demand & Supply Functions Meaning of Demand - Demand Analysis: Demand Determinants, Law of Demand and its Exceptions. Elasticity of Demand: Definition, Types, Measurement and Significance. Demand Forecasting - Factors Governing Demand Forecasting - Methods of Demand Forecasting, Law of Supply and Determinants
III	Production Function – Factors of Production – Laws of Return – Cost of Production – Curve - Scale of Production – Economics of Large Scale Production	Consumer Behaviour Consumer Behaviour – Meaning, Concepts and
IV	Cost Concepts- Different cost - Long and short run cost curves – Relationship between costs – Break even analysis	Theory of Production

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V	Market Structure – Firm – Equilibrium Firm and Industry – Optimum Firm – Pricing – Pricing Under Perfect Competition – Monopoly – Duopoly – Oligopoly.	and returns to scale – Economies of Scale – Internal and External Economies – Internal and External Diseconomies - Producer's equilibrium <b>Product Pricing</b> Price and Output Determination under Perfect Competition, Short Period and Long Period Price Determination, Objectives of Pricing Policy, its importance, Pricing Methods and Objectives – Price Determination under Monopoly, kinds of Monopoly, Price Discrimination, Determination of Price in Monopoly –Monopolistic Competition – Price Discrimination, Equilibrium of Firm in Monopolistic Competition–Oligopoly – Meaning – features, "Kinked Demand" Curve
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# PERCENTAGE OF SYLLAUS REVISED: 80 COURSES FOCUS ON:

1	Skill development	1	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
~	Gender Sensitization	1	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision

Board: Commerce

Semester: I

Course Code/Name: Introduction to Accountancy

Unit	Content
I	<b>INTRODUCTION TO ACCOUNTANCY:</b> Definition of Accounting – Nature, Objectives and Utility of Accounting in Industrial and Business Enterprise – Difference between Book-keeping and Accounting – Accounting Concepts and Conventions.
II	<b>DOUBLE ENTRY SYSTEM:</b> Double Entry System – Rules – Advantages and Disadvantages – Journal – SubsidiaryBooks.
III	<b>TRIAL BALANCE:</b> Ledger – Meaning – Balancing of Accounts – Difference between Journal and Ledger – Trial Balance – Objectives – Limitations – Preparation of Trial Balance
IV	ERRORS AND BRS: Rectification of Errors – Objectives – Types – Methods – Bank Reconciliation Statement. (Simple problems only
V	FINAL ACCOUNTS: Final Accounts of Sole Trader (with Simple Adjustments).

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

1	Skill development	1	Entrepreneurial development
✓ .	Employability		Professional Ethics
~	Gender Sensitization	1	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision**

Board: Commerce

Semester: II

Course Code/Name: Financial Accounting II

Unit	Content
I	Hire Purchase and Installment System Hire Purchase System – Accounting Treatment – Calculation of Interest – Default and Repossession - Hire Purchase Trading Account Instalment System – Calculation of Profit
II	Branch and Departmental Accounts Branch – Dependent Branches: Accounting Aspects - Debtors system -Stock and Debtors system – Distinction between Wholesale Profit and Retail Profit – Independent Branches (Foreign Branches excluded) - Departmental Accounts: Basis of Allocation of Expenses – Inter- Departmental Transfer at Cost or Selling Price.
III	Partnership Accounts - I Partnership Accounts: –Admission of a Partner – Treatment of Goodwill – Calculation of Hidden Goodwill –Retirement of a Partner – Death of a Partner
IV	Partnership Accounts - IIDissolution of Partnership - Methods - Settlement of Accounts RegardingLosses and Assets - Realization account - Treatment of Goodwill - Preparationof Balance Sheet - Insolvency of a Partner - One or more Partners insolvent -All Partners insolvent - Garner Vs Murray - Accounting Treatment - PiecemealDistribution - Surplus Capital Method - Maximum Loss Method.
V	Accounting Standards for financial reportingObjectives and Uses of Financial Statements for Users-Role of AccountingStandards - Development of Accounting Standards in India- Requirements ofInternationalAccountingStandards-Role of Developing IFRS- IFRSAdoption or Convergence in India-Implementation Plan in India- Ind AS- An Introduction - Difference between IndAS and IFRS.

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## PERCENTAGE OF SYLLAUS REVISED: 100

#### **COURSES FOCUS ON:**

1	Skill development	✓ ·	Entrepreneurial development
1	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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BOS

# Syllabus Revision

Board: Commerce

Semester: II Course Code/Name: Business Law

Jnit	Existing	Changes Introduction
	Nature and Sources of law — Law of contracts — Essentials of valid contract —Classification of contracts	An introduction – Definition – Objectives of Law - Law: Meaning and its Significance, Mercantile Law: Meaning, Definition, Nature, Objectives, Sources, Problems of Mercantile Law
II	Offer and acceptance — consideration capacity to contract — Free consent Legality of object	Elements of Contract Indian Contract Act 1872: Definition of Contract, Essentials of Valid Contract, Classification of Contract, Offer and Acceptance – Consideration – Capacity of Contract – Free Consent - Legality of Object – Contingent Contracts – Void Contract
111	Performance of contracts — Discharge of contract — Remedies for breach of contract —Quasi contracts	Performance Contract Meaning of Performance, Offer to Perform, Devolution of Joint liabilities & Rights, Time and Place of Performance, Reciprocal Promises, Assignment of Contracts - Remedies for Breach of contract - Termination and Discharge of Contract - Quasi Contract
IV	Contracts of agency — Different classes 'of agents — creation of agency — Rights and dutiesof an agent scope of agents authority — Liability of principles to third parties — Personal liability of agent — Bailment and pledge	Contract of Indemnity and Guarantee Contract of Indemnity and Contract of Guarantee - Extent of Surety's Liability Kinds of Guarantee, Rights of Surety, Discharge of Surety – Bailment and Pledge – Bailment – Concept – Essentials and Kind - Classification of Bailments, Duties and Rights of Bailor and Bailee – Law of Pledge – Meaning Essentials of Valid Pledge, Pledge and Lien, Rights of Pawner and Pawnee
V	Contract of Indemnity and guarantee — Rights of Indemnity holder — Rights of surety —Nature and extent of surety's	Sale of Goods Act 1930: Definition of Contract of Sale – Formation - Essentials of Contract of Sale - Conditions and Warranties -

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liabilities	Transfer of Property – Contracts involving Sea Routes - Sale by Non- owners - Rights and duties of buyer - Rights of an Unpaid Seller
	Rights of an Olipaid Seller

# PERCENTAGE OF SYLLAUS REVISED: 80

## **COURSES FOCUS ON:**

~	Skill development	~	Entrepreneurial development
$\checkmark$	Employability	r.	Professional Ethics
and the second	Gender Sensitization	1	Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# **Syllabus Revision**

Board: Commerce

Semester: II	·
Course Code/Name:	<b>Business Environment</b>

Col	arse Code/Name. Dusiness 2	Changes
Unit	Existing Introduction of Business Environment – Nature and Scope of Business – Characteristics of Business – Objectives of Business – Social Responsibilities of Business – Economic Environment – Social and Cultural Environment	An Introduction The Concept of Business Environment - Its Nature and Significance – Brief Overview of Political – Cultural – Legal – Economic and Social Environments and their Impact on Business and Strategic Decisions.
II	Political and Legal Environment – Constitutional Environment in India – Legal Environment – Technological Environment – Socio – Cultural Environment	Political Environment Political Environment – Government and Business Relationship in India – Provisions of Indian Constitution Pertaining to Business.
III	Environment;- Economic Systems – Economics systems – Economic Planning – Economic Policies – Business Cycle – Control of Business – Characteristics of Inflation – Control of inflation	Social and Cultural Environment Social and Cultural Environment – Impact of Foreign Culture – Castes and Communities – Linguistic and Religious Groups – Types of Social Organization – Social Responsibilities of Business.
IV	Financial Environment and Financial System – What is a Financial System – Importance and Role of Banks in the Economy – Functions of Commercial Banks.	Economic Environment Economic Environment – Economic Systems and their Impact of Business – Macro Economic Parameters like GDP - Growth Rate Population – Urbanization - Fiscal Deficit – Plan Investment – Per Capita Income and their Impact on Business Decisions.
V	Environment Analysis and Managerial Development – Techniques of Environmental Analysis SWOT Analysis – Training and Development of Professional Managers – Management by Objectives Methods – Advantages of Management Training – Limitations of MBO	Technological EnvironmentTechnological Environment – Meaning- Features OF Technology-Sources of Technology Dynamics-Transfer of Technology- Impact of Technology on Globalization- Status of Technology in India- Determinants of Technology Environment.

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# PERCENTAGE OF SYLLAUS REVISED: 70

# **COURSES FOCUSES ON:**

~	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
$\checkmark$	Gender Sensitization	1	Human Values
1	Social Awareness/Environment	✓	Environment and Sustainability
	Intellectual Property Rights		

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**Board:** Commerce

# Syllabus Revision- New Course

#### Semester: II Course Code/Name: Insurance and Risk Management Content Unit Introduction to Insurance Definition of Insurance - Characteristics of Insurance - Principles of Contract of I Insurance - General Concepts of Insurance - Insurance and Hedging - Types of Insurance - Insurance Intermediaries. Life Insurance Business - Fundamental Principles of Life Insurance - Basic Life Insurance II Features of Life Insurance Contracts - Life Insurance Products - Traditional and Unit Linked Policies - Individual and Group Policies - With and Without Profit Policies - Policies - Types of Life Insurance Policies. **General Insurance** General Insurance Business - Fundamental Principles of General Insurance -III Types - Fire Insurance - Marine Insurance - Motor Insurance - Personal Accident Insurance - Liability Insurance - Miscellaneous Insurance - Claims Settlement. Risk Management - Objectives - Process - Identification, Evaluation, Retention IV and Risk Transfer - Risk Financing - Level of Risk Management - Corporate Risk Management - Management of Risk by Individual. Insurance Regulatory and Development Authority 1999 (IRDA) - Introduction -V Purpose, Duties, Powers and Functions of IRDA - Operations of IRDA -Insurance Policyholders' Protection under IRDA – Exposure/Prudential Norms -Summary Provisions of Related Acts.

# PERCENTAGE OF SYLLAUS REVISED:100

<b>IRSES FO</b>	CUSES ON:	$\checkmark$	Entrepreneurial
1	Skill development		development
~	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social		Environment and Sustainability
v	Awareness/Environment	_	Sustamaonity
	Intellectual Property Rights		

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# Syllabus Revision- New Course

**Board:** Commerce

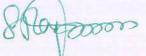
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Semester: II	
Semester. II	IC tould Departice
	Office Management and Secretarial Practice
Course Code/Name:	Unifice Management and the

Unit	Content
[	Modern Office and Its Function: Introduction — Meaning of Office—Office Work—Office Activities — The Purpose of an Office— Office Functions — Importance of Office—The Changing Office—The Paperless Office — Office Management - Elements— Functions — Office Manager — Success Rules for Office Managers—The Ten Commandments.
II	Office Space and Environment Management: Introduction— Principles —         Location of Office — Office Building — Office Layout — Preparing the Layout         — Re-layout — Open and Private Offices — New Trends in Office Layout.         Office Lighting— Types of Lighting Systems—Designing a Lighting System -         Benefits of Good Lighting in Office — Ventilation—Interior Decoration -         Furniture — Freedom from Noise and Dust — Safety from Physical Hazards—         Sanitary Requirements—Cleanliness — Security—Secrecy.
III	Sanitary Requirements       Creatings       Definitions         Office Systems and Procedures: The Systems Concept       Definitions         Systems Analysis       —Flow of Work—Analysis of Flow of Work — Role of Office Manager in Systems and Procedures — Systems Illustrated - Office Machines and Equipments. Office forms – Design, Management and Control
IV	Records ManagementRecords — Importance of Records — Records Management — Filing —Essentials and Characteristics of a Good Filing System — Classification andArrangement of Files — Filing Equipment — Methods of Filing — ModernFiling Devices — Centralized vs. Decentralized Filing — Indexing — Typesof Indexing—Selection of Suitable Indexing System—The Filing Routine —The Filing Manual — Records Retention — Evaluating the RecordsManagement Programme—Modern Tendencies in Records Making
V	Secretarial Practice Role of Secretary: Definition; Appointment, Duties and Responsibilities of a Personal Secretary - Qualifications for Appointment as Personal Secretary. Modern Technology and Office Communication, Email, Voice Mail, Internet, Multimedia, Scanner, Video-Conferencing, Web-Casting. Agenda and Minutes of Meeting. Drafting, Fax-Messages, Email. Maintenance of Appointment Diary.

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# PERCENTAGE OF SYLLAUS REVISED: 100

#### MIC ON.

<b>JURSES FO</b>	CUS ON:	$\checkmark$	Entrepreneurial
1	Skill development		development
~	Employability	6	Professional Ethics
	Gender Sensitization		Human Values
			Environment and
~	Social Awareness/Environment		Sustainability
	Intellectual Property Rights		

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Semester: II

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# Syllabus Revision- New Course

**Board: Commerce** 

Unit	Content
I	Introduction of Investment Meaning and Definition of Investment – Concepts of Investment, Nature of Investment, Types of Investors, Stages in Investment, Speculation- Types of Speculators, Distinction between Investment and Speculation, Gambling – Meaning, features, Distinction between Investment and Gambling
11	Kinds of Investment Importance and basic Principles of Investment, Kinds of Investment – Direct Investment alternatives – Fixed Principal Investments, Variable Principal Securities and Non–Security Investments – Stages in Investment.
III	Investment Planning ]Investment Planning – Financial Planning and Investment Planning, Features of Investment Planning, Setting of investment goals at different stages of an individual ,Deciding the investment time frame
IV	Investment Alternatives Popular Investment Media – Bank deposits –Saving deposits, Fixed deposits, Recurring Deposits, Instruments of post office, Savings certificates, Public Provident Fund, Company deposits – Life Insurance Schemes – Endowment policy, Whole Life policy, Term Life Policy, Money Back Policy, Joint Life Policy, Children's Insurance Policy, Group Policy, Unit Linked Insurance Plans – Income tax benefits with respect to payment of premiums. Real Estate – Reasons for growth, problems with Real Estate Investments, Chit funds, Plantation and Farm Houses, Gold and Silver.
V	Kinds of Shares Investment in Equity and Preference Shares. Methods of Trading in Stock Exchanges, Investors' Protection, Problems & Remedies, Role of SEBI in protecting investors' interests Recent Contours Trends, assignments and Seminars

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# PERCENTAGE OF SYLLAUS REVISED: 100

#### **COURSES FOCUS ON:**

✓	Skill development	✓ Entrepreneurial development
~	Employability	Professional Ethics
	Gender Sensitization	Human Values
	Social Awareness/Environment	Environment and Sustainability
	Intellectual Property Rights	HOD

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# Syllabus Revision- New Course

**Board:** Commerce

Semester: II Course Code/Name: Elements of Insurance

Unit	Content
[	<b>INTRODUCTION TO INSURANCE:</b> Introduction to insurance: purpose and need of insurance – insurance as a social security tool – Insurance and economic development – types of insurance.
II	<b>LICENSE FOR AGENT:</b> Procedure for becoming an agent: Pre-requisite for obtaining a license – duration of license – cancellation of license – revocation or suspension/termination of agent appointment – code of conduct – unfair practices
III	<b>REGULATIONS FOR AGENT:</b> Fundamentals of agency - definition of agent – agent's regulations – insurance intermediaries – agents' compensation – IRDA.
IV	FUNCTIONS OF AGENT: Functions of the agent: proposal form and other forms for grant of cover – financial and medical underwriting – material information – nomination and assignment – procedure regarding settlement of policy claims
V	<b>TYPES OF INSURANCE:</b> Fundamentals/Principles of life insurance/marine/fire/medical/general insurance: Contracts of various kinds – insurable interest – Actuarial science.

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## PERCENTAGE OF SYLLAUS REVISED: 100

#### **COURSES FOCUS ON:**

V	Skill development	~	Entrepreneurial development
1	Employability		Professional Ethics
	Gender Sensitization	•	Human Values
	Social Awareness/Environment	×	Environment and Sustainability
	Intellectual Property Rights		

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### Syllabus Revision

Board: Commerce

Semester: III Course Code/Name: Corporate Accounting -I

Unit	Existing	Changes
	Issue and forfeiture of shares – Redemption of Preference shares.	Issue of SharesIssue of Shares - Forfeiture - Reissue - Pro-rataAllotment - Right Issue - Bonus Issue -Underwriting of Shares and Debentures -Underwriting Commission - Types ofUnderwriting.Redemption of Preference Shares &
II	Issue of Debentures – Redemption of debentures – Profits prior to Incorporation.	Debentures Redemption of Preference Shares–Provisions of Companies Act– Capital Redemption Reserve – Minimum Fresh Issue – Redemption at Premium. Debentures: Issue and Redemption – Meaning – Methods – In One Lot – in Instalment – Purchase in the Open Market includes Ex Interest and Cum Interest - Sinking Fund Investment Method.
III	Final accounts of corporate businesses – Divisible profit and dividends – bones shares	Final Accounts Introduction – Final Accounts – Form and Contents of Financial Statements as Per Schedule III of Companies Act 2013 – Part I Form of Balance Sheet – Part II Form of Statement of Profit and Loss – Ascertaining Profit for Managerial Remuneration. Profit Prior to Incorporation.
IV	Valuation of goodwill and shares – Holding Company.	Valuation of Goodwill & Shares Valuation of Goodwill and Shares - Factors Affecting Goodwill - Methods of Valuation - Acquisition of Business.
V	Alteration of share capital and internal Reconstruction - Amalgamation and External Reconstruction.	Indian Accounting Standards International Financial Reporting Standard (IFRS)–Meaning and its Applicability in India - Indian Accounting Standards – Meaning – Objectives – Significance – Accounting Standards in India – Procedures for Formulation of Standards – Ind AS – 1 Presentation of Financial Statement, Ind AS – 2 Valuation of Inventories, Ind AS – 7 Cash Flow Statement, Ind AS – 8 Accounting Policies, Changes in

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Accounting Estimate and Errors, Ind AS 12 Income Tax Indi AS – 16, Property Equipment Ind AS – 103, Business Combinations Ind AS 110, Consolidated Financial Statement.

#### PERCENTAGE OF SYLLAUS REVISED: 60

#### **COURSES FOCUS ON:**

~	Skill development	Entrepreneurial development
$\checkmark$	Employability	Professional Ethics
	Gender Sensitization	Human Values
	Social Awareness/Environment	Environment and Sustainability
	Intellectual Property Rights	

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**Syllabus Revision** 

Board: Commerce

BOS

Semester: III Course Code/Name: Company Law

Jnit	Existing	Changes Introduction to Company law
	Companies Act – Definition of company – formation – kinds – incorporation – characteristics of company – memorandum of association – alteration – duties of secretary regarding the above.	Companies Act 2013 – Definition of a Company, Characteristics of Company – Lifting or Piercing the Corporate Veil – Company Distinguished from Partnership and Limited Liabilities Partnerships – Classification of Companies – Based on Incorporation, Liability, Number of Members, Control
11	Articles of association – contents – alteration – Prospectus – Statement in lieu of prospectus –Shares – Kinds – allotment – minimum subscription – transfer and transmission of shares – Share warrant – Share certificate – Secretarial duties regarding the above.	Formation of CompanyFormation of a Company – Promoter –Fundamental Documents – Memorandum ofAssociation – Contents – Alternation – LegalEffects – Articles of Association - Certificate ofIncorporation – Prospectus – Contents - Kinds –Liabilities – Share Capital – Kinds – Issue –Alternation – Dividend – Debentures
III	Types of secretary – Qualification – appointment - functions – Legal position – Rights –Duties – Liabilities	Meeting Meeting and Resolution – Types – Requisites – Voting & Poll – Resolution – Ordinary, Special Audit & Auditors – Qualification, Disqualification, Appointment and Removal of a Auditor
IV	Directors – Rights – Duties – Powers – Shares qualification – Liabilities.	Management & AdministrationManagement & Administration – Directors –Legal Position – Board of Directors –Appointment/ Removal – Disqualification –Director Identification Number – Directorships –Powers – Duties – Board Committees – RelatedParty Transactions – Contract by One – PersonCompany – Insider Trading- Managing Director– Manager – Secretarial Audit – AdministrativeAspects and Winding Up – National CompanyLaw Tribunal (NCLT) – National Company LawAppellate Tribunal (NCLAT) – Special Courts
V	Communication pertaining to meetings – Preparation of notices – Agenda – Proxies –	Winding up Meaning – Modes – Compulsory Winding Up -

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	Motions-Resolutions – Minutes – Duties of the chairman of the meeting.	Voluntary Winding Up – Consequences of Winding Up Order – Powers of Tribunal – Petition for Winding Up – Company Liquidator
-		

## PERCENTAGE OF SYLLAUS REVISED: 60

#### **COURSES FOCUS ON:**

√.	Skill development	√ .	Entrepreneurial development
1	Employability	F.,	Professional Ethics
~	Gender Sensitization	1	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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## Syllabus Revision- New Course

**Board:** Commerce

#### Semester: III Course Code/Name: International Trade

Unit	Content
I	Introduction to International Trade – Meaning – Definition - Difference between Internal and International Trade – Importance of International Trade in the Global context
II	Theories of International trade: Classical theories - Adam smith's theory of Absolute Advantage – Ricardo's Comparative cost theory - Modern theories of International Trade - Haberler's Opportunity Cost theory – Heckscher –Ohlin's Modern theory – International trade and Factor Mobility Theory – Leontiff's Paradox - International trade and economic growth theory - Immiserating growth theory.
III	<ul> <li>Balance of Payments – Components of Balance of Payments - Current</li> <li>account, Capital account &amp; Official settlement accounts - Disequilibrium in</li> <li>BOP -Methods of correcting Disequilibrium - Balance of Payment adjustment</li> <li>Theories - Marshall Lerner mechanism.</li> <li>Balance of Trade – Terms of Trade – Meaning – Definition – Difference</li> <li>between BOP and BOT.</li> </ul>
IV	International Economic Institutions - International Monetary System - Bretton Woods Conference – IMF - Objectives, Organizational structure – Membership – Quotas – Borrowing and Lending Programme of IMF – SDRs – India and IMF -World Bank and UNCTAD.
V	World Trade Organization (WTO) – Functions and Objectives – Agricultural Agreements – GATS - TRIPS – TRIMS.

## PERCENTAGE OF SYLLAUS REVISED:100

URSES FO	CUSES ON:	1	Entrepreneurial
~	Skill development		development
~	Employability	5. <b>F</b> (	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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## Syllabus Revision- New Course

**Board: Commerce** 

Semester: III Course Code/Name: Principles of Marketing

Unit	Content
I	Introduction to Marketing Meaning–Definition and Functions of Marketing– Evolution of Marketing Concepts–Marketing Orientation–Innovations in Modern Marketing. Marketing Management: Definitions–Functions – Role and Importance of Marketing – Classification of Markets - Niche Marketing - Characteristics of Niche Marketing – Local Marketing – Green Marketing.
II	Market SegmentationConcept – Benefits – Types– Geographic – Demographic – Psychographic –Behavioural - Marketing Mix – Definition – 4 P's of Marketing Mix -Introduction to Consumer Behaviour –Purchase Decision – Post PurchaseBehaviour – Consumer Buying Decision Process – Motives & Needs, Freud'sTheory of Motivation.
III	Product & Price         Definition – Product Mix – Introduction to Stages of New Product Development         – Product Life Cycle – Sales Forecasting – Methods –Criteria for a Good         Forecasting – Pricing–Objectives – Factors Influencing Pricing – Kinds of         Pricing – Resale Price Maintenance.
IV	<b>Promotions and Distributions</b> Communication Mix – Communication Process –Advertising–Media–Kinds of– Advertising Media- Sales Promotion – Personal Selling–Classification of Salesmanship - Channel Members–Types–Channel of Distribution for Consumer Goods – Channels of Distribution for Industrial Goods.
V	Competitive Analysis and Strategies Balancing Customer and Competitor Orientations–Global Market Environment– Balancing Customer and Competitor Orientations–Global Market Environment– Social Responsibility and Marketing Ethics, Citizen and Publications to Social Responsibility and Marketing Ethics, Citizen and Publications to Regulate Marketing–Recent Trends in Marketing– A Basic Understanding of E–Marketing–E-Tailing–Consumerism–Market Research–MIS and Marketing Regulation.

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## PERCENTAGE OF SYLLAUS REVISED: 100

#### S FOCUS ON:

URSES FOCUS ON:		$\checkmark$	Entrepreneurial	
~	Skill development		development	
			Professional Ethics	
$\checkmark$	Employability			
	Gender Sensitization		Human Values	
	Gender Sensitization		Environment and	
~	Social Awareness/Environment		Sustainability	
	Intellectual Property Rights			

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## Syllabus Revision- New Course

**Board: Commerce** 

Unit	Content
I	<b>Export-Import Procedure</b> Procurement for Export–Planning and Methods of Procurement for Exports - Procurement Through Imports, Financing Import – Instruments and Related Procedures and Documentation; Custom Clearance of Import–Regulations, Procedure and Documentation.
II	<b>Export Documentation</b> Types of Documents – Characteristics and Relevance. An Introduction to Online Documentation. Getting Ready for Export Contract and Incoterms. Procuring and Processing of an Export Order. Methods and Terms of Payments for Exports–Documentary Credit and Collection Financing for Export Pre- and Post-Shipment Credit.
III	Import Documentation Duty Exemption Schemes -Objectives, Benefits, Procedures and Documentation –Schemes for Import of Capital Goods–Procedures and Documentation for New/ Second-Hand Capital Goods.
IV	Export Incentive and cargo handling: Foreign Exchange RisksNature of Risks, Cargo Insurance - Contract of Cargo Insurance, Procedures and Documentation for Cargo Loss Claims–Role and Schemes of ECGC of India and Commercial Banks, Quality Control and Pre-Shipment Inspection: Schemes Excise and Custom Clearance Regulations, Procedures and Documentation – Export Incentives.
V	Institutional Support Export/Trading/Star Trading/Superstar Houses - Objective Criteria and Benefits - Procedures and Documentation –Special Economic Zones: Objectives and Benefits – Introduction to Export Promotion Council (EPC) –Indian Trade Promotion Organization (ITPO).

## PERCENTAGE OF SYLLAUS REVISED: 100

JURSES FU		./	Entrepreneurial
$\checkmark$	Skill development	×	development
	Employability	1	Professional Ethics
~	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		
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### Syllabus Revision- New Course

Semesto Course	er: III Board: Commerce Code/Name: Information Technology and Concept
Unit	Content
I	Introduction to Computers - Definition, .Characteristics of computer, Evolution of Computer, Block Diagram Of a computer, Generations of Computer, Classification Of Computers, Applications of Computer, Capabilities and limitations of computer.
Π	Computer peripherals - Role of I/O devices in a computer system. Input Units: Keyboard, Terminals and its types. Pointing Devices, Scanners and its types, Voice Recognition Systems, Vision Input System, Touch Screen, Output Units: Monitors and its types. Printers: Impact Printers and its types. Non Impact Printers and its types, Plotters, types of plotters, Sound cards, Speakers, storage units.
III	Software and its needs, Types of S/W. System Software: Operating System, Utility Programs Programming Language: Machine Language, Assembly Language, High Level Language their advantages & disadvantages. Application S/W and its types: Word Processing, Spread Sheets Presentation, Graphics, DBMS s/w.
IV	Data Communication and BDP: Communication Process, Data Transmission speed, Communication Types (modes), Data Transmission Medias, Modem. Business DataProcessing: Introduction, data storage hierarchy, Method of organizing data, File Types, File Organization.
V	Computers at Home, Education, Entertainment, Business, Science, Medicine and Engineering-Introduction to Computer Security - Computer Viruses, Bombs, Worms - WWW and Internet

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

V	Skill development	~	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization		Human Values
1	Social Awareness/Environment	*	Environment and Sustainability
	Intellectual Property Rights		

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## Syllabus Revision- New Course

**Board:** Commerce

Init	Code/Name: Salesmanship Content		
	Introduction to selling- meaning- definitions- importance- methods- qualities- functions duties-responsibilities – types of sales person – sales careers.		
I	Selling process – steps- customer expectations – understanding prospects- importance sources- buyer motives and behaviour- transaction oriented selling – relationship selling.		
[]]	Selling techniques – planning- setting objectives approach techniques-building rapport- product knowledge- product benefits-		
IV	Sales territory- sales targets/quotas- creating product stategreat understanding selling terms and prices- retail store sales person- online stores and sales opportunities – personal selling in the information age		
V	Sales force management- selection- training- motivation- compensation – supervision and control- sales reports and knowledge management – evaluation- selling expenses- sales team		
VI	professionalism – ethics- personal grooming. Sales management focuses on the activities of first line field sales managers, course packwill enable students to understand supply chain management which has improved the efficiency in distribution.		

## PERCENTAGE OF SYLLAUS REVISED:100

COURSES FO	CUSES ON:	1	Entrepreneurial
1	Skill development		development
1	Employability		Professional Ethics
~	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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## Syllabus Revision

Board: Commerce

Semester: IV Course Code/Name: Corporate Accounting II

Unit	Existing	Changes Amalgamation, Absorption & External
	Existing Issue and forfeiture of shares – Redemption of Preference shares.	Amalgamation,Absorption&ExternalReconstructionAmalgamation,AbsorptionandExternalReconstruction - Purchase Consideration - Lumpsum Method,Net Assets Method,Net PaymentMethod,IntrinsicValueMethod- Types ofAmalgamation(ExcludingInter-CompanyHoldings).AlterationofShareCapital
II	Issue of Debentures – Redemption of debentures – Profits prior to Incorporation.	Reconstruction Alteration of Share Capital – Modes of Alteration - Internal Reconstruction – Conversion of Stock – Increase and Decrease of Capital – Reserve
ш	Final accounts of corporate businesses – Divisible profit and dividends – bones shares	Accounting of Banking Companies Final Statements of Banking Companies (As Per New Provisions) - Non- Performing Assets - Rebate on Bills Discounted- Profit and Loss a/c - Balance Sheet as Per Banking Regulation Act 1949.
IV	Valuation of goodwill and shares – Holding Company.	<b>Consolidated Financial Statements</b> Introduction-Holding & Subsidiary Compan Legal Requirements Relating to Presentation Accounts -Preparation of Consolidated Balan Sheet (Excluding Inter-Company Holdings).
V	Alteration of share capital and internal Reconstruction - Amalgamation and Externa Reconstruction.	Liquidation of Companies           Meaning-Modes of Winding Up – Preparation           Statement of Affairs and Deficiency Accounts           Order of Payment – Liquidators Remuneration           Liquidator's Final Statement of Accounts.

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## PERCENTAGE OF SYLLAUS REVISED:60

#### **COURSES FOCUSES ON:**

~	Skill development	~	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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Semester: IV

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#### Syllabus Revision- New Course

**Board:** Commerce

Unit	Content
I	Ratio Ratio, Proportion and Variations, Indices and Logarithms.
II	Interest and AnnuityBanker's Discount – Simple and Compound Interest - Arithmetic, Geometricand Harmonic Progressions.Annuity - Meaning - Types of Annuity Applications.
III	Business Statistics Measures of Central Tendency Arithmetic Mean, Geometric Mean - Harmonic Mean - Mode and Median – Quartiles – Deciles - Percentiles. Measures of Variation – Range - Quartile Deviation and Mean Deviation - Variance and Standard Deviation & Co- efficient.
IV	Correlation and Regression Correlation - Karl Pearson's Coefficient of Correlation – Spearman's Rank Correlation – Regression Lines and Coefficients.
V	Time Series Analysis and Index NumbersTime Series Analysis: Secular Trend – Seasonal Variation – Cyclical variationsIndex Numbers – Aggregative and Relative Index – Chain and Fixed Index –Wholesale Index – Cost of Living Index.

## PERCENTAGE OF SYLLAUS REVISED: 100

#### **COURSES FOCUS ON:**

√	Skill development	✓ ,	Entrepreneurial development
~	Employability	*	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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Semester:IV

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#### Syllabus Revision- New Course

#### **Board: Commerce**

Unit	Content
I	Factories Act 1948 Definitions - Objects –Scope – Approval – Licensing – Registration of Factories – Notice by Occupier – General Duties of Occupier and Manufacturer – Measures to be Taken by Factories for Health, Safety and Welfare of Workers – Measures – Special Provisions Relating to Hazardous Processes – Working Hours of Adults – Additional Provisions Regulating Employment of Women in a Factory – Employment of Young Person and Children – Annual Leave with Wages – Penalties and Procedures.
П	Foreign Exchange Management Act, 1999 Introduction - Board Structure of FEMA – Definitions - Regulation & Management of Foreign Exchange - Contraventions & Penalties – Procedure for Compliance.
III	Prevention of Money Laundering Act, 2002 Definitions – Punishment for the Offence of Money Laundering - Obligations of Banking Companies - Financial Institutions and Intermediaries or a Person Carrying on a Designated Business or Profession - Adjudication Authorities & Procedures.
IV	Competition Act, 2002 Definitions - Prohibition of Agreements- Prohibition of Abuse of Dominant Position – Competition Commission of India - Establishment, Administration & Duties Powers – Competition Advocacy - Adjudication Authorities – Penalties & Prosecution.
V	Intellectual Property Rights Intellectual property rights (IPR) – An Introduction - Kinds of Intellectual Property Rights - Patent, Copyright, Trade Mark, Design, Geographical Indication, Plant Varieties and Layout Design Genetic Resources and Traditional Knowledge – Trade Secret - IPR in India: Genesis and development.

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## PERCENTAGE OF SYLLAUS REVISED:100

#### COURSES FOCUSES ON:

V	Skill development	1	Entrepreneurial development
	Employability	$\checkmark$	Professional Ethics
~	Gender Sensitization	$\checkmark$	Human Values
	Social Awareness/Environment	4	Environment and Sustainability
	Intellectual Property Rights	W	

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## Syllabus Revision- New Course

#### **Board: COMMERCE**

Semester: IV

Unit	Content
Ι	Meaning of Consumer and Customer - Consumer Movements – Historical Perspectives- Concept of Consumerism –Need and Importance
П	Meaning and Causes of Consumer Exploitation- Forms of Consumer - Exploitation Underweight Measures, High Prices, Substandard Quality, Poor or Inadequate After Sales Services- Challenges of Consumer Exploitation
III	Consumer Rights – John F Kennedy's Consumer Bill of RightsTypes of Consumer Rights – Right to Safety, Right to Information (RTI), Right to Re dressal, Right to Consumer Education -Duties of Consumers.
IV	Reasons for the Growth of Consumerism in India - Recent Trends in Consumerism - Problems Faced by Consumers in India
V	Consumer Protection Council – Central, State, Districts Consumer Protection Councils- Consumer Dispute Re dressal Mechanism.

#### PERCENTAGE OF SYLLAUS REVISED: 100

#### **COURSES FOCUS ON:**

V	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
V	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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### Syllabus Revision- New Course

#### **Board: COMMERCE**

Semester: IV	
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Unit	Content
I	Defining E - Commerce; Main Activities of Electronic Commerce; Benefits of E- Commerce; Broad Goals of Electronic Commerce; Main Components of E-Commerce; Functions of Electronic Commerce - Process of E-Commerce - Types of E- Commerce; The World Wide Web, The Internet and the Web: Features, Role of Automation & Artificial Intelligence in E-Commerce
II	E-commerce Business Models, Major Business to Consumer (B2C) Business Models, Major Business to Business (B2B) Business Models, Business Models in Emerging E- Commerce Areas - E-tailing: Traditional Retailing and E- retailing, Benefits of E-retailing, Models of E-retailing, Features of E-retailing.
III	The Internet Audience and Consumer Behaviour, Basic Marketing Concepts,Internet Marketing Technologies – Marketing Strategy - E services: Categories ofE-services, Web-Enabled Services, Information-Selling on the Web.
IV	Benefits of EDI, EDI Technology, EDI Standards, EDI Communications, EDI Implementation, EDI Agreements, EDI Security. Electronic Payment Systems, Need of Electronic Payment System - Digital Economy - Threats in Computer Systems: Virus, Cyber Crime Network Security: Encryption, Protecting Web Server with a Firewall, Firewall and the Security Policy, Network Firewalls and Application Firewalls, Proxy Server.
V	Issues in E Commerce Understanding Ethical, Social and Political Issues in E-         Commerce: A Model for Organizing the Issues, Basic Ethical Concepts, Analysing         Ethical Dilemmas, Candidate Ethical Principles Privacy and Information Rights:         Information Collected at E-Commerce Websites

## PERCENTAGE OF SYLLAUS REVISED:100

V	Skill development	1	Entrepreneurial development
~	Employability		Professional Ethics
$\checkmark$	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision**

Board: Commerce

#### Semester: V Course Code/Name: COST ACCOUNTING I

Unit	Existing	Changes
I	Cost accounting definitions – Functions, Importance, Advantages and Limitations – Relationship between cost and Financial Accounting – Installation ofcosting system – Cost Unit and Cost Centre – Elements of Cost – Cost sheet – Tender and quotation.	Definition-Nature and Scope – Principles of Cost Accounting – Cost Accounting and Financial Accounting - Cost Accounting Vs Management Accounting –Installation of Costing System – Classification of Costs– Cost Centre– Profit Centre.
II	Materials cost control – Material Purchases – Storage of Material – Various levels of Stock – Pricing of Materials Issues.	Preparation of Cost Sheet - Tenders & Quotations - Reconciliation of Cost and Financial Accounts –Unit Costing-Job Costing.
III	Labour Cost Control – Piece and Time Rates – Incentive Plans – Labour turnover – Idle time – Overheads – Allocation – Apportionment – Re Apportionment and Absorption.	Material Control – Meaning and Objectives – Purchase of Materials – EOQ –Stores Records – Reorder Levels – ABC Analysis - Issue of Materials – Methods of Issue – FIFO – LIFO – Base Stock Method – Specific Price Method – Simple and Weighted Average Method
IV	Process Costing (Excluding Inter Process, Equivalent Production – By product– Joint product) and – Operating Costing.	Direct Labour and Indirect Labour – Time Keeping – Methods and Calculation of Wage Payments – Time Wages – Piece Wages – Incentives – Different Methods of Incentive Payments - Idle time–Overtime – Labour Turnover - Meaning, Causes and Measurement.
V	Contract Costing – Reconciliation of Cost and Financial Accounting.	Overheads – Definition – Classification – Allocation and Apportionment of Overheads – Basis of Apportionment – Primary and Secondary Distribution - Absorption of Overheads – Methods of absorption Preparation of Overheads Distribution Statement – Machine Hour Rate – Computation of Machine Hour Rate.

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#### PERCENTAGE OF SYLLAUS REVISED: 70

#### **COURSES FOCUSES ON:**

$\checkmark$	Skill development	~	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization	$\checkmark$	Human Values
	Social Awareness/Environment	ζ.	Environment and Sustainability
2	Intellectual Property Rights		12-12-12-12-12-12-12-12-12-12-12-12-12-1

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#### **Syllabus Revision**

Board: Commerce

#### Semester: V

Course Code/Name: BANKING THEORY LAW AND PRACTICE

Unit	Existing	Changes
Ι	Bank and Banking – Role and importance of Banking – Classification of Commercial Banks – Functions of commercial Banks – Investment Policy of a Commercial Bank – Functions of RBI.	History of Banking- Provisions of Banking Regulations Act 1949 - Components of Indian Banking - Indian Banking System-Phases of Development - Banking Structure in India - Payment Banks and Small Banks - Commercial Banking: Definition - Classification of Banks. Banking System - Universal Banking - Commercial Banking functions - Role of Banks in Economic Development. Central Banking: Definition –Need - Principles- Central Banking Vs Commercial Banking - Functions of Central Bank.
II	E – Banking – Forms of E- Banking Automatic Teller Machine (ATMS) – Credit Cards, Debit Cards – Types of Credit Cards – Types of Bank Accounts – Types of Deposits – Electronic Funds Transfer.	Establishment – objective - Legal framework – Functions. – SBI - Origin and History – Establishment Indian subsidiaries - Foreign subsidiaries -Non- Banking-Subsidiaries-Personal banking International banking-Trade Financing- Correspondent banking - Co-operative banks-Meaning and definition-Features- Co-operative banks vs Commercial banks-StructureNBFC-Role of NBFCRBI Regulations-Financial sector reforms-Sukhmoy committee 1985- Narasimham committee I and II- Prudential norms: capital adequacy norms-classification of assets and provisioning – Meaning, Structure of Interest Rates - Short term and Long Term – Impacts of Savings and Borrowings.
III	Special Types of Bank customers – The Paying Banker – The Collecting Banker	Opening – Types of Accounts-FDR- Steps in opening Account-Saving vs Current Account-'Donatio Mortis

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		Causa'-Passbook-Bank Customer Relationship-Special Types of currents – KYC norms. Bank Lending –Lending Sources-Bank Lending Principles-Forms of lending-Loan evaluation process- securities of lending-Factors influencing bank lending – Negotiable Instruments – Meaning –Characteristics-Types. Crossing –Definition –Objectives- Crossing and negotiability- Consequences of Crossing.
IV	Negotiable Instruments – Characteristics – Parties to Negotiable Instruments – Endorsement – Types of Endorsement.	Meaning-Components-Kinds of Endorsements-Cheques payable to fictitious person Endorsement by legal representative –Negotiation bank-effect of endorsement-Rules regarding Endorsement - Paying banker-Banker's duty-Dishonouring of Cheques- Discharge of paying banks Payments of a crossed cheque payment. Collecting bankers-Statutory protection under section85 - Refusal of cheques Payment. Collecting Banker-Statutory protection under section 131-Collecting bankers' duty –RBI instruction –Paying Banker Vs Collecting Banker- Customer Grievances-Grievance Redressal – Banking Ombudsman
V	Bills of exchange and Promissory notes – Cheques and Bank Drafts Crossing of Cheques.	Meaning-Services-e-banking and financial services- Initiatives- Opportunities-Internet banking Meaning- Internet banking Vs Traditional Banking- Services-Drawbacks-Frauds in Internet

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### PERCENTAGE OF SYLLAUS REVISED: 70

#### **COURSES FOCUSES ON:**

~	Skill development	× ,	Entrepreneurial development
~	Employability	3	Professional Ethics
~	Gender Sensitization	~	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision**

Board: Commerce

Semester: V

## Course Code/Name: INCOMETAX LAW AND PRACTICE

Unit	Existing	Changes
I	Basic Concepts – Definitions – Assesses – Person, income, assessment year, previous year, basis of charge: Determination of Residential Status – Incomes exempt from tax under Sections 10,11,12,13 and 13A.	Introduction to Income Tax – History – Objectives of Taxation - Features of Income Tax – Meaning of Income – Types – Important Definitions Under the Income Tax Act – Assessee – Types– Incomes Exempted under Section 10.
II	Salary: Definition – Salary under section 17 – allowances, perquisites, profit in lieu of salary – deductions under section 16 - computation of salary income.	Residential Status – Residential Status of an Individual – Company – HUF – Basic Conditions – Additional Conditions – Incidence of Tax and Residential Status – Problems on Residential Status and Incidence of Tax.
III	House property: Definition, exempted incomes from house property – Annual value – determination of annual value – Let out – Self occupied – Deductions – computation of property income.	Computation of Salary Income – Features of Salary – Allowances – Types of Allowances - Perquisites – Kinds of Perquisites –Types of Provident Fund - Gratuity – Pension – Commutation of Pension – Deduction of Salary - Profits in Lieu of Salary
IV	Profits and Gains of business or profession – definition – charging provisions – deductions – computation of business and professional income	Income from House Property –Basis of Charge – Annual Value –Gross Annual Value, Net Annual Value of Let-out Property, Self– Occupied Property–Amenities–Deductions
V	Capital Gains: Basis of charge – Cost of acquisition, cost of improvement – exempted capital gain – computation of capital gain – Income from other sources – Chargeability – deductions – Computation of Income under other sources.	Income from Business or Profession – Allowable Expenses – Not Allowable Expenses - General Deductions – Provisions Relating to Depreciation – Deemed Business Profits - Undisclosed Incomes – Investments – Compulsory Maintenance of Books of Accounts – Audit of Accounts of Certain Persons – Special Provisions for Computing Incomes on Estimated Basis – Computation of Income from Business or Profession.

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## PERCENTAGE OF SYLLAUS REVISED: 60

#### **COURSES FOCUSES ON:**

~	Skill development	$\checkmark$	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization	1	Human Values
	Social Awareness/Environment		Environment and Sustainability
$\checkmark$	Intellectual Property Rights		

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Syllabus Revision- New Course

Board: COMMERCE

Course Code/Name: AUDITING AND CORPORATE GIVERNANCE

Unit	Content Di vinstion between Auditing and
[	Content Meaning and Definition of Auditing –Distinction between Auditing and Accounting – Objectives – Advantages and Limitations of Audit – Scope of Audit – Classifications of Audits – Audit of Banking, Insurance, Non-Profit Organizations and Charitable Societies, Trusts, Organizations.
II	Audit Planning – Audit Programmed – Procedures - Internal Audit - Internal Control – Internal Check – Vouching – Cash and Trade Transactions - Verification and Valuations of Assets and Liabilities.
III	Appointment and Removal of Auditors – Rights, Duties and Liabilities of Auditor – Professional Conduct and Ethics in Auditing - Audit Report - Recent Trends in Auditing - Information Systems Audit (ISA) – Impact of Computerization on Audit Approach – Online Computer System Audit – Types of Online Computer Systems – Procedure of Audit under ISA System.
IV	Conceptual Framework of Corporate Governance: Theories & Models, Broad Committees - Corporate Governance Reforms. Major Corporate Scandals in India and Abroad: Common Governance Problems Noticed in various Corporate Failures. Codes & Standards on Corporate Governance
V	Concept of CSR, Corporate Philanthropy, Strategic Relationship of CSR with Corporate Sustainability - CSR and Business Ethics, CSR and Corporate Governance - CSR Provisions under the Companies Act, 2013

## PERCENTAGE OF SYLLAUS REVISED:100

JRSES FO	OCUSES ON:	1	Entrepreneurial
$\checkmark$	Skill development		development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights	i.	

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#### **Syllabus Revision**

Board: Commerce

Semester: V

Course Code/Name: Entrepreneurial Development

Unit	Existing	Changes
I	Concept of Entrepreneurship – Definitions – Types of Entrepreneurship -Functions - Characteristics – Role of Entrepreneurs in the Economic Development – Factors affecting entrepreneurial growth.	Meaning of Entrepreneurship – Characteristics of Entrepreneurship – Types of Entrepreneurship – Self Employment – Difference between Entrepreneurship and Employment – Meaning of Entrepreneur – Traits – Classification – Functions – Entrepreneurial Scenario in India.
II	Entrepreneurial Development Programmes – Self-Employment schemes – Objectives of EDP - Women entrepreneurs – Phases of EDP - Govt. Policies on entrepreneurial development – Small Entrepreneurs development.	Idea Generation – Identification of Business Opportunities – Design Thinking Process – Creativity – Invention – Innovation – Differences – Value Addition – Concept and Types – Tools and Techniques of Generating an Idea – Turning Idea into Business Opportunity
III	Steps Involved in Establishing a small business – generation of Project ideas – Project identification – Selection of a product - Project formulation - assessment of project feasibility study.	Process of Setting Up an Enterprise – Forms of an Enterprise – Sole Proprietorship – Partnership – Limited Liability Partnership Firm – Joint Stock Company – One Man partnership – Choice of Form of an Enterprise –Feasibility Study – Marketing, Technical, Financial, Commercial and Economical
IV	Legal formalities; Registration and licensing of small scale industrial unit Benefits –Stages of Registration – Procedures for Registration – Deregistration – Filing of Entrepreneur Memorandum–Licensing for SSI sector.	Introduction – Contents of Project Report – Project Description – Market Survey – Fund Requirement – Legal Compliance of Setting Up of an Enterprise – Registration – Source of Funds – Modern Sources of Funds.
V	Issues in small business marketing – small entrepreneursin International Business – Accounting for small business – office organization for small business – sickness in small industries.	Government Schemes and Women Entrepreneurship – Importance of MSME for Economic Growth – MSME – Definition – Role of Government Organizations in Entrepreneurship

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Development – MSME DI – DIC – Khadi and Village Industries Commission – NSIC – NABARD, SICVI, SFC, SDC, EDII, EPCCB. Industrial Estates – Government Schemes – Prime Minister Employment Generation Programme – Women
Entrepreneurship in India.

### PERCENTAGE OF SYLLAUS REVISED: 70

#### **COURSES FOCUSES ON:**

~	Skill development	~	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
	Gender Sensitization	× .	Human Values
✓	Social Awareness/Environment	*	Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

#### **Board:** COMMERCE

Semester: V

#### **Course Code/Name: INDIRECT TAXATION**

Unit	Content	
I	Concept and Features of Indirect Taxes - Difference between Direct and Indirect Taxes – Special Feature of Indirect Tax Levies – Contribution to Government Revenues – Role of Indirect Taxation – Merits and Demerits of Indirect Taxation – Reforms in Indirect Taxation	
II	Introduction of Goods and Service Tax in India–History of GST in India –Constitutional Amendment under Pre–Goods and Service Tax Regime and Transitional Provisions – Goods and Service Tax: Concepts, Meaning, Significance, Dual GST, Features and Benefits. GST Common Portal – Taxes and Duties not Subsumed in GST – Rates of GST in India.	
Ш	Supply – Meaning – Classification – Time of Supply – Valuation – Registration – Voluntary – Compulsory – Input Tax Credit – Eligibility – Reversal – Reverse charge Mechanism – E–Way Bill Returns – IGST Act - Export and Import of Goods and Services– Inter State Vs Intra State Supply – Place of Supply. Role of GSTN in Implementation of GST– Anti Profiteering Rules – Doctrine of Unjust Enrichment– Challenges in Implementation of GST.	
IV	Registration under GST Law, Tax Invoice Credit and Debit Notes, Different GST Returns, Electronic Liability Ledger, Electronic Credit Ledger, Electronic Cash Ledger, Different Assessment under GST, Interest Applicable under GST (Period), Penalty under GST, Various Provisions Regarding E-way Bill in GST, Mechanism of Tax Deducted at Source (TDS) and Tax Collected at Source (TCS), Audit under GST	
V	Custom Duty: Concepts; Territorial Waters - High Seas - Levy of Customs Duty, Types of Custom Duties – Valuation - Baggage Rules & Exemptions	

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

√	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization	5	Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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### Syllabus Revision- New Course

Board: COMMERCE

Semester: V Course Code/Name: HUMAN RESOURCES MANAGEMENT

Unit	Content
I	Definition of HRM, Objectives – Importance – Nature- Scope, Role and Qualities of a HR Manager - Human Resource Planning - Meaning, Definition, Importance, Factors Affecting HRP, Process Involved in Human Resource Planning. Human Resource Information System (HRIS) - Job Analysis, Need for Job Analysis, Steps in Job Analysis, Job Description and Specification
Π	Definition of Strategy, Strategic Human Resource Management (SHRM), Importance of SHRM, Difference between Traditional and Strategic Human Resource Management, "Best Fit" Approach Vs. Best Practices of SHRM, Role of HR Strategy &Practices in National, Sectorial and Organizational Context, Investment Perspective of SHRM, Porter's 5 Ps Model
III	Introduction to Industrial Relations - Employee Grievances Concept, Causes & Grievance Redressal Mechanism Discipline- Concept, Aspects of Discipline &Disciplinary Procedure - Trade Unions Act 1926 - Industrial Disputes Act 1947
IV	Organisation Climate – Organization Change – Organisational Development: Definition, Meaning of Organizational Development Collective Bargaining- Essentials of Effective Collective Bargaining
V	Employee Welfare: Meaning, Objectives, Philosophy, Scope, Limitations, Types of Employee Welfare, Statutory and Non-Statutory Welfare Measures, and Labour Welfare Theories- Social Security, Health, Retirement &Other Benefits.

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

V	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
~	Social Awareness/Environment	e.	Environment and Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision**

Board: Commerce

Semester :V

Course Code/Name: FINANCIAL SERVICES

Unit	Existing	Changes
I	Structure of Indian Financial System – Financial assets – Financial intermediaries – Financial market – Money market – capital market.	Structure of Financial System – Role of Financial System in Economic Development – Financial Markets and Financial Instruments – Capital Markets – Money Markets – Primary Market Operations – Role of SEBI – Secondary Market Operations – Regulation – Functions of Stock Exchanges – Listing – Formalities – Financial Services Sector Problems and Reforms.
Π	Merchant banking – Definition – Objectives – Functions – Management of New Issues – Indian experience – SEBI Guidelines.	Concept, Nature and Scope of Financial Services – Regulatory Frame Work of Financial Services – Growth of Financial Services in India – Merchant Banking – Meaning-Types – Responsibilities of Merchant Bankers – Role of Merchant Bankers in Issue Management – Regulation of Merchant Banking in India
III	Mutual funds : Meaning – Types – Functions – Institutions involved – UTI , LIC , and Commercial banks – Entry of Private sector – Growth of mutual Funds in India – SEBI Guidelines.	Venture Capital – Growth of Venture Capital in India – Financing Pattern under Venture Capital – Legal Aspects and Guidelines for Venture Capital, Leasing – Types of Leases – Evaluation of Leasing Option Vs. Borrowing
IV	Lease Financing : The concept – Types – Merits and demerits of leasing – Hire purchase – Meaning – Lease Vs Hire purchases – Problems &Prospects of Hire Purchase in India.	Credit Rating – Meaning, Functions – Debt Rating System of CRISIL, ICRA and CARE. Factoring, Forfeiting and Bill Discounting – Types of Factoring Arrangements – Factoring in the Indian Context
V	Factoring : The concept – factoring mechanism – Factoring in India – Forfeiting – Definition – Factoring Vs	Mutual Funds – Concept and Objectives, Functions and Portfolio

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- E	rfeiting – Venture capital – Credit rating Benefits – Rating symbols – Rating encies in India.	Classification, Organization and Management – De-mat Services- Need and Operations- Role of NSDL and CSDL.
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## PERCENTAGE OF SYLLAUS REVISED: 50

## **COURSES FOCUSES ON:**

1	Skill development	~	Entrepreneurial development
~	Employability		Professional Ethics
1.	Gender Sensitization	~	Human Values
/	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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## Syllabus Revision

Board: Commerce

Semester : VI Course Code/Name: COST ACCOUNTING II

Unit	Existing	Changes
	An Introduction to CAS – Purpose of CAS – Advantages of CAS – Difference between CAS and FAR Regulations – Different Degrees of CAS Coverage – Cost Accounting Standards – Responsibility Accounting and Divisional Performance Measurement.	Definition-Nature and Scope – Principles of Cost Accounting – Cost Accounting and Financial Accounting – Cost Accounting Vs Management Accounting –Installation of Costing System – Classification of Costs– Cost Centre– Profit Centre.
11	Definition - Features of Contract Costing - Calculation of Profit on Contracts – Cost Plus Contract- Contract Costing and Job Costing - A Comparison -Preparation of Contract A/c	Preparation of Cost Sheet - Tenders & Quotations - Reconciliation of Cost and Financial Accounts –Unit Costing-Job Costing.
III	Process Costing – Meaning – Features of Process Costing – Application of Process Costing – Fundamental Principles of Process Costing – Treatment of Loss and Gain : Normal and Abnormal Loss – Abnormal Gain - Joint Products, By Products – Concept of Equivalent Production – Process Accounts - Process Losses and Gains	EOQ –Stores Records – Reorde Levels – ABC Analysis - Issue o Materials –Methods of Issue – FIFO LIFO – Base Stock Method – Specifi Price Method – Simple and Weighte
IV	Operation Costing – Meaning – Preparation of Operating Cost Sheet – Transport Costing – Power Supply Costing–Hospital Costing–Simple Problems.	Time Keeping – Methods and Calculation of Wage Payments – Tim

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V	Definition – Objectives – Advantages – Standard Cost and Estimated Cost – Installation of Standard Costing – Variance Analysis – Material, Labour, Overhead, and Sales Variances – Calculation of Variances	Overheads – Definition – Classification – Allocation and Apportionment of Overheads – Basis of Apportionment – Primary and Secondary Distribution - Absorption of Overheads – Methods of absorption Preparation of Overheads Distribution Statement – Machine Hour Rate – Computation of Machine Hour Rate.
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#### PERCENTAGE OF SYLLAUS REVISED: 60

#### **COURSES FOCUSES ON:**

1	Skill development	✓ ,	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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Syllabus Revision

Board: Commerce

Semester : VI

Course Code/Name: MANAGEMENT ACCOUNTING

Unit	Existing	Changes
I	Definition of management accounting – Nature, scope, objectives, Functions of management accounting –Management Accounting and Financial Accounting Management Accounting and Cost Accounting – Advantages & Limitations of Management Accounting.	Management Accounting- Meaning - Scope - Importance- Limitations - Management Accounting Vs Cost Accounting - Management Accounting Vs Financial Accounting.
	Financial Statement Analysis – Comparative statement – Common size statement – Trend percentages – Ratio Analysis.	Analysis and Interpretation of Financial Statements – Nature and Significance – Types of Financial Analysis – Tools of Analysis – Comparative Statements – Common Size Statement – Trend Analysis. Ratio Analysis: Meaning – Advantages – Limitations – Types of Ratios – Liquidity Ratios – Profitability Ratios -Turnover Ratios – Capital Structure Ratios – Leverage Ratios - Preparation of Financial Statements from Ratios.
III	Fund Flow Analysis and Cash Flow Analysis.	Introduction, Meaning of Funds Flow Statement-Ascertainment of Flow of Funds -Technique of Preparing Funds Flow Statement- Schedule of Changes in Working Capital-Adjusted Profit and Loss Account - Preparation of Funds Flow Statement. <b>Cash Flow Statements:</b> Meaning – Advantages – Limitations – Preparation of Cash Flow Statement as per AS 3 – Types of Cash Flows - Operating, Financing and Investing Cash Flows

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IV	Marginal costing and Break – Even analysis – Budget and budgetary controls – Classification of budgets.	Budgetary Control: Meaning – Preparation of Various Budgets – Cash Budget - Flexible Budget– Production Budget – Sales Budget.
V	Standard costing and variance analysis, Capital budgeting – Importance – Techniques of Capital budgeting.	Marginal Costing: Meaning - Features - Fixed Cost, Variable Cost and Semi Variable Cost- Contribution- Marginal Cost Equation- P/V Ratio - Break Even Point - Margin of Safety - Cost- Volume Profits Analysis- Break Even Point - Decision Making: Selection of a Product Mix - Make or Buy Decision - Discontinuance of a product line - Change or Status quo - Limiting Factors - Exploring New Markets

## PERCENTAGE OF SYLLAUS REVISED:70

### **COURSES FOCUSES ON**

√	Skill development	$\checkmark$	Entrepreneurial development
1	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment	1	Environment and Sustainability
	Intellectual Property Rights		

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### **Syllabus Revision**

Board: Commerce

BOS

Semester : VI

# Course Code/Name: INCOMETAX LAW AND PRACTICE

Unit	Existing	Changes
I	Basic Concepts – Definitions – Assesses – Person, income, assessment year, previous year, basis of charge: Determination of Residential Status – Incomes exempt from tax under Sections 10,11,12,13 and 13A.	Capital Gains – Kinds of Capital Assets – Computation of Capital Gains – Exemption under Section 54, 54B, 54D, 54EC, 54F, 54GA.
II	Salary: Definition – Salary under section 17 – allowances, perquisites, profit in lieu of salary – deductions under section 16 - computation of salary income.	Income from Other Sources – Income Chargeable to Tax under the Head Income from Other Sources – Procedures for Computing Income from Other Sources – Deductions Allowed – Deduction not Allowed – Problems on Computation of Income from Other Sources
III	House property: Definition, exempted incomes from house property – Annual value – determination of annual value – Let out – Self occupied – Deductions – computation of property income.	Provisions for Set-off and Carry Forward of Losses (Simple Problems). Deductions U/S 80C, 80CC, 80CCB, 80CCC, 80CCD, 80 CCE, 80D, 80DD, 80DDB, 80E, 80EE, 80EEA, 80EEB, 80G, 80GG, 80GGA, 80TTA, 80TTB, and 80U only
IV	Profits and Gains of business or profession – definition – charging provisions – deductions – computation of business and professional income	Assessment: Meaning and Types, Computation of Total Income and Tax Liability of an Individuals (simple problems in case of Income from salaries, HP and Profits and Gains – computed income may be given).
V	Capital Gains: Basis of charge – Cost of acquisition, cost of improvement – exempted capital gain – computation of capital gain – Income from other sources – Chargeability – deductions – Computation of Income under other sources.	Administration of Income Tax Act – Income Tax Authorities – Powers of CBDT – Powers of Income – Tax Officers - Procedures for Assessment – Filing of Return – Due Dates of Filing – Voluntary Filling – Return of Loss – Related Return – Defective Return – Signing of Return – Permanent Account Number (PAN)

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#### PERCENTAGE OF SYLLAUS REVISED: 60

#### **COURSES FOCUS ON:**

~	Skill development	<ul> <li>.</li> </ul>	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization	$\checkmark$	Human Values
	Social Awareness/Environment		Environment and Sustainability
1	Intellectual Property Rights		

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### **Syllabus Revision**

Board: Commerce

Semester : VI

Course Code/Name: FINANCIAL MANAGEMENT

Unit	Existing	Changes
I	Introduction – Finance and related disciplines – Scope of financial management – Objectives of financial management – Financial Decisions – Organizations of finance function.	Meaning and Objectives of Financial Management – Functions of Financial Management. Finance - Sources of Financing-Role of Financial Manager in Financial Management- Financial Goals- Profit maximization Vs. Wealth Maximization – Components of Financial Management
Ш	Cost of capital – Cost of debt – Cost of Preference shares – cost of equity – Cost of retained earnings – Weighted average cost of capital.	Capital Structure – Definition - Meaning- Theories- Factors determining Capital Structure – Various approaches of Capital structure - Cost of Capital – Meaning - Methods - Cost of Equity Capital – Cost of Preference Capital – Cost of Debt – Cost of Retained Earnings – Weighted Average (or) Composite Cost of Capital (WACC) Leverage – Concept – Operating and Financial Leverage on EPS.
III	Introduction – Capital structure – Determinants – Theories net income approach – net operating income approach – M.M. Approach – Traditional approach.	Capital Budgeting - Meaning - Process - Cash Flow Estimation- Capital Budgeting Appraisal Methods Traditional Methods - Payback Period - Accounting Rate of Return (ARR). Discounted Cash-flow Methods: Net Present Value (NPV) – Net Terminal Value - Internal Rate of Return – Profitability Index -
IV	Leverages meaning and Types – Significance – Operating leverage – Financial and combined leverage.	Meaning – Dividend Policies – Factors Affecting Dividend Payment – Provisions on Dividend Payment in Company Law – Dividend Models - Walter's Model - Gordon's Model – M&M Model

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V	Dividend policy – factors influencing dividend policy – Theories – Relationship with value of firms – Stock dividend – Stock splits.	Working Capital - Meaning and Importance – Factors Influencing Working Capital – Determining - Working Capital Operating Cycle - Management of Current Assets: Inventories, Accounts Receivables and Cash	
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# PERCENTAGE OF SYLLAUS REVISED: 50

# COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization	1	Human Values
$\checkmark$	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

Board: COMMERCE

Semester: VI Course Code/Name: Logistics and Supply Chain Management

Unit	Content
I	Origin – Meaning –Importance - Types of Logistics – Principles of Logistics         Management– Warehouse Management – Meaning – Definition – Importance –         Types of WM - Automation and Outsourcing – Customer Service and Logistics         Management– Perspective– Concepts in Logistics and Physical Distribution–         Distribution and Inventory
Π	Types of Inventory Control– Demand Forecasting– Routing– Transportation Management– Some Commercial Aspects in Distribution Management– Codification– Distribution Channel Management – Distribution Resource Planning (DRP) – Logistics in 21 <sup>st</sup> Century.
Ш	Introduction and Development – Nature and Concept– Importance of Supply Chain – Value Chain – Components of Supply Chain – The Need for Supply Chain – Understanding the Supply Chain – Management – Participants in Supply Chain – Global Applications.
IV	Role of a Manager in Supply Chain - Supply Chain Performance Drivers – Key Enablers in Supply Chain Improvement – Inter Relation between Enablers and Levels of Supply Chain Improvement – Systems and Values of Supply Chain
V	SCOR Model – Outsourcing 3 PLs– Fourth Party Logistics – Bull Whip Effect and Supply Chain – Supply Chain Relationships – Conflict Resolution Strategies – Certifications

# PERCENTAGE OF SYLLAUS REVISED: 100

#### **COURSES FOCUSES ON:**

VURSES TO		$\checkmark$	Entrepreneurial
	Skill development		development
1	Employability	$\checkmark$	Professional Ethics
	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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## **Syllabus Revision**

#### Semester VI:

Board: COMMERCE

Course Code/Name: COMPUTER APPLICATION IN BUSINESS

Unit	Existing	Changes
Ι	Definition of 'account' — the nature, Objects and utility of accounting in Industrial and Businessenterprises — Books for accounts — Accounting concepts and postulates.	Word Processing Introduction to Word-Processing, Word- Processing Concepts, Use of Templates, and Working with Word Document: Editing Text, Find and Replace Text, Formatting, Spell Check, Autocorrect, Auto Text - Bullets and Numbering, Tabs, Paragraph Formatting, Indent, and Page Formatting, Header and Footer.
Π	Objectives of windows – introduction to logging of desktop and task bar – Creation of file andfolder –windows explorer – find option – shortcut – briefcase running applications – customization.	Mail Merge Tables - Inserting, Filling and Formatting a Table - Inserting Pictures and Video - Mail Merge Including Linking with Database - Printing Documents, Creating Business Documents.
III	Word – Objectives – introduction to word – creating word – document – creating businessletters – formatting documents –word count – thesaurus – Mail merge – Excel – Objectives – Introduction to Spreadsheet – creating worksheet – Editing work sheet – charts – applications of financial and statistical functions – Shorting data – filtering data.	Preparing Presentations         Basics of Presentations: Slides, Fonts,         Drawing, Editing, Inserting, Tables,         Images, texts, Symbols. Media – Design –         Transition – Animation         Slideshow. Creating         Presentations.
IV	Tally – introduction – objectives – fundamentals of computerized accounting – principal of accounting – Computerized accounting vs. Manual accounting – Tally advances – introduction to inventory.	SpreadsheetanditsBusinessApplicationsSpreadsheet:Concepts,ManagingWorksheets - Formatting, Entering DataEditing,andPrintinga WorksheetHandlingOperatorsInvolvingMultipleSpreadsheets

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		Organizing Charts and Graphs. Mathematical, Statistical, Financial, Logical, Date and Time, Lookup and Reference, Database, and Text Functions.
V	Introduction to E- Commerce – scope – issues and impact of E- Commerce classification of E- Commerce applications and benefit of E-Commerce – Advantages & Disadvantages of E-commerce – technology and framework of E-Commerce – E- Payment –EFT- Banking applications.	Creating Business Spreadsheet Creating Spreadsheet in the Area of: Loan and Lease Statement, Ratio Analysis, Payroll Statements, Capital Budgeting, Depreciation Accounting, Graphical Representation of Data, Frequency Distribution and its Statistical Parameters, Correlation and Regression.

# PERCENTAGE OF SYLLAUS REVISED:90

~	Skill development	1	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

## **COURSES FOCUSES ON:**

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# Syllabus Revision - New Course

Unit	Code/Name: BASIC OF MS EXCEL Content
I	Introduction Spreadsheets - Workbook - Cell Referencing, Cell Addressing, File Menu; Home Menu, Conditional Formatting, Formatting as a Table, Cell Styles, AutoSum, Sort and Filter; Insert Menu, Inserting Tables and Pivot Tables, Smart Arts, Charts; Page Layout, Review and View Menus; Converting Text to Columns, Removing Duplicates, Data Validation, Grouping and Ungrouping.
II	<b>Financial, Logical and Text Functions Financial Functions</b> Depreciation (DB, DDB, VDB), Simple Interest (PMT, NPER, INTRATE) - Present Value, Net Present Value, Future Value (PV, NPV, FV) - Internal Rate of Return (IRR, MIRR); Logical Functions: AND, OR, NOT, IF, TRUE; Text Functions: UPPER, LOWER, LEFT, RIGHT, TRIM, T, TEXT, LEN, DOLLAR, EXACT; Practical Exercises Based on Financial, Logical and Text Functions.
III	Statistical Analysis Functions Statistical Functions: Mean, Median, Mode, Standard Deviation, Correlation, Skewness, F Test, Z Test, and Chi-Square Analysis.
IV	<b>Reference</b> Date & Time Functions: Date, Date Value, Day, Days 360, Now, Time, Time Value, Workday, Weekday, Year. Lookup and Reference Functions: Hlookup Vlookup, Transpose, Getpivot Data, Hyperlink - Practical Exercises Based or Statistical, Date & Time, Lookup and Reference Functions.
V	Projects and Applications

**Projects and Applications** Ratio Analysis, Cash Flow Statement, Payroll Processing, Marketing, Sales and Advertising Data Analytics, Social Media Marketing Analysis, Basic Applications with Macros and VBAs; Trending Business Applications Using MS Excel.

# PERCENTAGE OF SYLLAUS REVISED :100

# COURSES FOCUSES ON:

1	Skill development	/ Entrepreneurial development
1	Employability	Professional Ethics
	Gender Sensitization	Human Values
	Social Awareness/Environment	Environment and Sustainability
	Intellectual Property Rights	

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# B.COM CA 2023 REGULATION

### **Syllabus Revision**

Board: Commerce

SEMESTER: I

Course Code/Name: FINANCIAL ACCOUNTING - I

Unit	Existing	Changes
	Definition of 'account' — the nature, Objects and utility of accounting in Industrial and Businessenterprises — Books for accounts — Accounting concepts and postulates.	Fundamentals of Financial Accounting Financial Accounting – Meaning, Definition, Objectives, Basic Accounting Concepts and Conventions - Journal, Ledger Accounts– Subsidiary Books — Trial Balance - Classification of Errors – Rectification of Errors – Preparation of Suspense Account – Bank Reconciliation Statement - Need and Preparation
II	The theory of double entry — book keeping — Journal — Subsidiary books — Ledger Trail Balance.	<b>Final Accounts</b> Final Accounts of Sole Trading Concern- Capital and Revenue Expenditure and Receipts – Preparation of Trading, Profit and Loss Account and Balance Sheet with Adjustments.
III	Statement of accounts — Manufacturing account — Trading account — Profit and Loss account.	Depreciation and Bills of Exchange Depreciation - Meaning – Objectives – Accounting Treatments - Types - Straight Line Method – Diminishing Balance method – Conversion method
IV	The Balance sheet and various forms it may take. Capital and revenue — income and expenditureaccount — Receipts and payments. Depreciation, reasons and provisions.	Accounting from Incomplete Records – Single Entry System Incomplete Records -Meaning and Features - Limitations - Difference between Incomplete Records and Double Entry System - Methods of Calculation of Profit - Statement of Affairs Method – Preparation of final statements by Conversion method. Average Due Date and Account Current.

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V	Consignment- meaning, features of consignment transaction, distinction between consignment andsale, joint venture, meaning, features, difference 'between joint venture and partnership, joint venture and consignment.	Royalty and Insurance of ClaimsMeaning – Minimum Rent – ShortWorking – Recoupment of ShortWorking – Lessor and Lessee –Sublease – Accounting Treatment.Insurance Claims –Calculation ofClaim Amount-Average clause (Lossof Stock only)
	THEORY 20% & PROBLEM 80%	

# PERCENTAGE OF SYLLAUS REVISED: 80

#### COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
<b>√</b>	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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### Syllabus Revision

#### SEMESTER:I

#### **BOARD: COMMERCE**

BOS

# Course Code/Name: PRICIPLES OF MANAGEMENT

Unit	Existing	Changes
I	Business Management — Nature — Functions — Management Vs Administration — Science or Art — Contribution by Taylor and Henry Fayol & PeterDrucker	Introduction to Management Meaning- Definitions – Nature and Scope - Levels of Management – Importance - Management Vs. Administration – Management: Science or Art –Evolution of Management Thoughts – F. W. Taylor, Henry Fayol, Peter F. Drucker, Elton Mayo - Functions of Management - Trends and Challenges of Management. Managers – Qualification – Duties & Responsibilities
11	Planning — Process — Kinds of Planning — Objectives — Strategies, Policies, Procedure, Methodsand rule — Forecasting and Planning — Advantages & Limitations - Management by Objectives.	PlanningPlanning – Meaning – Definitions – Nature– Scope and Functions – Importance andElements of Planning – Types – PlanningProcess - Tools and Techniques of Planning– Management by Objective (MBO).Decision Making: Meaning –Characteristics – Types - Steps in DecisionMaking – Forecasting.
III	Organizing — Process — Features — Elements — Structure Different Forms — Principles of Organization — Departmentation, Delegation and Decentralization	Organizing Meaning - Definitions - Nature and Scope – Characteristics – Importance – Types - Formal and Informal Organization – Organization Chart – Organization Structure: Meaning and Types - Departmentalization– Authority and Responsibility – Centralization and Decentralization – Span of Management
IV	Staffing — Process - Manpower planning — Recruitment — Selection — Training and development	Staffing Introduction - Concept of Staffing- Staffing Process – Recruitment – Sources of Recruitment – Modern Recruitment Methods - Selection Procedure – Test-

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		Interview– Training: Need - Types– Promotion –Management Games – Performance Appraisal - Meaning and Methods – 360 degree Performance Appraisal – Work from Home - Managing Work from Home [WFH].
V	Directing and Co-ordination: Principles — Elements — Controlling — Steps.	<b>Directing</b> Motivation -Meaning - Theories – Communication – Types - Barriers to Communications – Measures to Overcome the Barriers. Leadership – Nature - Types and Theories of Leadership – Styles of Leadership - Qualities of a Good Leader – Successful Women Leaders. Supervision. <b>Co-ordination and Control</b> Co-ordination – Meaning - Techniques of Co-ordination. Control - Characteristics - Importance – Stages in the Control Process - Requisites of Effective Control and Controlling Techniques – Management by Exception [MBE].

### PERCENTAGE OF SYLLAUS REVISED: 40

#### **COURSES FOCUSES ON:**

~	Skill development	1	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
	Gender Sensitization	~	Human Values
-25	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision

#### SEMESTER: I

#### **BOARD: COMMERCE**

### Course Code/Name: FINANCIAL ACCOUNTING-II

Unit	Existing	Changes
I	Self Study Unit: Branch accounts (excluding foreign branches) - Departmental accounts.	Hire Purchase and Instalment System Hire Purchase System – Accounting Treatment – Calculation of Interest - Default and Repossession - Hire Purchase Trading Account - Instalment System - Calculation of Profit
II	Hire purchase accounts-Installment purchase system	Branch and Departmental AccountsBranch – Dependent Branches:Accounting Aspects - Debtors system -Stock and Debtors system – Distinctionbetween Wholesale Profit and RetailProfit – Independent Branches (ForeignBranches excluded) - DepartmentalAccounts: Basis of Allocation ofExpenses – Inter- Departmental Transferat Cost or Selling Price.
III	Average due date-Royalty	Partnership Accounts - I Partnership Accounts: –Admission of a Partner – Treatment of Goodwill - Calculation of Hidden Goodwill – Retirement of a Partner – Death of a Partner.
IV	Consignment-Joint venture	Partnership Accounts - IIDissolution of Partnership - Methods –Settlement of Accounts Regarding Lossesand Assets – Realization account –Treatment of Goodwill – Preparation ofBalance Sheet - One or more Partnersinsolvent – All Partners insolvent –Application of Garner Vs Murray Theory– Accounting Treatment - PiecemealDistribution – Surplus Capital Method –Maximum Loss Method.

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V	Insurance claims for loss of profits-Insolvency accounts- statement of affairs-Insolvency ofindividual only	Accounting Standards for financial reporting (Theory only) Objectives and Uses of Financial Statements for Users-Role of Accounting Standards - Development of Accounting Standards in India Role of IFRS- IFRS Adoption vs Convergence Implementation Plan in India- Ind AS- An Introduction - Difference between Ind AS and IFRS.
	THEORY 20% & PROBLEMS 80%	

# PERCENTAGE OF SYLLAUS REVISED: 80

#### COURSES FOCUSES ON:

1	Skill development	1	Entrepreneurial development
1	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights	1	

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# **Syllabus Revision**

# BOARD:COMMERCE

# SEMESTER:II

# Course Code/Name: BUSINESS LAW

Jnit	Existing	Changes Elements of Contract
	Nature and Sources of law — Law of contracts — Essentials of valid contract — Classification of contracts	Indian Contract Act 1872: Definition of Contract, Essentials of Valid Contract, Classification of Contract, Offer and Acceptance – Consideration – Capacity to Contract – Free Consent - Legality of Object – Contingent Contracts – Void Contract
II	Offer and acceptance — consideration capacity to contract — Free consent Legality of object	Performance of ContractMeaning of Performance, Offer to Perform, Devolution of Joint liabilities & Rights, Time and Place of Performance, Reciprocal Promises, Assignment of Contracts - Remedies for Breach of contract - Termination and Discharge of Contract - Quasi Contract
III	Performance of contracts — Discharge of contract — Remedies for breach of contract —Quasi contracts	Contract of Indemnity and Guarantee Contract of Indemnity and Contract of Guarantee - Extent of Surety's Liability, Kinds of Guarantee, Rights of Surety, Discharge of Surety
IV	Contracts of agency — Different classes 'of agents — creation of agency — Rights and dutiesof an agent scope of agents authority — Liability of principles to third parties — Personal liability of agent — Bailment and pledge.	

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V	Contract of Indemnity and guarantee — Rights of Indemnity holder — Rights of surety —Nature and extent of surety's liabilities	Sale of Goods Act 1930: Definition of Contract of Sale – Formation - Essentials of Contract of Sale - Conditions and Warranties - Transfer of Property – Contracts involving Sea Routes - Sale by Non- owners - Rights and duties of buyer - Rights of an Unpaid Seller
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# PERCENTAGE OF SYLLAUS REVISED: 80

#### **COURSES FOCUSES ON:**

~	Skill development	× ·	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
	Gender Sensitization	~	Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision**

# Semester III: BCOM CA

Course Code/Name: CORPORATE ACCOUNTING-I

Unit	Existing	Changes
I	Issue and forfeiture of shares – Redemption of Preference shares.	Issue of Shares Issue of Shares – Premium - Discount - Forfeiture - Reissue – Pro-rata Allotment Issue of Rights and Bonus Shares - Underwriting of Shares and Debentures – Underwriting Commission - Types of Underwriting.
II	Issue of Debentures – Redemption of debentures – Profits prior to Incorporation.	Issue & Redemption of Preference Shares & Debentures Redemption of Preference Shares– Provisions of Companies Act– Capital Redemption Reserve – Minimum Fresh Issue – Redemption at Par, Premium and Discount. Debentures: Issue and Redemption – Meaning – Methods – In-One lot–in Instalment – Purchase in the Open Market includes Ex Interest and Cum Interest – Sinking Fund Investment Method.
III	Final accounts of corporate businesses – Divisible profit and dividends – bones shares.	<b>Final Accounts</b> Introduction – Final Accounts – Form and Contents of Financial Statements as Per Schedule III of Companies Act 2013 – Part I Form of Balance Sheet – Part II Form of Statement of Profit and Loss – Ascertaining Profit for Managerial Remuneration.
IV	Valuation of goodwill and shares – Holding Company	Valuation of Goodwill & SharesValuation of Goodwill – Meaning – Needfor Valuation of Goodwill – Methods ofValuing Goodwill – Average Profit –Super Profit – Annuity and CapitalisationMethod.Valuation of Shares – Need for Valuationof Shares – Methods of Valuation ofShares – Net Assets Method – Yield andFair Value Methods.

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V	Alteration of share capital and internal Reconstruction - Amalgamation and ExternalReconstruction.	Indian Accounting Standards International Financial Reporting Standard (IFRS)–Meaning and its Applicability in India - Indian Accounting Standards – Meaning – Objectives – Significance – Procedures for Formulation of Standards – Ind AS – 1 Presentation of Financial Statement, Ind AS – 2 Valuation of Inventories, Ind AS – 7 Cash Flow Statement, Ind AS – 8 Accounting Policies, Changes in Accounting Estimate and Errors, Ind AS – 16 – Property, Plant & Equipment, Ind AS 38 – Intangible
	*	and Errors, Ind AS – 16 – Property, Plant
	THEORY 20% & PROBLEMS 80%	

#### PERCENTAGE OF SYLLAUS REVISED: 60 COURSES FOCUSES ON:

~	Skill development		Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment	a (*	Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

Semester: III

**Board: COMMERCE** 

Course Code/Name: BUSINESS MATHEMATICS & STATISTICS

Unit	Content
I	Ratio
	Ratio, Proportion and Variations, Indices and Logarithms.
II	Interest and Annuity
	Banker's Discount - Simple and Compound Interest - Arithmetic, Geometric
	and Harmonic Progressions.
	Annuity - Meaning - Types of Annuity Applications.
III	Business Statistics Measures of Central Tendency
	Arithmetic Mean, Geometric Mean - Harmonic Mean - Mode and Median -
	Quartiles - Deciles - Percentiles. Measures of Variation - Range - Quartile
	Deviation and Mean Deviation - Variance and Standard Deviation & Co-efficient.
IV	Correlation and Regression
	Correlation - Karl Pearson's Coefficient of Correlation - Spearman's Rank
	Correlation – Regression Lines and Coefficients.
V	Time Series Analysis and Index Numbers
	Time Series Analysis : Secular Trend – Seasonal Variation – Cyclical variations -
	Index Numbers - Aggregative and Relative Index - Chain and Fixed Index -
	Wholesale Index – Cost of Living Index.

#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

	Professional Ethics
	r totessional Eulies
4	Human Values
2	Environment and Sustainability
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#### **Syllabus Revision**

## SEMESTER-IV – B.COM CA

Course Code/Name: CORPARATE ACCOUNTING -II

Unit	Existing	Changes
I	Issue and forfeiture of shares – Redemption of Preference shares	Amalgamation, Internal & External ReconstructionAmalgamation – Meaning - Purchase Consideration - Lump sum Method, Net Assets Method, Net Payment Method, Intrinsic Value Method - Types of Methods of Accounting forAmalgamation -The Pooling of 
II	Issue of Debentures – Redemption of debentures – Profits prior to Incorporation.	Accounting of Banking CompaniesFinal Statements of Banking Companies(As Per New Provisions) - Non-Performing Assets - Rebate on BillsDiscounted- Profit and Loss a/c - BalanceSheet as Per Banking Regulation Act1949.
III	Final accounts of corporate businesses – Divisible profit and dividends – bones shares.	Insurance Company Accounts: Meaning of Insurance – Principles – Types – Preparation of Final Accounts of Insurance Companies – Accounts of Life Insurance Business – Accounts of General Insurance Companies -New Format.
IV	Valuation of goodwill and shares – Holding Company.	Consolidated Financial Statements Introduction-Holding & Subsidiary Company-Legal Requirements Relating to Preparation of Accounts -Preparation of Consolidated Balance Sheet (Excluding Inter-Company Holdings).

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V	Alteration of share capital and internal Reconstruction - Amalgamation and ExternalReconstruction.	Liquidation of Companies Meaning-Modes of Winding Up – Preparation of Statement of Affairs and Statement of Deficiency or Surplus (List H) Order of Payment – Liquidators Remuneration- Liquidator's Final Statement of Accounts.
	THEORY 20% & PROBLEMS 80%	

#### PERCENTAGE OF SYLLAUS REVISED: 60 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment	, ,,	Environment and Sustainability
	Intellectual Property Rights		

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### **Syllabus Revision**

# SEMESTER-IV – B.COM CA

Course Code/Name: COMPANY LAW

Unit	Existing	Changes
I	Companies Act – Definition of company – formation – kinds – incorporation – characteristics of company – memorandum of association – alteration – duties of secretary regarding the above.	Introduction to Company law Companies Act 2013 – Definition of a Company, Characteristics of Company – Lifting or Piercing the Corporate Veil – Company Distinguished from Partnership and Limited Liabilities Partnerships – Classification of Companies – Based on Incorporation, Liability, Number of Members, Control.
II	Articles of association – contents – alteration – Prospectus – Statement in lieu of prospectus –Shares – Kinds – allotment – minimum subscription – transfer and transmission of shares – Share warrant – Share certificate – Secretarial duties regarding the above.	Formation of Company Formation of a Company – Promoter – Incorporation Documents e-filing – Memorandum of Association – Contents – Alteration – Legal Effects – Articles of Association - Certificate of Incorporation – Prospectus – Contents - Kinds – Liabilities – Share Capital – Kinds – Issue – Alteration – Dividend – Debentures.
III	Types of secretary – Qualification – appointment - functions – Legal position – Rights – Duties – Liabilities	Meeting Meeting and Resolution – Types – Requisites – Voting & Poll – Quorum – Proxy - Resolution – Ordinary & Special - Audit & Auditors – Qualification, Disqualification, Appointment and Removal of an Auditor -
IV	Directors – Rights – Duties – Powers – Shares qualification – Liabilities.	Management & AdministrationManagement & Administration – Directors– Legal Position – Board of Directors –Appointment/ Removal – Disqualification– Director Identification Number –Directorships – Powers – Duties – BoardCommittees – Related Party Transactions –

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		Contract by One Person Company – Insider Trading- Managing Director – Manager – Secretarial Audit – Administrative Aspects and Winding Up – National Company Law Tribunal (NCLT) – National Company Law Appellate Tribunal (NCLAT) – Special Courts.
V	Communication pertaining to meetings – Preparation of notices – Agenda – Proxies – Motions Resolutions – Minutes – Duties of the chairman of the meeting.	Winding up Meaning – Modes – Compulsory Winding Up – Voluntary Winding Up – Consequences of Winding Up Order – Powers of Tribunal – Petition for Winding Up – Company Liquidator.

#### PERCENTAGE OF SYLLAUS REVISED: 60 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
~	Gender Sensitization	✓ .	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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### **Syllabus Revision**

Board: Commerce

Course Code/Name: Cost Accounting I

SEMESTER:V

Unit	Existing	Changes
I	Cost accounting definitions – Functions, Importance, Advantages and Limitations – Relationship between cost and Financial Accounting – Installation of costing system – Cost Unit and Cost Centre – Elements of Cost – Cost sheet – Tender and quotation	Introduction of Cost Accounting Definition-Nature and Scope – Principles of Cost Accounting – Cost Accounting and Financial Accounting - Cost Accounting Vs Management Accounting –Installation of Costing System – Classification of Costs– Cost Centre– Profit Centre
Π	Materials cost control – Material Purchases – Storage of Material – Various levels of Stock – Pricing of Materials Issues	Cost Sheet and Methods of Costing Preparation of Cost Sheet - Tenders & Quotations - Reconciliation of Cost and Financial Accounts –Unit Costing-Job Costing.
III	Labour Cost Control – Piece and Time Rates – Incentive Plans – Labour turnover – Idle time – Overheads – Allocation – Apportionment – Re Apportionmentand Absorption	Material Costing Material Control – Meaning and Objectives – Purchase of Materials – EOQ –Stores Records – Reorder Levels – ABC Analysis - Issue of Materials –Methods of Issue – FIFO – LIFO – Base Stock Method – Specific Price Method – Simple and Weighted Average Method
IV	Process Costing (Excluding Inter Process, Equivalent Production – By product– Joint product) and – Operating Costing	Labour Costing Direct Labour and Indirect Labour – Time Keeping – Methods and Calculation of Wage Payments – Time Wages – Piece Wages – Incentives – Different Methods of Incentive Payments - Idle time–Overtime – Labour Turnover - Meaning, Causes and Measurement.
V	Contract Costing – Reconciliation of Cost and Financial Accounting	Overheads Costing Overheads – Definition – Classification – Allocation and Apportionment of Overheads – Basis of Apportionment – Primary and Secondary Distribution - Absorption of Overheads – Methods of absorption Preparation of Overheads

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Distribution Statement – Machine Hour Rate – Computation of Machine Hour Rate

# PERCENTAGE OF SYLLAUS REVISED: 70 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization	~	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision**

Board: Commerce

Semester V: B.Com CA

Course Code/Name: Banking Law & Practice

Unit	Existing	Changes
I	Bank and Banking – Role and importance of Banking – Classification of Commercial Banks –Functions of commercial Banks – Investment Policy of a Commercial Bank – Functions of RBI.	Introduction to Banking History of Banking- Provisions of Banking Regulations Act 1949 - Components of Indian Banking - Indian Banking System-Phases of Development - Banking Structure in India - Payment Banks and Small Banks - Commercial Banking: Definition - Classification of Banks. Banking System - Universal Banking - Commercial Banking functions - Role of Banks in Economic Development. Central Banking: Definition –Need - Principles- Central Banking Vs Commercial Banking - Functions of Central Bank.
II	E – Banking – Forms of E- Banking Automatic Teller Machine (ATMS) – Credit Cards, DebitCards – Types of Credit Cards – Types of Bank Accounts – Types of Deposits – Electronic Funds Transfer.	RBI Establishment – objective - Legal framework – Functions – SBI - Origin and History – Establishment Indian subsidiaries - Foreign subsidiaries -Non- Banking-Subsidiaries-Personal banking International banking-Trade Financing-Correspondent banking - Co-operative banks-Meaning and definition-Features- Co-operative banks vs Commercial banks-Structure NBFC-Role of NBFCRBI Regulations-Financial sector reforms-Sukhmoy committee 1985- Narasimham committee I and II-Prudential norms: capital adequacy norms-classification of assets and provisioning – Meaning, Structure of Interest Rates - Short term and Long Term – Impacts of Savings and Borrowings.
III	Special Types of Bank customers – The Paying Banker – The Collecting Banker.	Bank AccountOpening – Types of Accounts-FDR-Steps inopening Account-Saving vs Current Account-'DonatioMortis Causa'-Passbook-Bank CustomerRelationship-Special Types of currents –KYC norms.Bank Lending –Lending Sources-Bank Lending

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Principles-Forms of lending-Loan evaluation process-securities of lending-Factors influencing bank lending - Negotiable Instruments - Meaning -Characteristics-Types. Crossing -Definition -Objectives-Crossing and negotiability-Consequences of Crossing. Endorsement IV Negotiable Instruments -Meaning-Components-Kinds of Characteristics - Parties to Endorsements-Cheques payable to fictitious Negotiable Instruments person Endorsement by legal representative Endorsement – Types of -Negotiation bank-effect of endorsement-Endorsement. Rules regarding Endorsement - Paying banker-Banker's duty-Dishonouring of Cheques-Discharge of paying banks Payments of a crossed cheque payment. Collecting bankers-Statutory protection under section85 - Refusal of cheques Payment. Collecting Banker-Statutory protection under section 131-Collecting bankers' duty -RBI instruction -Paying Banker Vs Collecting Banker- Customer Grievances-Grievance Redressal -Banking Ombudsman. Bills of exchange and Promissory notes V E-Banking Meaning-Services-e-banking and financial services- Initiatives-Opportunities-Internet banking - Cheques and Bank Drafts Crossing of Meaning-Internet banking Vs Traditional Banking-Cheques. Services-Drawbacks-Frauds in Internet banking. Mobile banking-Anywhere Banking-Any Time Banking-Electronic Mobile Wallets. ATM Evolution -Concept-Features - Types-. Electronic money-Meaning-Categories-Merits of e-money - National Electronic Funds Transfer (NEFT) Real Time Gross Settlement (RTGS) Difference between NEFT & RTGS- Meaning- Steps-Benefits-Monetary policies- final sector reforms- Chakravarthy committee 1985- Narasimham Committee I &II Prudential norms capital adequacy norms- classification of assets & provisions.

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# PERCENTAGE OF SYLLAUS REVISED: 70 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
1	Gender Sensitization	1	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision

Board: Commerce

# Semester V: B.Com CA

Course Code/Name: Income Tax Law &Practice I

Jnit	Existing	Changes
	Basic Concepts – Definitions – Assesses – Person, income, assessment year, previous year, basis ofcharge: Determination of Residential Status – Incomes exempt from tax under Sections 10,11,12,13and 13A.	Introduction to Income Tax Introduction to Income Tax – History – Objectives of Taxation - Features of Income Tax – Meaning of Income – Types – Important Definitions Under the Income Tax Act – Assessee – Types– Incomes Exempted under Section 10.
Π	Salary: Definition – Salary under section 17 – allowances, perquisites, profit in lieu of salary –deductions under section 16 - computation of salary income.	Residential Status Residential Status – Residential Status of an Individual – Company – HUF – Basic Conditions – Additional Conditions – Incidence of Tax and Residential Status – Problems on Residential Status and Incidence of Tax.
III	House property: Definition, exempted incomes from house property – Annual value – determination of annual value – Let out – Self occupied – Deductions – computation of property income.	Income from Salary Computation of Salary Income – Features of Salary – Allowances – Types of Allowances - Perquisites – Kinds of Perquisites –Types of Provident Fund - Gratuity – Pension – Commutation of Pension – Deduction of Salary - Profits in Lieu of Salary
IV	Profit and Gains of business or profession – definition – charging provisions – deductions –computation of business and professional income	Income from House Property Income from House Property –Basis of Charge – Annual Value –Gross Annual Value, Net Annual Value of Let-out Property, Self– Occupied Property–Amenities–Deductions
V	Capital Gains: Basis of charge – Cost of acquisition, cost of improvement –	<b>Profits and Gains from Business or Profession</b> Income from Business or Profession – Allowable



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# Syllabus Revision- New Course

**Board: Commerce** 

Semester: V-B.Com CA Course Code/Name: Auditing & Corporate Governance

Unit	Content
Ι	<b>Introduction to Auditing</b> Meaning and Definition of Auditing –Distinction between Auditing and Accounting – Objectives – Advantages and Limitations of Audit – Scope of Audit – Classifications of Audits – Audit of Banking, Insurance, Non-Profit Organizations and Charitable Societies, Trusts, Organizations
II	Audit Procedures and Documentation         Audit Planning – Audit Programme – Procedures - Internal Audit - Internal         Control – Internal Check – Vouching – Cash and Trade Transactions -         Verification and Valuations of Assets and Liabilities
III	Company Auditor         Appointment and Removal of Auditors – Rights, Duties and Liabilities of Auditor –         Professional Conduct and Ethics in Auditing - Audit Report - Recent Trends in         Auditing - Information Systems Audit (ISA) – Impact of Computerization on Audit         Approach – Online Computer System Audit – Types of Online Computer Systems –         Procedure of Audit under ISA System.
IV	Introduction to Corporate Governance         Conceptual Framework of Corporate Governance: Theories & Models, Broad         Committees - Corporate Governance Reforms. Major Corporate Scandals in India and         Abroad: Common Governance Problems Noticed in various Corporate Failures. Codes         & Standards on Corporate Governance
V	Corporate Social Responsibility Concept of CSR, Corporate Philanthropy, Strategic Relationship of CSR with Corporate Sustainability - CSR and Business Ethics, CSR and Corporate Governance - CSR Provisions under the Companies Act, 2013

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#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

✓	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
<ul> <li>✓</li> </ul>	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# **Syllabus Revision**

Board: Commerce

# Semester: V-B.Com CA Course Code/Name: Financial Management

Unit	E/AISUM2	Changes
[	Introduction Finance	Introduction Meaning and Objectives of Financial Management – Functions of Financial Management. Finance - Sources of Financing-Role of Financial Manager in Financial Management- Financial Goals- Profit maximization Vs. Wealth Maximization – Components of Financial Management
II	Cost of capital – Cost of debt – Cost of Preference shares – cost of equity – Cost of retainedearnings – Weighted average cost of capital.	Financial Decision Capital Structure – Definition - Meaning- Theories- Factors determining Capital Structure – Various approaches of Capital structure - Cost of Capital – Meaning - Methods - Cost of Equity Capital – Cost of Preference Capital – Cost of Debt – Cost of Retained Earnings – Weighted Average (or) Composite Cost of Capital (WACC) Leverage – Concept – Operating and Financial Leverage on EPS
III	Introduction – Capital structure – Determinants – Theories net income approach – netoperating income approach – M.M. Approach – Traditional approach	Investment Decision Capital Budgeting - Meaning - Process – Cash Flow Estimation- Capital Budgeting Appraisal Methods: Traditional Methods - Payback Period – Accounting Rate of Return (ARR). Discounted Cash-flow Methods: Net Present Value (NPV) – Net Terminal Value - Internal Rat of Return – Profitability Index -
IV	Leverages meaning and Types – Significance – Operating leverage – Financial and combinedleverage	<b>Dividend Decision</b> Meaning – Dividend Policies – Factors Affecting Dividend Payment – Provisions on Dividend Payment in Company Law – Dividend Models - Walter's Model - Gordon's Model – M&M Mode
V	Dividend policy – factors influencing dividend	Working Capital Decision Working Capital - Meaning and Importance –

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	policy – Theories –	Factors Influencing Working Capital –
	Relationship with value offirms	Determining - Working Capital Operating Cycle -
	- Stock dividend - Stock splits.	Management of Current Assets: Inventories,
-	1	Accounts Receivables and Cash

#### PERCENTAGE OF SYLLAUS REVISED: 50 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization	1	Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

**Board: Commerce** 

Semester: V-B.Com CA Course Code/Name: Indirect Taxation

Unit	Content
I	Introduction to Indirect Tax Concept and Features of Indirect Taxes - Difference between Direct and Indirect Taxes –Special Feature of Indirect Tax Levies – Contribution to Government Revenues – Role of Indirect Taxation – Merits and Demerits of Indirect Taxation – Reforms in Indirect Taxation
II	An Overview of Goods & Service Tax (GST) Introduction of Goods and Service Tax in India–History of GST in India– Constitutional Amendment under Pre–Goods and Service Tax Regime and Transitional Provisions - Goods and Service Tax: Concepts, Meaning, Significance, Dual GST, Features and Benefits. GST Common Portal – Taxes and Duties not Subsumed in GST – Rates of GST in India
III	CGST ACT 2017 & IGST Act         Supply – Meaning – Classification – Time of Supply – Valuation – Registration –         Voluntary – Compulsory – Input Tax Credit – Eligibility – Reversal – Reverse charge         Mechanism – E–Way Bill Returns – IGST Act - Export and Import of Goods and         Services– Inter State Vs Intra State Supply – Place of Supply. Role of GSTN in         Implementation of GST– Anti Profiteering Rules – Doctrine of Unjust Enrichment–         Challenges in Implementation of GST.
IV	Procedures under GST Registration under GST Law, Tax Invoice Credit and Debit Notes, Different GST Returns, Electronic Liability Ledger, Electronic Credit Ledger, Electronic Cash Ledger, Different Assessment under GST, Interest Applicable under GST (Period), Penalty under GST, Various Provisions Regarding E-way Bill in GST, Mechanism of Tax Deducted at Source (TDS) and Tax Collected at Source (TCS), Audit under GST
V	Customs Duty 1962 Custom Duty: Concepts; Territorial Waters - High Seas - Levy of Customs Duty, Types of Custom Duties – Valuation - Baggage Rules &Exemptions

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#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

✓ · ·	Skill development	✓ Entrepreneurial development
	Employability	Professional Ethics
~	Gender Sensitization	Human Values
~	Social Awareness/Environment	Environment and Sustainability
	Intellectual Property Rights	

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#### Syllabus Revision

Board: Commerce

Semester: VI -B.Com CA Course Code/Name: Cost Accounting II

Unit	Existing	Changes
I	Cost accounting definitions – Functions, Importance, Advantages and Limitations – Relationship between cost and Financial Accounting – Installation of costing system – Cost Unit and Cost Centre – Elements of Cost – Cost sheet – Tender and quotation	Cost Accounting Standards An Introduction to CAS – Purpose of CAS – Advantages of CAS – Difference between CAS and FAR Regulations – Different Degrees of CAS Coverage – Cost Accounting Standards - Responsibility Accounting and Divisional Performance Measurement.
II	Materials cost control – Material Purchases – Storage of Material – Various levels of Stock – Pricing of Materials Issues	<b>Contract Costing</b> Definition - Features of Contract Costing - Calculation of Profit on Contracts – Cost Plus Contract- Contract Costing and Job Costing - A Comparison -Preparation of Contract A/c.
III	Labour Cost Control – Piece and Time Rates – Incentive Plans – Labour turnover – Idle time –Overheads – Allocation – Apportionment – Re Apportionmentand Absorption.	Process Costing Process Costing – Meaning – Features of Process Costing – Application of Process Costing – Fundamental Principles of Process Costing – Treatment of Loss and Gain : Normal and Abnormal Loss - Abnormal Gain - Joint Products, By Products – Concept of Equivalent Production – Process Accounts - Process Losses and Gains
IV	Process Costing (Excluding Inter Process, Equivalent Production – By product– Joint product) and – Operating Costing.	<b>Operation Costing</b> Operation Costing – Meaning – Preparation of Operating Cost Sheet – Transport Costing – Power Supply Costing–Hospital Costing– Simple Problems.

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V	Contract Costing – Reconciliation of Cost and Financial Accounting	Standard Costing Definition – Objectives – Advantages – Standard Cost and Estimated Cost – Installation of Standard Costing – Variance Analysis – Material, Labour, Overhead, and Sales Variances – Calculation of Variances

# PERCENTAGE OF SYLLAUS REVISED: 60 COURSES FOCUSES ON:

1	Skill development	× .	Entrepreneurial development
~	Employability	53	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision**

Board: Commerce

BOS

Semester: VI -B.Com CA Course Code/Name: Management Accounting

Unit	Existing	Changes
I	Definition of management accounting – Nature, scope, objectives, Functions of management accounting –Management Accounting and Financial Accounting Management Accounting and Cost Accounting – Advantages & Limitations of Management Accounting	Introduction to Management Accounting Management Accounting – Meaning – Scope – Importance- Limitations - Management Accounting Vs Cost Accounting – Management Accounting Vs Financia Accounting
II	Financial Statement Analysis – Comparative statement – Common size statement – Trendpercentages – Ratio Analysis	Financial Statement Analysis Analysis and Interpretation of Financial Statements – Nature and Significance – Types of Financial Analysis – Tools of Analysis – Comparative Statements – Common Size Statement – Trend Analysis. Ratio Analysis: Meaning – Advantages – Limitations – Types of Ratios – Liquidity Ratios – Profitability Ratios - Turnover Ratios – Capital Structure Ratios – Leverage Ratios - Preparation of Financial Statements from Ratios.
III	Fund Flow Analysis and Cash Flow Analysis	Fund Flow Analysis & Cash Flow Analysis Introduction, Meaning of Funds Flow Statement- Ascertainment of Flow of Funds -Technique of Preparing Funds Flow Statement- Schedule of Changes in Working Capital-Adjusted Profit and Loss Account - Preparation of Funds Flow Statement Cash Flow Statements: Meaning – Advantages – Limitations – Preparation of Cash Flow Statement as per AS 3 – Types of Cash Flows - Operating, Financing and Investing Cash Flows
IV	Marginal costing and Break – Even analysis – Budget and budgetary controls – Classificationof budgets	Budgetary Control Budgetary Control: Meaning – Preparation of Various Budgets – Cash Budget - Flexible Budget– Production Budget – Sales Budget

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V	Standard costing and variance analysis, Capital budgeting – Importance – Techniques of Capitalbudgeting.	Marginal Costing: Meaning - Features – Fixed Cost, Variable Cost and Semi Variable Cost- Contribution- Marginal Cost Equation- P/V Ratio - Break Even Point - Margin of Safety – Cost- Volume Profits Analysis- Break Even Point – Decision Making: Selection of a Product Mix – Make or Buy Decision – Discontinuance of a product line – Change or Status quo – Limiting Factors – Exploring New Markets
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### PERCENTAGE OF SYLLAUS REVISED: 70 COURSES FOCUSES ON:

✓ Skill development	1	Entrepreneurial development
✓ Employability		Professional Ethics
Gender Sensitization		Human Values
Social Awareness/Environmen	t	Environment and Sustainability
Intellectual Property Rig	ghts	
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#### Syllabus Revision

Board: Commerce

### Semester: VI -B.Com CA

Course Code/Name: Income Tax Law & Practice II

Unit	Existing	Changes
I	Basic Concepts – Definitions – Assesses – Person, income, assessment year, previous year, basis ofcharge: Determination of Residential Status – Incomes exempt from tax under Sections 10,11,12,13 and 13A.	Capital Gains Capital Gains – Kinds of Capital Assets – Computation of Capital Gains – Exemption under Section 54, 54B, 54D, 54EC, 54F, 54GA
II	Salary: Definition – Salary under section 17 – allowances, perquisites, profit in lieu of salary –deductions under section 16 - computation of salary income.	Income From Other Sources Income from Other Sources – Income Chargeable to Tax under the Head Income from Other Sources – Procedures for Computing Income from Other Sources – Deductions Allowed – Deduction not Allowed – Problems on Computation of Income from Other Sources
111	House property: Definition, exempted incomes from house property – Annual value – determination of annual value – Let out – Self occupied – Deductions – computation of propertyincome.	Set Off and Carry Forward of Losses and Deductions From Gross Total Income Provisions for Set-off and Carry Forward of Losses (Simple Problems). Deductions U/S 80C, 80CC, 80CCB, 80CCC, 80CCD, 80 CCE, 80D, 80DD, 80DDB, 80E, 80EE, 80EEA, 80EEB, 80G, 80GG, 80GGA, 80TTA, 80TTB, and 80U only
IV	Profit and Gains of business or profession – definition – charging provisions – deductions – computation of business and professional income	Assessment of Individuals Assessment: Meaning and Types, Computation of Total Income and Tax Liability of an Individuals (simple problems in case of Income from salaries, HP and Profits and Gains – computed income may be given).
V	Capital Gains: Basis of charge – Cost of acquisition, cost of improvement – exempted capitalgain – computation of capital gain –	Income Tax Authorities Administration of Income Tax Act – Income Tax Authorities – Powers of CBDT – Powers of



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-	Income from other sources – Chargeability – deductions – Computation of Income under other sources	Income – Tax Officers - Procedures for Assessment – Filing of Return – Due Dates of Filing – Voluntary Filling – Return of Loss – Related Return – Defective Return – Signing of Return – Permanent Account Number (PAN)	

### PERCENTAGE OF SYLLAUS REVISED: 60 COURSES FOCUSES ON:

1	Skill development	~	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
	Gender Sensitization	1	Human Values
	Social Awareness/Environment		Environment and Sustainability
~	Intellectual Property Rights		

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### Syllabus Revision- New Course

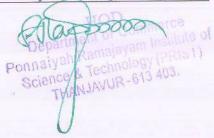
**Board: Commerce** 

Semester: VI-B.Com CA Course Code/Name: Entrepreneurial Development

Unit	Content
I	Introduction to Entrepreneur
	Meaning of Entrepreneurship – Characteristics of Entrepreneurship – Types of Entrepreneurship – Self Employment – Difference between Entrepreneurship and Employment – Meaning of Entrepreneur – Traits – Classification – Functions – Entrepreneurial Scenario in India.
II	Design Thinking
	Idea Generation – Identification of Business Opportunities – Design Thinking Process – Creativity – Invention – Innovation – Differences – Value Addition – Concept and Types – Tools and Techniques of Generating an Idea – Turning Idea into Business Opportunity
III	Setting Up an Enterprise Process of Setting Up an Enterprise – Forms of an Enterprise – Sole Proprietorship – Partnership – Limited Liability Partnership Firm – Joint Stock Company – One Man partnership – Choice of Form of an Enterprise –Feasibility Study – Marketing, Technical, Financial, Commercial and Economical
IV	Business Model Canvas and Formulation of Project Report Introduction – Contents of Project Report – Project Description – Market Survey – Fund Requirement – Legal Compliance of Setting Up of an Enterprise – Registration – Source of Funds – Modern Sources of Funds.
V	MSME's and Support Institutions Government Schemes and Women Entrepreneurship – Importance of MSME for Economic Growth – MSME – Definition – Role of Government Organizations in Entrepreneurship Development – MSME DI – DIC – Khadi and Village Industries Commission – NSIC – NABARD, SICVI, SFC, SDC, EDII, EPCCB. Industrial Estates – Government Schemes – Prime Minister Employment Generation Programme – Women Entrepreneurship in India

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#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

1	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
	Gender Sensitization	~	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

**Board:** Commerce

Semester: VI -B.Com CA Course Code/Name: Human Resource Management

Unit	Content
I	Introduction to HRM
	Definition of HRM, Objectives – Importance – Nature- Scope, Role and Qualities of a HR Manager - Human Resource Planning - Meaning, Definition, Importance, Factors Affecting HRP, Process Involved in Human Resource Planning. Human Resource Information System (HRIS) - Job Analysis, Need for Job Analysis, Steps in Job Analysis, Job Description and Specification
II	Strategic HRM Definition of Strategy, Strategic Human Resource Management (SHRM), Importance of SHRM, Difference between Traditional and Strategic Human Resource Management, "Best Fit" Approach Vs. Best Practices of SHRM, Role of HR Strategy &Practices in National, Sectorial and Organizational Context, Investment Perspective of SHRM, Porter's 5 Ps Model
III	Industrial Relations Introduction to Industrial Relations - Employee Grievances Concept, Causes & Grievance Redressal Mechanism Discipline- Concept, Aspects of Discipline &Disciplinary Procedure - Trade Unions Act 1926 - Industrial Disputes Act 1947
IV	Organizational Development Collective Bargaining Organization Climate – Organization Change – Organizational Development: Definition, Meaning of Organizational Development Collective Bargaining- Essentials of Effective Collective Bargaining
V	Employee welfare Employee Welfare: Meaning, Objectives, Philosophy, Scope, Limitations, Types of Employee Welfare, Statutory and Non-Statutory Welfare Measures, and Labour Welfare Theories- Social Security, Health, Retirement &Other Benefits.

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#### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
	Employability		Professional Ethics
~	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# M.COM Syllabus Revision- New Course

**Board:** Commerce

Semester: I Course Code/Name: Business Finance

Unit	Content
I	Introduction to Business Finance and Time vale of money
	Business Finance: Meaning, Objectives, Scope -Time Value of money: Meaning, Causes – Compounding – Discounting – Sinking Fund Deposit Factor – Capital Recovery Factor – Multiple Compounding – Effective rate of interest – Doubling period (Rule of 69 and Rule of 72) – Practical problems.
II	Risk Management
	Risk and Uncertainty: Meaning – Sources of Risk – Measures of Risk – Measurement of Return – General pattern of Risk and Return – Criteria for evaluating proposals to minimise Risk (Single Asset and Portfolio) – Methods of Risk Management – Hedging currency risk.
III	Startup Financing and Leasing
	Startup Financing: Meaning, Sources, Modes (Bootstrapping, Angel investors, Venture capital fund) - Leasing: Meaning – Types of Lease Agreements – Advantages and Disadvantages of Leasing – Financial evaluation from the perspective of Lessor and Lessee.
IV	Cash, Receivable and Inventory Management
	Cash Management: Meaning, Objectives and Importance – Cash Cycle – Minimum Operating Cash – Safety level of cash – Optimum cash balance – Receivable Management: Meaning – Credit policy – Controlling receivables: Debr collection period, Ageing schedule, Factoring – Evaluating investment in accounts receivable - Inventory Management: Meaning and Objectives – EOQ with price breaks – ABC Analysis.
V	Multi National Capital Budgeting
	Multi National Capital Budgeting: Meaning, Steps involved, Complexities, Factor, to be considered – International sources of finance – Techniques to evaluate multi- national capital expenditure proposals: Discounted Pay Back Period, NPV Profitability Index, Net Profitability Index and Internal Rate of Return – Capita- rationing - Techniques of Risk analysis in Capital Budgeting.

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# PERCENTAGE OF SYLLAUS REVISED: 100

Skill development	1	Entrepreneurial development
Employability		Professional Ethics
Gender Sensitization	1	Human Values
Social Awareness/Environment		Environment and Sustainability
Intellectual Property Rights		
	Skill developmentEmployabilityGender SensitizationSocial Awareness/Environment	Skill development       Employability       Gender Sensitization       Social       Awareness/Environment

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# Syllabus Revision- New Course

Semester: I Course Code/Name: Digital Marketing

**Board: Commerce** 

Unit	Content
Ι	Introduction to Digital Marketing
	Digital Marketing – Transition from traditional to digital marketing – Rise of internet – Growth of e-concepts – Growth of e-business to advanced e-commerce – Emergence of digital marketing as a tool – Digital marketing channels – Digital marketing applications, benefits and limitations – Factors for success of digital marketing – Emerging opportunities for digital marketing professionals.
II	Online marketing mix
	Online marketing mix – E-product – E-promotion – E-price – E-place – Consumer segmentation – Targeting – Positioning – Consumers and online shopping issues – Website characteristics affecting online purchase decisions – Distribution and implication on online marketing mix decisions.
III	Digital media channels
	Digital media channels – Search engine marketing – ePR – Affiliate marketing – Interactive display advertising – Opt-in-email marketing and mobile text messaging, Invasive marketing – Campaign management using – Facebook, Twitter, Corporate Blogs – Advantages and disadvantages of digital media channels – Metaverse marketing.
IV	Online consumer behavior
	Online consumer behavior – Cultural implications of key website characteristics – Dynamics of online consumer visit – Models of website visits – Web and consumer decision making process – Data base marketing – Electronic consumer relationship management – Goals – Process – Benefits – Role – Next generation CRM.
V	Analytics and Gamification
	Digital Analytics – Concept – Measurement framework – Demystifying web data - Owned social metrics – Measurement metrics for Facebook, Twitter, YouTube, Slide Share, Pinterest, Instagram, Snapchat and LinkedIn – Earned social media metrics - Digital brand analysis – Meaning – Benefits – Components – Brand share dimensions – Brand audience dimensions – Market influence analytics – Consumer generated media and opinion leaders – Peer review – Word of mouth – Influence analytics – Mining consumer generated media – Gamification and game based marketing – Benefits – Consumer motivation for playing online games.

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# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

$\sqrt{\frac{1}{\sqrt{2}}}$	Skill development	~	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

**Board: Commerce** 

Semester: I

Course Code/Name: Banking and Insurance

Unit	Content
	Introduction to Banking Banking: Brief History of Banking - Rapid Transformation in Banking: Customer Shift - Fintech Overview - Fintech Outlook - The Financial Disruptors - Digital Financial Revolution - New Era of Banking. Digital Banking – Electronic Payment Systems–Electronic Fund Transfer System – Electronic Credit and Debit Clearing – NEFT – RTGS –VSAT–SFMS–SWIFT.
I	Contemporary Developments in Banking Distributed Ledger Technology – Blockchain: Meaning - Structure of Block Chain - Types of Block Chain - Differences between DLT and Block chain - Benefits of Blockchain and DLT - Unlocking the potential of Block chain – Crypto currencies, Central Bank Digital Currency (CBDC) - Role of DLT in financial services - AI in Banking: Future of AI in Banking - Applications of AI in Banking - Importance of AI in banking - Banking reimagined with AI. Cloud banking - Meaning - Benefits in switching to Cloud Banking.
III	In switching to Croud Building:         Indian Insurance Market         History of Insurance in India – Definition and Functions of Insurance – Insurance         Contract – Indian Insurance Market – Reforms in Insurance Sector – Insurance         Organisation – Insurance organisation structure. Insurance Intermediaries:         Insurance Broker – Insurance Agent - Surveyors and Loss Assessors - Third Party         Administrators (Health Services) – Procedures - Code of Conduct.
IV	Customer Services in Insurance Customer Service in Insurance – Quality of Service - Role of Insurance Agents in Customer Service-Agent's Communication and Customer Service –Ethica Behaviour in Insurance – Grievance Redressal System in Insurance Sector – Integrated Grievance Management System- Insurance Ombudsman - Insurance Regulatory and Development Authority of India Act (IRDA) – Regulations and Guidelines.
V	Risk Management           Risk Management and Control in banking and insurance industries – Methods of Risk Management – Risk Management by Individuals and Corporations – Tool for Controlling Risk.

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# PERCENTAGE OF SYLLAUS REVISED: 100

1	Skill development	~	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
	Gender Sensitization	$\checkmark$	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### M.Com Syllabus Revision.

Semester I:

Board: Commerce

Course Code/Name: Security Analysis and Portfolio Management

Unit	Existing	Changes
I	Investment –Meaning- Nature and Scope – objectives Speculation Gambling – investment process – Financial System in India – Risk & Return – Measurement of Risk & Return - Nature- scope-Elements of Investment - Approaches to investment analysis - Securities - types - Features.	Investment and Portfolio Management Type of Investors – Investment Avenues – Factors influencing the investment choice – Portfolio Management: Meaning and significance, Active vs. Passive portfolio management - Strategic vs. Tactical asset allocation - Factors Affecting Investment Decisions in Portfolio Management.
II	Investment alternatives and strategies: Financial investment - Non financial investment - Inbound and outbound investments – Sources of Investment Information - valuation of fixed income securities andvariable income securities (excluding Derivatives).	Valuation of Securities Bond: Introduction – Reasons for issuing Bonds –Features of Bond – Types of Bonds – Determinants of bond safety – Bond Prices, Yields and Interest Rates – Measuring Price Volatility of Bonds – Macaulay Duration and Modified Duration - Preference Shares: Introduction – Features of Preference Shares – Preference Shares Yield – Holding Period Return – Yield to Call –Concept of Present Value – Equity Share Valuation Models.
III	Fundamental Analysis: Economic – Industry and company analysis – Sources of information for analysis	Fundamental Analysis and Technical Analysis Technical Analysis: Meaning – Assumptions – Pros and cons of technical analysis – Differences between fundamental analysis and technical analysis – Dow Theory – Types of Charts – Chart Patterns – Trend Analysis – Support Line and Resistance Line – Volume Analysis – Indicators and Oscillators – Simple Moving Average – Exponential Moving Average – Relative Strength Index – Bollinger Band – Elliott Wave Theory.

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IV	Technical Analysis – Types of charts – Dow Theory, Elliott wave theory, Odd-lot Theory, Breadth of Market, Relative Strength Analysis – Moving Average analysis - Efficient Market Hypothesis.	Efficient Market Hypothesis Efficient Market Hypothesis – Markowitz Model, Arbitrage Pricing Theory – Sharpe's Single index portfolio selection method – Capital Asset Pricing Model (CAPM).
V	Portfolio analysis & Management: Portfolio risk and return – Diversification - Markowitz model Sharpe model: Single index model– CAPM – Arbitrage pricing theory.	Portfolio Performance Evaluation Portfolio Performance Evaluation – Meaning - Need for Evaluation - Methods of calculating Portfolio return - Sharpe's Ratio - Treynor's Ratio - Jensen's Differential Returns - Portfolio Revision - Need for Portfolio Revision - Formula Plans.

# PERCENTAGE OF SYLLAUS REVISED: 60 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
1	Employability		Professional Ethics
	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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### Syllabus Revision- New Course

**Board: Commerce** 

Semester: I Course Code/Name: Operations Research

Unit	Content
I	. Introduction and Linear Programming Problem
	Introduction to Operations Research – Uses and Limitations – Linear Programming Problem: Formulation, Solving LPP: Graphical method, Simplex method, the Big-M Method.
II	Transportation and Assignment Problems
	Transportation problem: Introduction – Assumptions – Formulation of Transportation models – Basic feasible solution (North-West Corner Method, Least Cost Method, Vogel's Approximation Method) – Optimal solution (Stepping-Stone Method, Modified Distribution Method) – Degeneracy in Transportation problem. Assignment Problem: Introduction – Comparison with the Transportation problem – Formulation of assignment problems - The Hungarian method of solution.
III	Sequencing and Game Theory
	Sequencing problem: Introduction – Assumptions – Processing of n jobs through one machine – Processing n jobs through two machines – Processing of n jobs through three machines. Game Theory: Introduction – Rules for Games theory – Two person zero sum game without saddle point – Mixed strategies (2xn games, mx2 games) – Graphical method (2xn, mx2 games).
IV	Replacement and Network Analysis
	Replacement: Introduction – Individual replacement problems – Group replacement problems. Network Analysis: PERT and CPM.
V	Decision Tree Analysis and Queuing Theory
	Decision Tree analysis – Queuing: Introduction – Applications of queuing models. Waiting time and idle time costs – Single channel Poisson arrivals with Exponential Service, Infinite population model.

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# PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

JURSES FU	Skill development	i	Entrepreneurial development
~	Employability	1	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

**Board: Commerce** 

Semester: I Course Code/Name: Labour Laws

Unit	Content
	Introduction and The Trade Unions Act, 1926
	Labour legislations: Origin – Nature – Scope – Need – Objectives – Principles – Labour policy and its special features – Constitution as the basis for labour legislation – The Trade Unions Act, 1926: Definition – Objectives – Deficiencies – Registration of trade union – Cancellation of registration and appeal – Duties and obligations – Rights and privileges – Dissolution.
II	The Factories Act, 1948 and Equal Remuneration Act, 1976
11	The Factories Act, 1948: Objects – Definition – Licensing and Registration of
	factories - Inspecting staff - Health, safety and welfare measures - Provisions
	relating to hazardous processes - Working hours - Holidays - Annual leave -
	Employment of women and young persons. Equal Remuneration Act – Payment of
	remuneration at equal rates to men and women workers - Advisory committee -
	Offences and penalties.
III	The Workmen's Compensation Act, 1923 and The Employees' State
	Insurance Act, 1948
	The Workmen's Compensation Act, 1923: Definitions – Objectives – Disablement – Employer's liability for compensation – Amount of compensation – Disbursement of compensation – Notice and claims – Penalties – The Employees State Insurance Act 1948: Objects – Definitions – Administration of ESI Scheme ESI Fund – ESI Corporation - Medical benefit council – Benefits under the Act ESI court.
IV	The Payment of Wages Act, 1936 and The Minimum Wages Act, 1948
	The Payment of Wages Act, 1936: Object and Scope - Definition - Procedur
	regarding payment of wages - Deduction from wages - Mode of payment of
	wages.
	The Minimum Wages Act, 1948: Objects - Scope – Definition – Items to lincluded in the minimum wages – Fixation and revision of minimum wages. Norms to be followed in the payments of minimum wages.
V	The Provident Fund and Miscellaneous Provision Act, 1952, The Payment

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#### Gratuity Act, 1972 and The Payment of Bonus Act, 1965

Provident Fund and Miscellaneous Provision Act, 1952: Definitions – Scope – Nature – Objects – Various schemes – The Payment of Gratuity Act, 1972: Definitions – Scope – Conditions and circumstances of payment - Wages for computing gratuity – Maximum gratuity – Nomination – Penalties – The Payment of Bonus Act: Applicability of the Act – Eligibility and rate of Bonus – Allocable surplus and available surplus - Set and set off – Offences and penalties.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization	~	Human Values
√	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision**

Semester I:

Board: Commerce

Course Code/Name: Strategic Human Resource Management

Unit	Existing	Changes
Ι	Meaning – Nature and scope, characteristics – Functions – Objectives of organization of Human Resource department – HRM- Revaluation and Development of HRM – Role Qualification and qualities of H.R.Manager –HRM- Human Resource Planning.	Introduction to SHRM SHRM - Meaning, Features, Evolution, Objectives, Advantages, Barriers to SHRM, SHRM v/s Traditional HRM, Steps in SHRM, Roles in SHRM: Top Management, Front - line Management, HR - Changing Role of HR Professionals.
Π	Recruitment – Sources and Techniques of Recruitment - Selection, Placement and Induction – Interviews – Training – Principal Methods- Steps - Evaluation of Training Performance.	Models of SHRM Models of SHRM – High Performance Working Model, High Commitment Management Model, High Involvement Management Model - HR Environment – Environmental trends and HR Challenges - Linking SHRM and Business Performance.
III	Human Resource Development (HRD) – Management Development programmes – performance Appraisal – Counseling – Managerial Appraisal.	Strategic Planning and Compensation Resourcing Strategy: Meaning and Objectives - Strategic HR Planning: Meaning, Advantages, Interaction between Strategic Planning and HRP, Managing HR Surplus and Shortages, Strategic Recruitment and Selection: Meaning and Need - Strategic Human Resource Development: Meaning, Advantages and Process - Strategic Compensation as a Competitive Advantage - Rewards Strategies: Meaning, Importance - Employee Relations Strategy, Retention Strategies, Strategies for Enhancing Employee Work Performance
IV	Promotion – Transfer – demotion and discipline – Compensation – Career Planning –Career Development – Absenteeism – Managing change – Resistance and Approaches to Organization change.	Human Resource Policies Human Resource Policies – Meaning, Features, Purpose of HR Policies, Process of Developing HR Policies, Factors affecting HR Policies, Areas of HR Policies in Organisation, Requisites of Sound HR Policies – Recruitment, Selection, Training and Development, Performance Appraisal,

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		Compensation, Promotion, Outsourcing, Retrenchment, Barriers to Effective Implementation of HR Policies and Ways to Overcome these Barriers.
V	Job Evaluation – Advantages and Problems of job evaluation – Wages and Salary Administration Bonus – Fringe Benefits – Motivation and Motivation theories – Leadership – Morale – Communication Job Satisfaction	Latest trends in Strategic HRM Mentoring - Employee Engagement – Meaning, Factors Influencing Employee Engagement, Strategies for Enhancing Employee Engagement - Competency based HRM: Meaning, Types of Competencies and Benefits of Competencies for Effective Execution of HRM Functions - Human Capital Management: Meaning and Role - New Approaches to Recruitment – Employer Branding.

# PERCENTAGE OF SYLLAUS REVISED: 80 COURSES FOCUSES ON:

1	Skill development	~	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization	,	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

Unit	Content
I	<b>Origin and Development of Insurance:</b> Introduction - Concepts of Risks and Uncertainty – Nature of Insurance – Functions of Insurance – Need for Insurance – Enactment of Insurance Act, 1938.
Π	Basic Principle of Insurance: Introduction – Utmost Good Faith – Insurable
	Interest - Indemnity - Corollaries of Indemnity (Contribution and Subrogation) -
	Proximate Cause - Material Facts to be disclosed - Caveat Emptor - Essentials of
	Law of contract - Nomination and Assignment.
III	<b>Life Insurance:</b> Introduction - Present Organizational set-up of Insurance Companies in India – L.I.C. and Private Companies with foreign joint ventures - selling Insurance through Agents and Banks - Objectives of Life Insurance – Protection and Investment - Different types of Life Insurance Policies – Chief characteristics and similarity.
IV	<b>Procedure for taking a policy:</b> Introduction - Selection of the Plan - Consultation of Premium tables - Filling up of Proposal Form - Document regarding proof of age - Important clauses of the Policy – eg. Suicide Clause – Nomination.
V	General Insurance : Introduction - Relevance of General Insurance to Business - History of General Insurance in India - Items which could be insured - Fire Insurance – Features - Types of Policies - Payment of Claims and Documents required.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

<u>COURSES FO</u> ✓	Skill development	1	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
	Gender Sensitization		Human Values
$\checkmark$	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

#### **Board: Commerce**

Semester: II

Course	Code/Name:	Strategic	Cost	Management	
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Unit	Content
Ι	Introduction to Strategic Cost Management
	Introduction to Strategic Cost Management (SCM) – Need for SCM – Differences between SCM and Traditional Cost Management - Value Chain Analysis: Meaning and steps - Quality Cost Management: Meaning of Quality and Quality Management – Cost of Quality –Indian Cost Accounting Standard 21 on Quality Control - Introduction to Lean System – Benefits of Lean System – Just in Time (JIT) – Kaizen Costing.
II	Cost Control and Reduction
	Cost Management Techniques: Cost Control: Meaning and Prerequisites - Cost
	Reduction: Meaning and Scope - Differences between Cost control and cost
	reduction - Pareto Analysis: Meaning, importance and applications - Target
	Costing: Meaning, steps and Principles - Life Cycle Costing: Meaning, Strategies
	for each stage of product life cycle, Benefits - Learning Curve: Meaning, Learning
	curve ratio and applications.
III	Activity Based Cost Management
	Activity Based Cost Management: Concept, Purpose, Stages, Benefits, Relevance in Decisionmaking and its Application in Budgeting – Practical problems.
IV	Transfer Pricing
	Transfer Pricing: Meaning, Benefits, Methods: Pricing based on cost, Market price on transfer price, Negotiated pricing and Pricing based on opportunity costs – Practical Problems.
V	Cost Management in Agriculture and IT sector
	Agriculture Sector: Features, Cost Structure, Cost Management, Tools to measure the performance, Minimum Support Price and International Perspective – Information Technology Sector: Features, Cost Structure, Cost Management and International Perspective.

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#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision**

#### Semester II: M.Com

Board: Commerce

Course Code/Name: Corporate Accounting

Unit	Existing	Changes
I	Self study unit: Human Resource Accounting – Inflation Accounting – Government Accounting.	Issue of Shares and Final Accounts of Companies Issue of Shares: ESOPs - ESPS - Sweat Equity Shares - Book Building- Buy-back of Shares - Conversion of debentures into shares - Final accounts of Companies as per Schedule III of the Companies Act, 2013 – Managerial remuneration.
II	Holding companies accounting – consolidated Balance sheet of holding companies	Insurance Company Accounts Insurance Company Accounts: Types of Insurance - Final accounts of life assurance Companies- Ascertainment of profit- Valuation Balance Sheet-Final accounts of Fire, Marine and miscellaneous Insurance Companies.
III	Bank Accounts (New Format) – profit and Loss account – Balance sheet as per the Guidelines of RBI – classification of advances- Provision for advances.	Consolidated financial statements Consolidated financial statements as per AS 21: Consolidated Profit and Loss Account– Minority interest – Cost of control – Capitalreserve – Inter-company holdings –Preparation of consolidated Balance Sheet.
IV	Insurance companies Accounts – New Format- Life Insurance Revenue accounts with schedulessurplus and valuation balance sheet – Fire and Marine Revenue accounts with schedules.	<b>Contemporary Accounting Methods</b> Accounting for price level changes – Social responsibility accounting – Human resource accounting - Forensic Accounting.
V	Double Accounts system (or) Accounts of Electricity companies and public utilities.	<b>Financial reporting</b> Financial reporting: Meaning, Objectives, Characteristics – Indian Accounting Standards (AS 5, AS 10, AS 19, AS 20) – Corporate Social Responsibility: Meaning, Key provisions of Companies Act, 2013, Accounting for CSR expenditure, Reporting of CSR, Presentation and disclosure in the financial statements.

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# PERCENTAGE OF SYLLAUS REVISED: 60 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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#### **Syllabus Revision- New Course**

**Board: Commerce** 

Semester: II Course Code/Name: Setting up of Business Entities

Unit	Content
I	Startups in India
×	Types of business organisations –Factors governing selection of an organisation – Startups – Evolution – Definition of a Startup – Startup landscape in India – Startup India policy – Funding support and incentives – Indian states with Startup policies – Exemptions forstartups – Life cycle of a Startup – Important points for Startups – Financing options available for Startups – Equity financing – Debt financing – Venture capital financing – IPO – Crowd funding – Incubators - Mudra banks –Successful Startups in India.
II	Not-for-Profit Organisations
	Formation and registration of NGOs - Section 8 Company - Definition - Features
	- Exemptions - Requirements of Section 8 Company - Application for
	incorporation - Trust: Objectives of a trust - Persons who can create a trust -
	Differences between a public and private trust – Exemptions available to trusts -
	Formation of a trust - Trust deed -Society - Advantages - Disadvantages -
	Formation of a society – Tax exemption to NGOs.
III	Limited Liability Partnership and Joint Venture
	Limited Liability Partnership: Definition – Nature and characteristics – Advantages and disadvantages – Procedure for incorporation – LLP agreement – Annual compliances of LLP-Business collaboration: Definition – Types –Join venture: Advantages and disadvantages – Types – Joint venture agreement Successful joint ventures in India– Special Purpose Vehicle – Meaning – Benefits – Formation.
IV	Registration and Licenses
	Registration and Licenses: Introduction – Business entity registration – Mandatory registration – PAN – Significance – Application and registration of PAN – Linking of PAN with Aadhar –TAN – Persons liable to apply for TAN – Relevance of TAN – Procedure to apply for TAN –GST: Procedure for registration – Registration under Shops and Establishment Act –MSME registration – Clearance from Pollution Control Board – FSSAI registration and license – Trade mark Patent and Design registration.
V	Environmental Legislations in India
	Geographical Indication of Goods (Registration and Protection) Act, 1999

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Objectives, Salient Features - The Environmental Protection Act, 1986: Prevention, control and abatement of environmental pollution - The Water (Prevention And Control of Pollution) Act, 1974: The Central and State Boards for Prevention and Control of Water Pollution - Powers and Functions of Boards -Prevention and Control of Water Pollution - Penalties and Procedure- The Air (Prevention and Control of Pollution) Act, 1981: Central and State Boards for The Prevention and Control of Air Pollution - Powers And Functions - Prevention and Control of Air Pollution - Powers And Functions - Prevention and Control of Air Pollution - Penalties and Procedure.

# PERCENTAGE OF SYLLAUS REVISED: 100

~	Skill development	~	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization	1	Human Values
	Social Awareness/Environment	8	Environment and Sustainability
	Intellectual Property Rights		

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### Syllabus Revision- New Course

**Board: Commerce** 

Semester: II Course Code/Name: Business Ethics and Corporate Sustainbility

Unit	Content
	Introduction to Business Ethics
	Business Ethics- Meaning and Definition of Business Ethics - Nature of Business Ethics - Role and importance of Business Ethics and values in Business - Causes of unethical behaviour - Ethical issues.
II	Ethical Theories
	Ethical Decision Making -Decision Making (Normal Dilemmas and problems) -
	Application of Ethical Theories in Business - Traditional Ethical Theories -
	Utilitarianism, - Ethical Egoism - Ethics of Duties - Normative Theories of
	Business Ethics - Stakeholder Theory - Stockholder Theory - Lawrence
	Kohlberg's Theory Model Development.
III	Moral Issues in Business
	Moral Issues in Business - Importance of moral issues and reasoning - Whistle
	Blowing- Kinds of Whistle Blowing - Ethical issues in functional areas of
	business.
	Marketing and Advertising - Truth in Advertising- Manipulation - Coercion-Trade
	Secrets- Corporate disclosure-Insider trading.
	Finance -Fairness' and efficiency in Financial Market - Greenmail-Golder
	Parachute.
	HR: Workers Rights and Duties - Work place Safety - Sexual Harassment-Equa
	Employment Opportunity- Preferential hiring.
	Environmental Protection - Safety and acceptable risk- Environmental Harm Pollution and its Control- Product Safety and Corporate Liability.
IV	Corporate Sustainability
	Corporate Sustainability - Concepts of sustainability - Social, Environmental and
	Economic dimensions -Sustainability in a business context.
	Principles of Sustainable Development: History and emergence of the concept of Sustainable Development - Definitions, Environmental issues and crisis, Resource

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 degradation, Greenhouse gases, Desertification, Social insecurity, Industrialization, Globalization and Environment.

 V
 Sustainability Reporting

 Sustainability Reporting - Investors, customers, government and media- Disclosing sustainability information – report and website - Transparency and Accountability

 - One Report movement – Financial and non-financial together - Triple bottom line concept for Sustainable Business - Sustainability Reporting: Flavour of GRI, BRR, BRSR.

#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

1	Skill development	$\checkmark$	Entrepreneurial development
	Employability	$\checkmark$	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment	4	Environment and Sustainability
	Intellectual Property Rights		

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Semester: II

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#### Syllabus Revision- New Course

**Board: Commerce** 

Unit	Content
I	Introduction to Audit
	Audit: Meaning – Types of Audit: Corporate Governance Audit: Meaning and scope; Corporate Social Responsibility Audit: Meaning and objectives; Insider Trading Audit: An introduction – Labour Law audit: Meaning, process and benefits – Environment Audit: Meaning and Need – Social Audit: Meaning and implications – Introduction to Takeover Audit.
II	Secretarial Audit
	Secretarial Audit: Meaning - Need - Applicability of Secretarial Audit under
	Companies Act, 2013 and SEBI (Listing Obligations and DisclosureRequirements)
	Regulations, 2015 - The process of Secretarial Audit - Scope and Benefits of
	Secretarial Audit.
III	Introduction to Due Diligence
	Due diligence: Meaning, Need, Objectives and Scope – Factors to be considered while conducting due diligence – Process of due diligence – Techniques of due diligence.
IV	Types of Due Diligence
	Types of Due Diligence: Operational, Strategic, Financial, Technical, Legal, Management, Technical, Environmental, Human Resource.
V	Due Diligence for Take overs and Due Diligence Report
	Due diligence for Mergers and Amalgamation: Introduction and Process Preparation of scheme of amalgamation - Due diligence for take overs - Guidance on diligence reporting – Format of diligence report.

#### COURSES FOCUSES ON:

~	Skill development		Entrepreneurial development
$\checkmark$	Employability	× .	Professional Ethics
	Gender Sensitization	4	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

**Board:** Commerce

Semester: II Board: C Course Code/Name: RURAL AND AGRICULTURAL MARKETING

Unit	Content
I	Introduction to Rural marketing
	Rural marketing – Meaning – Definition – Concept and nature of rural marketing – Taxonomy of rural markets – Urban vs Rural marketing – Rural marketing environment – Becoming a successful rural marketer.
II	Rural buyer behaviour
	Rural buyer behaviour - Aspects of rural buyer behaviour - Rural consumer
	decision making process - Environmental factors affecting rural consumers -
	Buyer characteristics and innovation adoption – Rural STP approach – Guidelines
	for effective segmentation and emerging rural market segments
III	Rural product strategy and pricing
	Rural product strategy – Rural product classification and decisions – Product innovation strategies – Customer value strategies – Rural branding and packaging strategies – Role of Agricultural Price Commission in India(APC) - Introduction to APC - Basic objectives of the Commission - Determination of Minimum Support Price (MSP) - Non price measures - Minimum support price of selected commodities - Benefit to the farmers - Rationale of support pricing - Limitations of MSP
IV	Food processing industry infrastructure in India
	Food processing industry infrastructure in India - Meaning of processing - Advantages of food processing - Processing of agricultural commodities (Wheat, Paddy, Pulses and Oilseeds) – Importance of cold chains - Rural distribution strategy – Rural distribution and logistics – Direct vs Indirect marketing – Organised rural retailing – Types of retail outlets – Rural malls – e-tailing and training for rural retailers – Rural supply chain management – ITC e-choupal – Rural promotion mix – Marketing communication challenge in rural markets
V	Cooperative marketing
	Cooperative marketing: Meaning - Role of cooperatives - Structure of cooperative marketing societies - Types of Co-operative marketing societies – Membership – Functioning – Agri export zones – Small Farmers Agri Business Consortium - eNAM – Tamil Nadu State Agricultural Marketing Board.

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#### PERCENTAGE OF SYLLAUS REVISED: 100 COURSES FOCUSES ON:

VURSES FOR	Skill development		Entrepreneurial development
~	Employability	~	Professional Ethics
19	Gender Sensitization		Human Values
1	Social Awareness/Environment	1	Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

**Board: Commerce** 

Semeste	Board: Commerce
Course Unit	Code/Name: LOGISTICS AND SUPPLY CHAIN MANAGEMENT Content
I	Supply Chain Management
•	Supply Chain Management: Concept, Features, Evolution, Importance, Process and Barriers of Supply Chain Management – Principles, Supply Chain Strategies – Organizations, Coordination, Innovation and Forecasting - Supply chain intermediaries – Concept and Types, Channels of Distribution for Industrial Goods and Consumer Goods, Channels of Distribution at Services Level, Factors for selection of suitable channels.
II	Global perspectives
8	Global perspectives: Measuring and analyzing the value and efficiency of Global Supply Chain Networks, Global market forces, Types of global supply chain -Indian Perspectives: Measuring and Analyzing the value and efficiency of Domestic Supply Chain Networks, Economic effects of supply chains - Customer Perspectives: Customer values, Role of customers and Ways of improving customer services in SCM.
III	Framework of Logistics
	Logistics: Introduction – Positioning of Information in Logistics and Supply Chain Management – Logistics Information System (LIS) - Logistics Management: Concept and Process, Competitive Advantages and Three C's, Changing Logistics Environment, Reverse Logistics, Importance of Inventory Control -Elements of inventory management – Inbound and out bound logistics, Bull- whip effect – distribution and warehousing management - Transport Functions and Participants in Transportation Decisions - Transport Infrastructure- Packaging and Materials Management: Consumer and Industrial Goods Packaging - Factors influencing Materials Planning, Preservation Safety and Measures of Materials Handling.
IV	SCM-Warehousing
	Introduction– Concepts of Warehousing– Types of Warehouse – Functions of Warehousing– Strategic Warehousing, Warehouse Operations, Ownership Arrangements, Warehouse Decisions, Warehouse Management Systems, Packaging Perspectives, Packaging for Material Handling Efficiency, Materials Handling, Supply Chain Logistics Design: Global Strategic Positioning; Global SC Integration, SC Security, International Sourcing, Distribution control and evaluation.

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# SCM-Plan

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SCM Plan: Demand Planning, Source of Procurement, Production or Assembly Steps, Sales return of defective or excess goods-Use of Internet in SCM: Role of computer/ IT in supply chain management –E- market places, E-procurement, Elogistics, E-fulfillment -Operative Systems in SCM: Enterprise Resource Planning (ERP), Performance Modeling of supply chains using Markov chains, Inventory Control- Importance, Pareto's Law -Emerging Technologies in Logistics and Supply Chain Management: CRM Vs SCM, Benchmarking concept, Features and implementation, Outsourcing: Basic concepts, Value addition in SCM – Concept of demand chain management - Growth of Logistics and Supply Chain Management in national and international scenarios.

## PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
1	Employability		Professional Ethics
	Gender Sensitization		Human Values
4	Social Awareness/Environment	1	Environment and Sustainability
	Intellectual Property Rights		

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#### Syllabus Revision- New Course

**Board: Commerce** Semester: II Course Code/Name: Principles and Practice of Banking Content Unit Introduction: History of Indian Banking - Meaning and Definition -I Functions of Banker - Unit and Branch Banking - Universal Banking -Banking System in India. Types of Banking: Introduction - Commercial Banks - Private Sector Banks Π Public Sector Banks - Foreign Banks - Regional Rural Banks - Co-operative Banks Reserve Bank of India. Banker And Customer : Introduction- Definition - Relationship between III Banker and Customer - Special Types of Customers - Deposit Accounts -Savings Accounts - Current Accounts - Fixed Deposit Accounts - Opening and operation of Accounts - Nomination - KYC requirements - Pass Book - Minors - Partnerships & Companies Special Types of Customers : Introduction - Minor - Joint Account -IV Partnership Account - Private and Public Limited Company - NRI Account - Registered and Unregistered Societies and Clubs - Precautions while Opening and Operating Accounts. Employment of Bank Funds: Introduction - Liquid Assets-Cash in Hand -V Cash with RBI & Cash with other Banks - Investment in securities - Advances (Secured and Unsecured) - Loans - Term Loans - Cash Credit - Overdraft -Discounting of Bills of Exchange

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# PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

~	Skill development	1	Entrepreneurial development
1	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment	~	Environment and Sustainability
	Intellectual Property Rights	r	

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**Board: Commerce** 

# Syllabus Revision- New Course

Semester: III Course Code/Name: Taxation

Unit	Content
I	Assessment of persons Tax Exemptions for Agricultural Income - Deductions to be made in computing total income (80G, 80GGB & 80GGC, 80IA, 80IAB, 80IAC, 80IB, 80IBA, 80ID, 80IE, 80JJA, 80JJAA, 80LA, 80M, 80P, 80PA) – Assessment of Firms, AOP, BOI, Company and Co-operative society.
II	Tax Returns and Tax planning
	Return of income: Statutory obligation, Return Forms, Time for filing of return, Revised return, Modified return-Assessment -Tax Deducted at Source - Advance payment of Tax: Persons liable to pay, Due date, Computation - Payment in pursuance of order of Assessing Officer, Consequences on non- payment. – Tax planning, Tax avoidance and Tax evasion - Tax planning and specific management decisions: Make or buy, Own or lease, Retain or replace, Shut down or continue.
III	International business taxation
	International business taxation - Taxation of Non-resident - Double taxation relief - Transfer pricing and other anti-avoidance measure - Application and interpretation of tax treaties - (Double taxation avoidance agreement - DTAA) - Equalization levy.
IV	Goods and Services Tax
	Goods and Services Tax: GST Act, 2017 - Registration – Procedure for registration under Schedule III – Amendment of registration – Rates of Tax of IGST, CGST, SGST/UGTST - Assessment of GST- Self-assessment – Provisional assessment – Scrutiny of returns – Assessment of non filers of returns – Assessment of unregistered persons – Assessment in certain special cases – Tax Invoice – Credit and Debit Notes – Payment of Tax – Input Tax Credit - Anti profiteering – Filing of Returns- Penalties – Prosecution – Appeal and Revision.

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V	Customs Act, 1962
	Customs Act, 1962: Important Definitions - Basics - Importance of Customs
	Duty – Constitutional authority for levy of Customs Duty – Types of Customs
	Duty - Prohibition of Importation and Exportation of goods - Valuation of
40	goods for Customs Duty - Transaction Value - Assessable Value - Computation
	of Assessable Value and Customs Duty

# PERCENTAGE OF SYLLAUS REVISED:100

~	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision

Board: Commerce

Semester: III

Course Code/Name: Research Methodology

Unit	Existing	Changes
I	<b>INTRODUCTION:</b> Research – Importance and its types – research approaches – process – problem formulation – development of Hypothesis – Research design – Determining the sample design – Collecting data – Analysis of data – Identifying research problem.	Introduction to Research Methodology Research: Definition – Objectives – Motivations for research – Types of research – Maintaining objectivity in research – Criteria of good research – Applications of research in business - Formulating a research problem – Literature Review – Reasons for review – Reference management tools - Identification of research gap – Framing of objectives.
П	MEASUREMENT AND ITS TECHNIQUES : Measurement in research and its problems – meaning of scaling – Tests of sound measurement – Types of scaling – Techniques of measurements – Attitude scales – Summed rating scale – Equal appearing Interview scale - Cumulative scale – Rating scale – Scale constructing Techniques – Time series analysis – Projection Techniques.	Hypothesis Testing and Research Design Hypothesis – Formulation of hypothesis – Testing of hypothesis – Type I and Type II errors – Research design – Types of research design - Methods of data collection: Census Sample survey, Case study – Sampling: Steps in sampling design, Methods of sampling – Testing of reliability and validity – Sampling errors
III	DATA COLLECTION AND HYPOTHESIS: Classification of data – Sources of data – Collection of primary and secondary data – Questionnaire method – Guidelines for Questionnaire design – Interview technique – Observation Techniques – Processing of Data – Editing – Coding – Tabulation – Interpretation of data – Formulation of Hypothesis – Test of Hypothesis.	<b>Data Collection</b> Variable: Meaning and types - Techniques o data collection – Primary data: Meaning Advantages and limitations – Techniques Interview, Schedule, Questionnaire Observation – Secondary Data: Meaning and sources.
IV	<b>STATISTICAL TECHNIQUES:</b> Statistical Techniques – Quantitative and qualitative techniques – Measures of central Tendency –	<b>Data Analysis</b> Data Analysis – Uni-variate Analysis Percentile, Mean, Median, Mode, Standar

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	coefficient of correlation - Regression - Chi	deviation, Range, Minimum, Maximum,
	Square test – Conditions for applying chi- square test – ANOVA – Spearman's Rank	Independent sample t-test – Bi-variate
	Correlation	analysis: Simple correlation, Simple
		Regression, Chi-square, Paired samples t-test,
		ANOVA, Man-Whitney test - Wilcoxon
		signed rank test - Kruskal Wallis test (Simple
		problems)
	34	Multi Variate Analysis: Multiple Correlation, Multiple Regression, Factor Analysis, Friedman's test, Cluster analysis, Confirmatory Factor Analysis (CFA), Structural Equation Modelling (SEM), Multiple Discriminant Analysis.
V	<b>INTERPRETATION AND REPORT</b> <b>WRITING :</b> Interpretation – Techniques of Interpretation – Significance of Report Writing – Different steps in Writing report – Layout of research report – types – oral presentation – mechanics of writing a research report – precautions for writing research reports – Role of computers in Research	Preparation of Research Report Report preparation – Guidelines and precautions for interpretation – Steps in Report writing - Style of research reports (APA, MLA, Anderson, Harvard) – Mechanics of report writing – Ethics in Research – Avoiding plagiarism – Plagiarism checker tools – Funding agencies for business research

# PERCENTAGE OF SYLLAUS REVISED: 70 COURSES FOCUSES ON:

~	Skill development	× ,	Entrepreneurial development
1	Employability		Professional Ethics
	Gender Sensitization	~	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

Semester: III Board: Commerce Course Code/Name: COMPUTER APPLICATIONS IN BUSINESS

Unit	Content
I	UNIT
	Introduction to SPSS
	Opening a data file in SPSS - Variable view - Data view - Entering data into
	the data editor - Saving the data file- Table creation - Descriptive statistics:
	Percentile values, Measures of central tendency, Measures of dispersion,
	Distribution – Cronbach's Alpha test – Charts and graphs - Editing and copying
	SPSS output.
II	UNIT II(18 hrs)
	Parametric Tests in SPSS
	Compare means: One-sample t-test, Independent Samples t-test, Paired-samples
	t-test and One-way ANOVA, Two-way ANOVA - Correlation: Bi-variate,
	Partial and Multiple.Simple linear regression.
III	UNIT III
	Non-parametric Tests in SPSS
	Chi-square test - Mann Whitney's test for independent samples - Wilcoxon
	matched pairs sample test- Friedman's test- Wilcoxon signed rank test -
	Kruskal Wallis test
	ix ,
IV	UNIT IV
	Introduction to Tally Prime
	Tally Prime: Introduction - Starting Tally Prime - Creation of a Company -
	Selecting company - Shutting a company - Altering company- Creating
	Accounting groups and ledgers - Vouchers - Practical problems for a new and
	existing business and not-for profit organisation. Accounting reports:

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	Introduction – Displaying Trial balance, Profit and Loss Account, Balance sheet, Day book, Purchase register, Sales register, Cashflow/Funds flow and ratio analysis – Practical problems.
V	UNIT V
	Inventory and GST in Tally Prime
	Inventory: Introduction to Inventory Masters - Creation of stock group -
	Creation of Godown - Creation of unit of measurement - Creation of stock item
	- Entering inventory details in Accounting vouchers - Practical problems. GST:
	Introduction - Enabling GST - Defining tax details - Entries in Accounting
	vouchers – View invoice report – Practical problems.

# PERCENTAGE OF SYLLAUS REVISED:100

COURSES	FOCUSES	ON:
		Contraction of the second second

~	Skill development	✓ Entrepreneurial development
~	Employability	Professional Ethics
	Gender Sensitization	Human Values
	Social Awareness/Environment	Environment and Sustainability
	Intellectual Property Rights	

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# **Syllabus Revision**

Board: Commerce

Semester: III

Course Code/Name: Strategic Management

Unit	Existing	Changes
I	Business Policy and strategic management – Conceptualization –Features of Strategy – Strategy and Tactics- Corporate, Business and Functional levels of Strategy	Introduction to Strategic Management Introduction to Strategic Management: Meaning and Nature of Strategic management, Framework of Strategic management, Strategic Levels in Organizations, Phases of strategic management, Benefits and challenges of strategic Management in global economy
Ш	Environmental Scanning of Analysis - Features- Methods of Environmental analysis and Forecasting- External and Internal Environment – SWOT analysis	<b>Techniques for Strategic Management</b> Dynamics of Competitive Strategy: Corporate governance- Role of Board of directors and top management in corporate governance; Agency and Stewardship theory, Situational Analysis- SWOT analysis, TOWS Matrix, Portfolio Analysis - BCG, GE, and ADL matrix - Strategic Management Process: Strategic Planning, Strategic Intent – Vision, Missionand Objectives, Strategy Formulation - Corporate Level Strategies: Concepts and Nature of Corporate Strategy, Strategic Alternatives at Corporate Level-Growth, Stability, Expansion, Business Combinations – Mergers and Acquisitions, Strategic Alliances, Turnaround, Retrenchment and Retreat, Corporate parenting
III	Corporate Appraisal- Process – Methods And Techniques used –Internal analysis- Comparative analysis – Corporate Capability	Different Levels of Strategies Business Level Strategies: Competitive Strategies at Business Level, Michael Porter's Generic Strategies, Best-Cost Provider Strategy - Functional Level Strategies: Marketing Strategy, Financial Strategy, Operations Strategy, Human Resource Strategy, Research and Development
IV	Corporate Strategy formulation- Implementation- Expansion through Integration – Vertical Integration-	Organisation and Strategic Leadership Organisation and Strategic Leadership: Organisation Structure, Strategic Business Unit

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	Diversification - Mergers - Takeovers – Acquisition – Joint venture-Divestment Strategy – Liquidation Strategy.	Strategic Leadership, Strategy Supportive Culture, Entrepreneurship and Intrapreneurship, Strategic Leadership across organizations
V	Strategy Evaluation and Control- Strategic Control – Types –Differences Between Strategic and operational control - Evaluation for Strategic and Operational Control.	Strategy Implementation and Control Strategy Implementation and Control: Strategy Implementation, Strategic Choice, Strategic Control, Strategy Audit, Business Process Reengineering, Benchmarking, Six Sigma and contemporary practices in strategic management.

# PERCENTAGE OF SYLLAUS REVISED: 70 COURSES FOCUSES ON:70

1	Skill development	~	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
	Gender Sensitization	✓ .	Human Values
~	Social Awareness/Environment	r:	Environment and Sustainability
	Intellectual Property Rights		

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# **Syllabus Revision**

Board: Commerce

# Semester: III

Course Code/Name: International Financial Management

Unit	Existing	Changes
I	The finance function in the international context – The Balance of Payments – International monetary system –Functions of financial management –Challenges of international financial management.	International Financial Management International Financial Management: An overview – Importance – Nature and Scope – International flow of Funds – Balance of Payments – International Monetary System.
Ш	The foreign exchange market structure and the participants-Types of transactions- Meaning of Currency-Dealing –Exchange rate –Forward rates- Exchange rate computation.	Foreign Exchange Market Foreign Exchange Market: Features – Spot and Forward Market – Exchange Rate Mechanism – Exchange Rate determination in the Spot and Forward Markets – Factors Influencing Exchange Rate – Salient Features of FEMA – Market for Currency Futures and Currency Options – Hedging with Currency Future and Options.
III	Working Capital Management in a multinational Context –Short term Borrowing and Investment – Centralized Vs Decentralized cash management –Cash transactions – Equity Financing in the international markets –Accounts receivable and Inventory management.	International Investment Decision Foreign Direct Investment – International Capital Budgeting – International Portfolio Investment: Meaning – Benefit of International Portfolio Investment – Problem of International Investment.
IV	Long term borrowing in international capital markets –The major market segment – International leasing –Foreign direct investments by multinationals- Capital Budgeting.	International Financial Decisions Overview of the International Financial Market – Channels for International Flow of Funds – Role and Functions of Multilateral Development Banks – International Banking: Functions – Credit Creation – Control of International Banks
V	International project appraisal – Review of NPV approach –Adjusted present value- Frame work – Project appraisal in the international context – Exchange rate risk and cost of Capital –Joint ventures.	International Financial Market Instruments Short-term and Medium-term Instruments – Management of Short-term Funds – Management of Receivables and Inventory – Factors behind the Debt Crisis.

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# PERCENTAGE OF SYLLAUS REVISED: 70 COURSES FOCUSES ON:

$\checkmark$	Skill development	~	Entrepreneurial development
~	Employability		Professional Ethics
	Gender Sensitization	1	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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## Syllabus Revision- New Course

Semester: IV

**Board: Commerce** 

Course Code/Name: Corporate & Economics Law

Unit	Content
I	Introduction to Foreign Exchange Management Act, 1999Foreign Exchange Management Act, 1999: Introduction – Definitions – Current Account transactions – Capital Account transactions – Realisation, repatriation and surrender of foreign currency – Remittance of assets – Possession and retention of foreign currency or foreign coins – Authorised person – Adjudication and Appeal
II	<ul> <li>Competition Act, 2002 and Consumer Protection Act, 2019</li> <li>Competition Act, 2002: Objective – Prohibition of Agreements, Prohibition of Abuse of Dominant Position - Regulation of combinations - Competition Commission of India: Duties, Powers and Functions of Commission - Appellate Tribunal.</li> <li>The Consumer Protection Act, 2019: Objects; Rights of consumers – Consumer Dispute Redressal Commissions - Consumer protection councils – Procedure for admission to complaints – Appeal against orders</li> </ul>
III	Law relating to intellectual property rights
	Law relating to intellectual property rights: Introduction - The Copyright Act, 1957: Works in which copyright subsist - Ownership of copyright and the rights of the owner - Assignment of copyright - Disputes with respect to assignment of copyright - Term of copyright - Registration of copyright - Infringement of copyright.
	The Patents Act, 1970: Inventions not patentable - Applications for patents - Publication and examination of applications - Grant of patents and rights conferred - Register of patents. Trademarks Act, 1999: Conditions for registration - Procedure for and duration of registration - Effect of registration - Collective marks.
IV	Prevention of Money Laundering Act, 2002
	Prevention of Money Laundering Act, 2002: Offence of money laundering – Punishment for money laundering –Attachment, adjudication and confiscation – Obligations of Banking Companies, Financial Institutions and Intermediaries – Summons, Search and Seizure – Appellate Tribunal.

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V	Real Estate (Regulation and Development) Act, 2016
	Real Estate (Regulation and Development) Act, 2016: Introduction - Salient features of the Act - Registration of Real Estate Project – Registration of Real Estate agents – Functions and duties of promoter – Rights and duties of Allottees – Offences, penalties and adjudication – Specimen agreement for sale to be executed between the promoter and the allottee.

# PERCENTAGE OF SYLLAUS REVISED:100

~	Skill development	✓ .	Entrepreneurial development
	Employability	*	Professional Ethics
~	Gender Sensitization		Human Values
~	Social Awareness/Environment	ş	Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

# **Board: Commerce**

Semester: IV Course Code/Name: Human Resource Analytics

Unit	Content
I	Introduction to Human Resource Analytics
	Human Resource Analytics: Introduction – Concept – Evolution - Importance – Benefits – Challenges - Types of HR Analytics – HR Analytics Framework and Models.
II	Business Process and HR Analytics
	Business Process and HR Analytics: Introduction - Data Driven Decision
	Making in HR - Data Issues - Data Validity - Data Reliability - HR Research
	tools and techniques –Statistics and Statistics Modeling for HR Research.
III	Introduction to HR Metrics
	HR Metrics: Introduction - Historical Evolution of HR metrics- Importance – Types of HR Metrics – Types of data - HR Metrics Design Principles — HR Scorecard – HR Dashboards
IV	HR Analytics and Data
	HR Analytics and Data: Introduction – HR Data Collection – Data quality – Big data for Human Resources – Process of data collection for HR Analytics – Transforming data into HR information – HR Reporting – Data Visualization – Root cause analysis
V	HR Analytics and Predictive Modelling
	HR Analytics and Predictive Modelling: Introduction – HR Predictive Modelling – Different phases – Predictive analytic tools and techniques – Information for Predictive analysis - Software solutions - Predictive Analytic Models for Quantitative Data - Steps involved in predictive analytics

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## PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

1	Skill development	~	Entrepreneurial development
	Employability		Professional Ethics
1	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# **Syllabus Revision**

Board: Commerce

Semester:IV

Course Code/Name: International Business

Unit	Existing	Changes
I	International Business: An overview – Evolution of International business – Drivers of Globalization – Influences of International business – Stages of Internationalization – Differences between domestic business and International business – International business Approaches – Modes of entry – Goals of International business – Advantages of International business – Problems of International business.	Introduction to International business International Business - Meaning, Nature, Scope and Importance- Stages of internationalization of Business-Methods of entry into foreign markets: Licensing- Franchising- Joint Ventures-Strategic Alliances- Subsidiaries and Acquisitions - Framework for analyzing international business environment- Domestic, Foreign and Global Environment-Recent Developments in International Business.
Π	International Business Environment: Introduction – Social and cultural environment – Technological environment – Economic environment – Political environment – Legal environment	Theoretical Foundations of International business Theoretical Foundations of International Business: Theory of Mercantilism- Theory of Absolute and Comparative Cost Advantage - Haberler's Theory of Opportunity Cost- Heckscher- Ohlin Theory Market Imperfections Approach-Product Life Cycle Approach - Transaction Cost Approach - Dunning's Eclectic Theory of International Production.
III	Modes of Entering International Business: Introduction – Modes of entry – Exporting , Licensing , Franchising , Contract manufacturing , Management contracts , turnkey projects, foreign direct investment , Joint ventures – comparison of Different modes of entry – Functional Alliances – managing conflict situations – Break – Up of – Alliances.	Legal framework of International Business Legal framework of International Business: Nature and complexities: Code and common laws and their implications to Business - International Business contract - Legal provisions, Payment terms
IV	<b>Foreign Direct Investment:</b> Meaning – International Investment Theories – Factors Influencing FDI – Reasons for FDI – costs and benefits of FDI – Trends in FDI	Multi-Lateral Agreements and Institutions Multi-Lateral Agreements and Institutions: Economic Integration – Forms: Free Trade Area,

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	– Foreign Direct Investment in India.	Customs Union, Common Market and Economic Union-Regional Blocks: Developed and Developing Countries-NAFTA- EU-SAARC, ASEAN - BRICS - OPEC-Promotional role played by IMF-World Bank and its affiliates- IFC, MIGA and ICSID – ADB -Regulatory role played by WTO and UNCTAD
V	Multinational Corporations: Definitions and concepts – Factors that contributed for the growth of MNCs – Advantages and Disadvantages – control over MNCs – Organizational structure of MNCs – Relationship between headquarters and subsidiaries – MNCs in India – The Indianisation of Transnationals.	Multinational Companies (MNCs) and Host Countries Multinational Companies (MNCs) and Host Countries: MNCs – Nature and characteristics. Decision Making-Intra Firm Trade and Transfer Pricing – Technology Transfer- Employment and labour relations- Management Practices- Host Country Government Policies-International Business and Developing countries: Motives of MNC operations in Developing Countries (Discuss case studies)-Challenges posed by MNCs.

# PERCENTAGE OF SYLLAUS REVISED: 50 COURSES FOCUSES ON:

~	Skill development	$\checkmark$	Entrepreneurial development
1	Employability		Professional Ethics
	Gender Sensitization	$\checkmark$	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights	<i>t</i>	

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## **Syllabus Revision**

Board: Commerce

Semester:IV

Course Code/Name: Organizational Behaviour

Unit	Existing	Changes
Ι	Introduction: Concept and meaning of OB – Nature of OB – Role of OB – Approaches to OB – Characteristics of OB.	Introduction to Organizational Behaviour and Learning
		Introduction to Organizational Behaviour – OB Models - Challenges facing management – Personality – Perception- Attitudes – Values. Organisational Learning: Meaning, Theories (Chris Argyris and Donald Schon: Espoused theory, Theory-in-use, Three levels of learning) Introduction to learning organisation.
Ш	Individual Behavior – Perception – Personality – Meaning and Definition of perception – Nature of Perception – Importance of Perception – Perception Process – Stages in the Development of Personality – Nature of Personality – Group	Motivation and Job Satisfaction Motivation Theories – Content theories (Maslow, Herzberg, ERG), Process Theories (Vroom,Porter and Lawler) – Job Satisfaction- Organisational commitment
1	Dynamics – Types of Groups.	
III	Leadership – Meaning and Definitions – Nature and Characteristics of Leadership – Leadership Styles (or) Types of Leadership – Functions – Importance of Leadership – Successful Leadership – Leadership Theory.	Organisational structure and Communication Organisational structure- Factors, Forms. Importance of virtual organisations -Organisational communication- Importance, Forms, Functions. Organisational Climate and Culture. Business communication: Harnessing Business Emails and Corporate Communication tools.
IV	Authority – Elements and Characteristics – Types of Authority – Nature of Accountability – Delegation of Authority – Elements of Delegation – Principles of Delegation –Types of Delegation – Importance of Delegation	Transactional Analysis and Organizational Conflicts Transactional analysis: Meaning, Benefits, Levels of self-awareness, Analysis of transactions. Organizational Conflicts – Process, Levels, Conflict management. Negotiation – Types and Process - Introduction to Workplace Spirituality
V	Motivation – Meaning and Definition of motivation – Nature – Types – Importance of Motivation – Theories of Motivation –	Contemporary practices in Organisational Change and Development

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	Features of Theory Z – Motivational	International Organisational Behaviour Practices -
2	Techniques –Limitations of MBO –	Organizational Change and Change Management.
1	Implementation of MBO –Job Enrichment.	Organisational Development – Meaning, Models
		and Interventions

# PERCENTAGE OF SYLLAUS REVISED: 70 COURSES FOCUSES ON:

~	Skill development	~	Entrepreneurial development
1	Employability		Professional Ethics
	Gender Sensitization	~	Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# Syllabus Revision- New Course

Semester: IV

**Board: Commerce** 

Course Code/Name: INSOLVENCY LAW AND PRACTICE

Unit	Content
I	Introduction to Insolvency and Bankruptcy Code
	Introduction to Insolvency and Bankruptcy Code: Concepts, Need for the Insolvency and Bankruptcy Code 2016 - Important Definitions
II	Corporate Insolvency Resolution Process
	Corporate Insolvency Resolution Process: Legal Provisions; Committee of Creditors; Procedure; Documentation; Appearance; Approval. Insolvency Resolution of Corporate Persons: Contents of resolution plan; Submission of resolution plan; Approval of resolution plan - Resolution Strategies: Restructuring of Equity and Debt - Compromise and Arrangement; Acquisition; Takeover and Change of Management; Sale of Assets.
III	Liquidation and Adjudication of Corporate Persons
	Liquidation of Corporate Person: Initiation of Liquidation; Powers and duties of Liquidator; Liquidation Estate; Distribution of assets; Dissolution of corporate debtor - Voluntary Liquidation of Companies: Procedure for Voluntary Liquidation; Initiation of Liquidation; Effect of liquidation; Appointment; Remuneration; Powers and duties of Liquidator; Completion of Liquidation - Adjudication and Appeals for Corporate Persons: Adjudicating Authority in relation to insolvency resolution and liquidation for corporate persons; Jurisdiction of NCLT; Grounds for appeal against order of liquidation; Appeal to Supreme Court on question of law; Penalty of carrying on business fraudulently to defraud traders
IV	Cross Border Insolvency
	Cross Border Insolvency: Introduction; Global developments; UNCITRAL Legislative Guide on Insolvency Laws; UNCITRAL Model Law on Cross Border Insolvency; World Bank Principles for Effective Insolvency and Creditor Rights; ADB principles of Corporate Rescue and Rehabilitation; Enabling provisions for cross border transactions under IBC, Agreements with foreign countries.

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V	Professional and Ethical Practices for Insolvency Practitioners
	Professional and Ethical Practices for Insolvency Practitioners: Responsibility and accountability of Insolvency Practitioners; Code of conduct; Case laws; Case Studies; and Practical aspects.

### PERCENTAGE OF SYLLAUS REVISED:100 COURSES FOCUSES ON:

1	Skill development	✓ '	Entrepreneurial development
	Employability		Professional Ethics
$\checkmark$	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

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# SCHOOL OF EDUCATION

# DEPARTMENT OF EDUCATION

# MINUTES OF THE MEETING OF THE BOARD OF STUDIES (BOS)\*

Board: Education

# The Meeting of Board of Studies (BOS) was held as given below:

Name of the Body	Board of Studies
Dynamical	Education
Meeting no	13
Date and Dane	24.06.2023 & 11.00 A.M
Venix	PRIST BLOCK
Members Attended	The details are given in the ANNEXURE-1

	AGENDA
	Confirmation of the previous Meeting Minutes.
•	Action taken on the previous Meeting Minutes.
:	Discussion on syllabitor B.Ed-Pull time.
4	Discussion on syllabi for M.Ed-Full time.
	Discussion on Value Added Certificate Courses.
	Discussion onCeaching for Competitive Exams& Higher Education.
-	Discussion on MOOC SWAYAM Course.
S	Discussion on Indian Knowledge System (IKS).
0	Discussion on Extension Activity for 2023-2024 Academic Year.
0	Discussion on Internship.
11	Discussion on Disaster Management Course.
12	Discussion on Cyber Security in Teacher Education ( 3 Units Included in ICT Paper)
13	Any other matter.

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# MINUTES OF THE BOARD OF STUDIES'MEETING

# **Board: Education**

The Chairman of BOS welcomed all the Board members for the meeting. The items listed in the agenda were taken up for discussion.

The following are the minutes of the meeting

Agendum 1: Confirmation of the previous Meeting Minutes

Discussion: The members of the board discussed elaborately about the existing Curriculum and

syllabi for both B.Ed and M.Ed courses.

Resolution: The Board approved the same. Included the two new courses in the academic year on

wards. The detailed syllabus attached in the annexure.

Agendum 2: Action taken on the previous Meeting Minutes

Discussion: The feedback from various stake holders from 2019 batch students comments they

introduce the ICT paper along with Cyber Security and Disaster Management also included in the syllabi for the current new scenario.

Resolution: The Board unanimously approved the new introduced paper syllabus.

Agendum 3: Discussion on syllabi for B.Ed-Full time.

Discussion: B.Ed - Full time (2 years)

B.Ed - Yes, Change in Curriculum and syllabi.

Resolution: The Board recommended the syllabus revision for approval by the Academic Council.

Agendum 4: Discussion on syllabi for M.Ed-Full time.

Discussion: M.Ed - Full time (2 years)

M.Ed- Yes, Change in Curriculum and syllabi.

Resolution: The Board recommended the syllabus revision for approval by the Academic Council.

Agendum 5: Discussion on Value Added Certificate Courses.

Discussion: The board members discussed the two value added certificate courses on

1. General Awareness

2. Mental Health

3. Environmental Awareness

4. Basics of laptop maintenance and OS installation

5. Time management



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Resolution: After due deliberations, the Board recommended the syllabus of the Value Added Courses for approval by the Academic Council.

Agendum 6: Discussion on Coaching for Competitive Exams& Higher Education.

Discussion: The board members discussed and recommended the students to appear the Competitive Exams conducted by TET, TRB)& TNPSC etc..

Resolution: The Board approved the same.

Agendum 7: Discussion on new online MOOC SWAYAM Course.

Discussion: Students are asked to register the MOOC SWAYAM course Educational Leadership.

Accreditation and Outcome based Learning, Learning Analytics Tools, National Educational Policy

2020 Professional Development Programme and Research Ethics using Research Methodology

Creating a New Global Education Curriculum.

Resolution: The Board approved the same.

Agendum 8: Discussion on Indian Knowledge System (IKS).

Discussion: Field visits to places of Historical importance, Conduct in the campus of traditional

festivals were suggested as part of exposing the students to the aspects of Indian Knowledge System. Resolution: The Board unanimously approved.

Agendum 9: Discussion on Extension Activity for 2023-2024 Academic Year.

Discussion: Certificate to be awarded for participating students each Extension Activity such as

National Service Scheme, Unnat Bharath Abhiyan, Youth Red Cross, Centrefor Human

Right.Psychosocial Support Cell, Women'S Grivances redressal cell, Centre for yoga and Meditation,

Resolution: The Board approved the same.

Agendum 10: Discussion on Internship.

Discussion: The board members discussed and recommended the Teaching Competence Internship

for B.Ed., students to allot a school training programme for 16 weeks (80 days) based on NCTE

norms. This programme has been arranged by the department.

Resolution: The Board approved the same.

Agendum 11: Discussionon new B.Ed., courses were introduced Disaster Management. Indian

Knowledge System, Critical Understanding of ICT and Cyber Security and also in M.Ed., new

course ICT and Cyber Security in Teacher Education.

Discussion: The board members discussed core and elective new Courses and syllabus.

Resolution: The Board approved the same.

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Agendum 12 : Any other matter

Discussion: The board members discussed and recommended the NCTE/NAAC/UGCcoordinator& Panel of Examiners.1.Dr.R.Gunasekaran, Dean, School of Education 2. Dr P.Rajasekar, Professor 3. Dr.K.B.JasmineSuthandira Devi,Professor 4. Dr.M.Aron Antony Charles, Associate Professor

Resolution: The Board unanimously approved.

The chairman of Board of Studies (BOS) thanked all the members for their active participation and cordially invited them for the next meeting

Date: 24.06.2023

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# BOS Chairman/HOD Seal

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# ATTENDANCE OF THE THIRTEENTH BOARD OF STUDIES MEETING

Board :Education

Date:24.06.2023

Time:11.00 A.M.

Venue:PRIST BLOCK

The following members were present for the Board of Studies meeting

Name/Degree/Designation	Institute/Organization/ Full address	Online/ Physical	Signature (sean, if online)
Dr.R.Gunasekaran, M.Sc., M Ed., M.Phil., Ph.D., Dean School of Education	Chairman Ponnaiyah Ramajayam Institute of Science and Technology(PRIST). Thanjayur.	Physical	Play 24/06/23
Dr. N.Sasikumar M.Sc., M.Ed., M.Phil., Ph.D Associate Professor, Head, Department of Educcation, AlagappaUniversity, Karaikudi.	Academic Expert Department of Education Alagappa University, Karikudi, Sivakangai Dt. Pin Code: 630 003. Email: sasismile25@gmail.com Ph.No: 9865705482	Physical	Dr. N. SASIKUMAR US MOOTH MEANING PRO Assistant Professor Department of Education Alagapta University Karaikudi - 630 003
Dr.K. Muthusamy M.Com,M.Ed,M.Phil,Ph.D., Principal,AnnaiFathima College of Education, Kumbakonam.	External Member Annai Fathima College of Education, Kovilacheri, Kumbakonam, Thanjavur Email: kmsamy28@gmail.com Ph. No: 9994033887	Physical	J. Mar have
Dr. P.Rajasekar M.A., M.Ed, M. Phil, Ph.D., Professor Department of Education	Professor Department of Education Ponnaiyah Ramajayam Institute of Science and Technology(PRIST), Thanjavur.	Physical	24.101/2023
Dr.K.B.JasmineSuthandira Devi	Professor	Physical	K.B. Jus d. d.
	Dr.R.Gunasekaran, M.Sc., M.Ed., M.Phil., Ph.D., Dean School of Education Dr. N.Sasikumar M.Sc., M.Ed., M.Phil, Ph.D. Associate Professor, Head, Department of Education, AlagappaUniversity, Karaikudi. Dr.K. Muthusamy M.Com, M.Ed, M.Phil, Ph.D., Principal, AnnaiFathima College of Education, Kumbakonam. Dr.P.Rajasekar M.A., M.Ed, M. Phil, Ph.D., Professor Department of Education	Full addressDr.R.Gunasekaran, M.Sc., M.Ed., M.Phil., Ph.D., DeanChairman Ponnaiyah Ramajayam Institute of Science and Technology(PRIST), Thanjavur.Dr. N. Sasikumar M.Sc., M.Ed., M.Phil., Ph.D. Associate Professor, Head, Department of Education, AlagappaUniversity, Karaikudi.Academic Expert Dopartment of Education AlagappaUniversity, Karikudi, Sivakangai Dt. Pin Code: 630 003. Email: sasismile25@gmail.com Ph.No: 9865705482Dr. K. Muthusamy M.Com, M.Ed, M.Phil, Ph.D., Principal, AnnaiFathima College of Education, Kumbakonam.External Member Annai Fathima College of Education, Kovilacheri, Kumbakonam, Thanjavur Email: kmsamy28@gmail.com Ph. No: 9994033887Dr. P.Rajasekar M.A., M.Ed, M. Phil, Ph.D., Professor Department of EducationProfessor Department of Education Ponnaiyah Ramajayam Institute of Science and Technology(PRIST), Thanjavur.	Full address _PhysicalDr.R.Gunasekaran, M.Sc., M.Ed.,M.Phil., Ph.D., DeanChairman Ponnaiyah Ramajayam Institute of Science and Technology(PRIST), Thanjavur.PhysicalDr. N.Sasikumar M.Sc.,M.Ed.,M.Phil,Ph.D. Associate Professor, Head, Department of Education, AlagappaUniversity, Karikudi.Academic Expert Education Alagappa University, Karikudi, Sivakangai Dt. Pin Code: 630 003, Email: sasismile25@gmail.com Ph.No: 9865705482PhysicalDr. K. Muthusamy M. Com,M.Ed,M.Phil,Ph.D., Principal, AnnaiFathima College of Education, Kumbakonam, ThanjavurExternal Memb&r Annai Fathima College of Education, Kovilacheri, Kumbakonam, Thanjavur Email: kmsamy28@gmail.com Ph. No: 9994033887PhysicalDr. P. Rajasekar M.A., M.Ed, M. Phil, Ph.D., Professor Department of EducationProfessor Department of Education Ponnaiyah Ramajayam Institute of Science and Technology(PRIST), Thanjavur.Physical

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		Technology(PRIST), Thanjavur.		
6	Dr.M.Balasubramanian M.A , M.Ed,M. Phil, Ph.D., Associate Professor Department of Education	Associate Professor Department of Education Ponnaiyah Ramajayam Institute of Science and Technology(PRIST), Thanjavur.	Physical	N.Beleg
7	Dr.M.Aron Antony Charles M.Sc., M.Ed,M. Phil, Ph.D., Associate Professor Department of Education	Associate Professor Department of Education Ponnaiyah Ramajayam Institute of Science and Technology(PRIST), Thanjavur.	Physical	d.
8	Dr.S.Selvaraj M.A.M.Ed, M.Phil, Ph.D., Assistant Professor Department of Education	Assistant Professor Department of Education Ponnaiyah Ramajayam Institute of Science and Technology(PRIST), Thanjavur.	Physical	S. Sal-
9	Mrs.R.Vaishnavi M.A,M.Ed, M. Phil, Assistant Professor Department of Education	Assistant Professor Department of Education Ponnaiyah Ramajayam Institute of Science and Technology(PRIST), Thanjavur.	Physical	P Jourst
10	T.Selvaraj M.Sc ,M.Ed, M. Phil, Assistant Professor Department of Education	Assistant Professor Department of Education Ponnaiyah Ramajayam Institute of Science and Technology(PRIST), Thanjavur.	Physical	75017 24/08/2
11	Mrs.T.Subhashini M.A,M.Ed , M. Phil, Assistant Professor Department of Education	Assistant Professor Department of Education Ponnaiyah Ramajayam Institute of Science and Technology(PRIST), Thanjavur.	Physical ,	P. 2 2410312
12	P. Merlin Jenita	Alumini Teacher,Ponnaiyah Ramajayam Public	Physical	Ð
	HCD School of Federation		-l.	Al-

aig g Science & Technology (PRIST)



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		School, CBSE Thanjavur.		
13	A.R. Ravitha	Student Representative II PG M.Ed.	Physical	A.R. Pavilla 2416124
14	C. Surendar	Student Representative II UG B.Ed.,	Physical	C. Swrender
15	S. Dharshini	Student Representative I UG B.Ed.,	Physical	S. Pharshim
16	P. Karthikeyan	Student Representative Ph.D., Student	Physical	P. Kortikesje
17	P.Darthi	Student Representative Ph.D., Student	Physical	D. arth: P

**BOS Chairman/HOD** Seal

Date: 24.06.2023

# NOTE:

B.Ed

 $\succ$  Semester – I No Changes

Semester – II Elective – Disaster Management paperincluded in the syllabus Subject Code: 22130EP24C-Teaching Early Child Hood Education paper Removed from the syllabus.

Semester – II Elective – Indian Knowledge System paper included in the syllabus Subject Code: 22130EP33B - Drama and art in Education paper Removed from the syllabus.

Semester – IV Elective – Critical Understanding of ICT and Cyber Security paper Included in the syllabus Subject Code: 22130EP45A ICT paper 3 units,

Cyber Security 2 Units)

#### M.Ed

- $\rightarrow$  Semester I No Changes
- ➢ Semester − II No Changes
- ➤ Semester II No Changes
- Semester IV Tool Course Paper III-- ICT and Cyber Security in Teacher Education Included in the syllabus Subject Code: 22230TC43 -- (ICT – 2 Units and Cyber Security 3 units) ICT on Teaching and Learning paper name Changed.

Mandatory Attachments:

- 1. Minutes of the previous BoS meeting minutes and report on the follow-up action taken.
- 2. BoS Meeting 'Notification' sent to all members, including online meeting link.
- 3. Screenshots and geo-tagged photos in the venue.
- 4. Attendance sheet print of attendees.

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# B.Ed revised Syllabus attached below:

# PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY [PRIST]

# DEPARTMENT OF EDUCATION

# B.Ed. SYLLABUS, 1<sup>st</sup> YEAR SEMESTER -II

# ENHANCING PROFESSIONAL CAPABILITIES (ELECTIVE) COURSE TITLE: DISASTER MANAGEMENT COURSE CODE: 22130EP24C

# **COURSE OBJECTIVES:**

#### The student- teachers will be able to:

CO1: Comprehend the meaning, definitions and concept of disaster management

CO2: Understand the different theories of disaster management

CO3: Develop knowledge on cognizance of recent updates on management Acts

And guidelines of State and Union Governments.

CO4: Acquaint with the approaches, techniques and application of Science &

Technology to encounter disasters and any other emergencies.

CO5: Realize their role in prevention and rescue in disaster emergency.

# **UNIT – I: INTRODUCTION TO DISASTER MANAGEMENT**

Disaster Management: Meaning and definitions - Types: Geological, Biological and Man-made Disasters – Global Disaster trends – Emerging risk of Disasters – Climate

change.

UNIT – II: APPROACHES AND TECHNIQUES OF DISASTER MANAGEMENT Disaster Management: Principle's and Framework Cycle – Theories of Disaster

Management: Sustainable Development theory, Emergency Management theory,

System theory, Policy making theory and Networking & Management theory.

# UNIT - III: DISASTER MANAGEMENT IN INDIA

Disaster profile of India - Mega Disasters of India and lessons learnt - Disaster

Management Act 2005 - Institutional and financial Mechanism - National policy on

Disaster Management - National guidelines and plans on Disaster Management.

# UNIT - IV: AGENCIES OF DISASTER MANAGEMENT

International Agencies: The Asian and Pacific Centre for Transfer of Technology (APCTT), FAO, UNDP, UNICEF, UNESCO, UNFPA, WFP, International Strategy for

Disaster Reduction (ISDR) - Disaster Management Agencies in India: National Disaster

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Response Force (NDRF); National Disaster Management Authority (NDMA); National Institute of Disaster Management (NIDM); State Disaster Management Authority

(SDMA) - NGO's - Social Media

UNIT - V: ROLE OF EDUCATIONAL INSTITUTIONS IN DISASTER MANAGEMENT Role of Teachers: General awareness in Schools/Colleges - Creating the Disaster

prevention and response plan - Constituting of prevention and resource teams - Action

plan check list - Role of Students: Plan before, during and after Earthquake, Landslides,

Floods, Cyclone-warning, and high-rise fire.

# SUGGESTED ACTIVITIES

- 1. Conduct a seminar on the role of Science & Technology on DisasterManagement.
- Invited lecture by legal expert on various legal measures on DisasterManagement.
- 3. Preparation of Disaster Risk Management Plan of an Area orSector.
- 4. Study of Recent Disasters (at local, state and nationallevel).
- 5. Write a reflective report on disaster management agencies at international and national level.

# TEXT BOOKS

- 1. Coppola, D. P, (2007). Introduction to international disaster management. London: Elsevier Science(B/H).
- 2. David Alexander. (1999): Natural disasters. London: KluwerAcademic.
- 3. Modh, S. (2010). Managing natural disasters. New Delhi: Mac MillanPublishers.
- 4. Murthy, D.B.N. (2012) Disaster management. New Delhi: Deep and DeepPublication.
- 5. Srivastava, H.N. & Gupta, G.D. (2006). Management of natural disasters in developing countries. Delhi: Daya Publishers.

# SUPPLEMENTARY READINGS

- 1. Angus, M. G. (2008). Encyclopedia of disasters: Environmental catastrophes and human tragedies. (Vol. 1 & 2) GreenwoodPress.
- 2. AnuKapur (2005). Disasters in India studies of grim reality. Jaipur: RawatPublishers,
- 3. Disaster Management Guidelines. GOI-UND Disaster Risk Program(2009-2012).
- 4. S. L. (2006). Encyclopedia of disaster management, disaster management policy and administration, (Vol I, II & III), New Delhi: Deep & DeepPublications.
- 5. Gupta, A. K; Niar, S.S & Chatterjee, S. (2013). Disaster management and risk reduction, role of environmental knowledge. Delhi: Narosa PublishingHouse.

# **E-RESOURCES**

- 1. http//:www.wui.org
- 2. http//:www.ifvc.org
- https://www.mba.gov.in

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- 4. http//:www.unoosa.org
- 5. http//:www.ndvf.gov.in

### **COURSE OUTCOMES**

# After completion of this course, the student-teacher will be able to:

CO1: Analyze the different types of Disaster Management.

CO2: Apply the techniques and approaches to Disaster Management.

CO3: Describe national Policy on Disaster Management.

CO4: Discuss the role of various international and national agencies of disaster Management.

CO5: Explain knowledge on role of educational institutions in disaster management.

Course outcomes	PROGRAMME SPECIFIC OUTCOMES											
	1	2	3	4	5	6	7	8	9	10	11	12
CO1	et e				-		*			** = W * (7) * (	*****	
CO2		*			*		*			energe som alde to	a ing hereid	ŵ
CO3	• <del>•</del>	*					*			*		*
CO4							*	177-181 (P) 78 (S)		*		
CO5		-				*	* ,			*		-

# **OUTCOME MAPPING**

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# PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY [PRIST]

# DEPARTMENT OF EDUCATION B.Ed. SYLLABUS, II<sup>st</sup> YEAR SEMESTER – III ENHANCING PROFESSIONAL CAPABILITIES (ELECTIVE) COURSE TITLE: INDIAN KNOWLEDGE SYSTEM COURSE CODE: 22130EP33B

#### COURSE OBJECTIVES:

#### The student - teachers will be able to:

**CO1:** Creating awareness amongst the youths about the true history and rich culture of the Country

CO2: Understanding the scientific value of the traditional knowledge of India.

**CO3:** Promoting the youths to do research in the various fields of Indian knowledge system **CO4:** Converting the Indian wisdom into the applied aspect of the modern scientific paradigm **CO5:** Adding career, professional and business opportunities to the youths.

#### UNIT -1: Indian Civilization and Development of Knowledge System

Genesis of the land. Antiquity of civilization, On the Trail of the Lost River, Discovery of the Saraswati. River, the Saraswati-Sindhu Civilization, Traditional Knowledge System, The Vedas, Main Schools of Philosophy, Ancient Education System, the Taksasila University, the Nalanda University, Alumni, Knowledge Export from India.

#### UNIT-II: Arts, Literature, and Scholars

Art, Music, and Dance, Natarajan– A Masterpiece of Indiah Art, Literature, Life and works of Agastya, Lopamudra, Ghosha, Valmiki, Patanjali, Vedavyasa, Yajnavalkya, Gargi, Maitreyi, Bodhayana, Caraka, Suśruta, Jivaka, Nagarjuna, Kanada, Patanjali, Kautilya, Panini, Thiruvalluvar, Aryabhata, Varahamihira, Adisankaracharya, Bhaskaracarya, Madhavacarya,

#### UNIT-III: Science, Astronomy, and Mathematics

Concept of Matter, Life and Universe, Gravity, Sage Agastya's Model of Battery, Velocity of Light, Vimana: Aeronautics, Vedic Cosmology and Modern Concepts, Kerala School for Mathematics and Astronomy, History and Culture of Astronomy, Sun, Earth, Moon, and Eclipses, Earth is Spherical and Rotation of Earth, Archaeostronomy; Concepts of Zero and Pi, Number System, Pythagoras Theorem, and Vedic Mathematics.

#### UNIT-IV: Engineering, Technology, and Architecture

Pre-Harappan and Sindhu Valley Civilization, Laboratory and Apparatus, Juices, Dyes, Paints and Cements, Glass and Pottery, Metallurgy, Engineering Science and Technology in the Vedic Age and Post-Vedic Records, Iron Pillar of Delhi, Rakhigarhi, 'Mehrgarh, Sindhu Valley Civilization, Marine Technology, and Bet–Dwarka.

# UNIT-V: Life, Environment, and Health

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Ethnic Studies, Life Science in Plants, Anatomy, Physiology, Agriculture, Ecology and Environment, Ayurveda, Integrated Approach to Healtheare, Medicine, Microbiology, Medicine, Surgery, and Yoga.

# Reference Books:

- Textbook on The Knowledge System of Bhärata by Bhag Chaud Chauhan,
- Histrory of Science in India Volume-1, Part-1, Part-11, Volume VIII, by SibajiRaha, et al.
- National Academy of Sciences, India and TheRamkrishan Mission Institute of Culture, Kolkata
- (2014).
- Pride of India- A Glimpse of India's Scientific Heritage edited by Pradeep Kohle et al.
- SamskritBharati (2006).
- Vedic Physics by KeshavDevVerma, MotilalBanaráidasa Publishera (2012).
- India's Glorious Scientific Tradition by Suresh Soni, Ocean Books Pvt. Ltd. (2010).
- Scientific Knowledge in Sauskrit Literature NirmalTrikha
- Indian Astronomy: An Introduction S. Balachandra Rao
- Ancient Indian Sciences B. Scal
- Science in Ancient India (Science of the Past) Mellasa Stewert
- India's Contribution to World Culture SudheerBirodkar
- · Ancient India R. C. Majumdar
- Ancient Indian Sciences Swami ChidatmanJeeMaharaj
- KrishiParashara Agriculture by Parashara Asian Agri-History
- Foundation
- The Art of India through the Ages Stella Kramrisch
- Early Indian Secular Architecture K.Krishna Murthy
- The Asian Elephant: Ecology and Management<sup>a</sup> Cambridge Univ, Presa

## COURSE OUTCOME

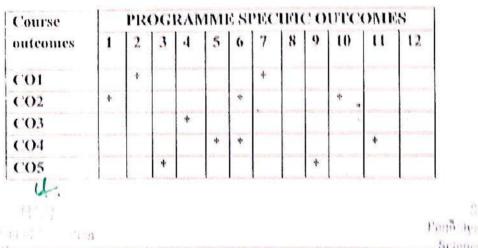
After completing this course, the students will be able to:

- CO1: Describe the need and importance of Indian Civilization.
- CO2: Demonstrate the various Art, Music, and Dance skills,

CO3. Prepare a model for Universe and Gravity.

- CO4. Handle various Methods of Teaching Technology.
- CO5. Utilize various instructional media in Environment, and Health.

# OUTCOME MAPPING





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Science & Technology (PHIST) THANJAVUR - 613 403

# M.Ed revised Syllabus attached below:

# PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY [PRIST]

# DEPARTMENT OF EDUCATION B.Ed. SYLLABUS – SECOND YEAR SEMESTER – IV ENHANCING PROFESSIONAL CAPABILITIES ELECTIVE - CRITICAL UNDERSTANDING OF ICT AND CYBER SECURITY COURSE CODE: 22130EP45A

# COURSE OBJECTIVES:

# The student- teachers will be able to:

CO1: understand the concept of Information and Communication Technology

CO2: acquire knowledge about new horizons in ICT

CO3: Learn the foundations of Cyber security and threat landscape.

CO4: To equip students with the technical knowledge and skills needed to protect and defend Against cyber threats.

CO5: To develop skills in students that can help them plan, implement, and monitor cyber secure Mechanisms to ensure the protection of information technology assets.

# UNIT - I INFORMATION AND COMMUNICATION TECHNOLOGY

ICT - Concept - Objectives - Types of computer - Hard ware and software - Role of ICT - Need and Importance of ICT - Characteristics and Scope of Information and Communication Technology - new horizons in ICT Recent trends in the area of ICT

- Interactive Video-Interactive White Board- video-conferencing – Audio 24 DEAN School of Education

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conferencing – Tele conferencing - M-learning, Social Media- Community Radio -Gyan Darshan, - Gyanvani - Sakshat Portal - e-Gyankosh - Blog - MOOC - What Sapp - Facebook - Twitter etc.-Recent experiments in the third world countries and pointers for India with reference to Education.

## UNIT - II COMMUNICATION AND INTERACTION

Communication – Concept - Elements - Process - Barriers and nature - Types of elassroom communication-verbal, non - verbal elassroom communication- its barriers and solutions - ICT ENRICHED LEARNING EXPERIENCES - Application of ICT for Enriching Classroom Experiences – Application and use of Multimedia Educational Software for Classroom situations – Use of Internet based media for teaching and learning enrichment - learning using computers- Internet and Activities – Collaborative learning using group discussion, projects - field visits - blogs - etc.

#### UNIT - III ICT IN EDUCATION

E-learning – Meaning - Advantages and Disadvantages – Open Educational Resources - Concept and Significance - Internet and Education - Critical Issues in Internet usage – Authenticity - Addiction - Plagiarism, - Ethical and Legal Standards - INTERNET AND ITS APPLICATIONS - Introduction - History of the internet-Understanding WWW- Web browsers - Favorites and bookmarks - Kinds of information available - Parts of internet, searching the net, researching on the net intranet.

## UNIT - IV INTRODUCTION TO CYBER SECURITY

Defining Cyberspace and Overview of Computer and Web-technology, Architecture of cyberspace, Communication and web technology, Internet, World wide web, Advent of internet, Internet infrastructure for data transfer and governance, Internet society, Regulation of cyberspace, Concept of cyber security, Issues and challenges of cyber security,

## UNIT - V CYBER CRIME AND CYBER LAW

Classification of cybercrimes, Common cybercrimes- cybercrime targeting computers and mobiles, cybercrime against women and children, financial frauds, social engineering attacks, malware and ransom ware attacks, zero day and zero click attacks, Cybercriminals modus-operandi . Reporting of cybercrimes, Remedial and mitigation measures, Legal perspective of cybercrime, IT Act 2000 and its amendments, Cybercrime and offences, Organisations dealing with Cybercrime and Cyber security in India, Case studies.

## SESSIONAL ACTIVITIES:

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• Use various social networks in teaching and learning and report their feffectiveness on learning of the students.

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- Prepare a communication module on any-one topic and analyse its effectiveness for student learning.
- Prepare a multimedia package on any one topic to enrich the teaching learning process.
- Submit a report on critical issues in utilization of internet among learners.
- Organize a seminar on the impact of Cyber security in Educational institutions.
- Prepare various types of graph highlighting the performance of students.

# **REFERENCES:**

- Aggarwal.D.D.(2004). Educational Technology. New Delhi: Sarup Publishing House.
- Aggarwal, J. C. (2013). Modern in Educational Technology. New Delhi Black Prints.
- Bharihok, D. (2000). Fundamentals of Information Technology. New Delhi: Pentagon Press.
- Bhattachary, S.P. (1994). Models of Teaching. Regency Publications.
- Byran, P. (1997). Discover the Internet Comdex Computer. New Delhi: Dream Tech Publishing.
- Conrad, K. (2001). Instructional Design for Web based Training. HRD Press
- Cyber Crime Impact in the New Millennium, by R. C Mishra, Auther Press. Edition 2010
- Cyber Security Understanding Cyber Crimes, Computer Forensics and Legal Perspectives by SumitBelapure and Nina Godbole, Wiley India Pvt. Ltd. (First Edition, 2011)
- Security in the Digital Age: Social Media Security Threats and Vulnerabilities by Henry A. Oliver Create Space Independent Publishing Platform. (Pearson, 13th November, 2001)
- Electronic Commerce by Elias M. Awad, Prentice Hall of India Pvt Ltd.
- Cyber Laws: Intellectual Property & E-Commerce Security by Kumar K, Dominant Publishers.
- Network Security Bible, Eric Cole, Ronald Krutz, James W. Conley, 2nd Edition, Wiley India Pvt. Ltd.

• Fundamentals of Network Security by E. Maiwald, McGraw Hill

# E-RESOURCES

- https://www.theedadvocate.org/how-to-implement-critical-pedagogyinto-your-classroom/ html?m=1
- 2. https://mypedagogyofenglish1975.blogspot.com/2020/07/chapter-08-



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pedagogical- analysis.

- 3. https://link.springer.com/chapter/10.1007/978-3-642-60968-8\_12
- 4. https://www.simplypsychology.org/case-study.html
- 5. https://learn-u.com/lesson/resource-based-learning

## **COURSE OUT COMES:**

By the end of course, the student teacher will be able to:

CO1: understand the concept of Information and Communication Technology

CO2: acquire knowledge about new horizons in ICT

CO3: Understand the cyber security threat landscape.

CO4: Develop a deeper understanding and familiarity with various types of cyber-attacks, Cybercrimes, vulnerabilities and remedies thereto.

CO5: Analyse and evaluate existing legal framework and laws on cyber security.

## OUTCOME MAPPING

Course Outcomes	PROGRAMME SPECIFIC OUTCOMES											
	1	2	3	4	5	6	.7	8	9	10	11	12
CO1			*							*		
CO2		-		*	-	-					*	
CO3		-			*		-		*			*
CO4		-	*	-	_	*			*	-		
C05		*		*	*		-	*		*		

PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST) SCIIOOL OF EDUCATION VALUE ADDED COURSE

## COURSE CODE:23130VAC01- GENERAL AWARENESS

**OBJECTIVES** 

- To enable the students have a thorough understanding of the various important issues of National and international relevance
- To motivate the students to prepare for competitive exams
- To enable the students to have an overall view of the society in which they live.

UNIT I Current Events of National and International Importance Current social issues, Political issues, Economic issues, Business issues, International issues, Environmental issues, Sports issues, (Issues that took place between June to September of that academic year will be given more weight age )

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UNIT II General and World Geography Natural Resources of the world: Earth in space – Atmosphere, Atmospheric moisture, climate, Hydrosphere, Lithosphere, Landforms – Continents and oceans, mountains, plateaus and plains, Internal and External forces of Earth. Soils, Natural vegetation and wild life, Economic, Resources, Agriculture, Industry, Transport and communication, Continents, Important cities of the world.

UNIT III International Organizations United Nations Organizations, The Commonwealth, SAARC, ASEAN

UNIT IV Indian Geography Land forms, Drainage, climate, Natural vegetation and wild life, Natural Resources of India, Soils, Agriculture, Animal Husbandry and fishing, Mineral Resources, Energy, Industry, Transport and communication., The people, settlements and migration

UNIT V Economic and Social Development National income and structural change, Foreign Trade, Foreign capitals. Prices, Indian currency, Economy Development, Nature of Indian Economy, Social Demographics, poverty, Development Initiatives by the State/Central Government

#### OUTCOMES:

- Enable the students have a thorough understanding of the various important issues of National and international relevance
- Motivate the students to prepare for competitive exams
- Enable the students to have an overall view of the society in which they live.

#### **Reference Books:**

- Kosut.Marry (2012) Encyclopedia of Gender in media, New Delhi. Sage Publications'.
- Carole Brugeiles & Sylvie Cromer (2009) Promoting Gender Equality through Text books Paris UNESCO Publications division.
- Byerly C.M 2011. Global Report on the status of women in the News media, Washihgtan DC. International Women's Media foundation.
- Fredrick Luie Aldama (2005) Brown on Brown Chilapola representations of gender. Sexuality and Ethnicity University of Texas press.

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# PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST) SCHOOL OF EDUCATION VALUE ADDED COURSE

# COURSE CODE: 23130VAC02 - MENTAL HEALTH

#### Objectives

- To expose the students to the knowledge and skills of psychiatric social work
- To make the students understand the psychiatric disorders of child, youth and women
- To enable the students aware of coping strategies for psychiatric problems.

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Unit – I Psychiatric Social Work: Basic concepts, scope, management and treatment for psychiatric disorders.

Unit - Il Major Psychiatrie and Psychotic disorders –Schizophrenia - Its types - MoodDisorder – Other Bipolar Disorders.

Unit – III Minor Psychiatric disorders – Anxiety disorder – Panic disorder – Phobias –Post Traumatic Stress.

Unit – IV Other Psychiatric Disorders – Personality Disorders – Sleep disorder – Speech disorder – Psychosomatic disorder – Suicide.

Unit – V Childhood Psychiatric disorders – Mental Retardation – Learning disorders – Developmental disorders - Autism – Attention Deficit Hyper activity. Psychiatric disorder affecting Women, Youth and aged – Elimination of disorders.

# TEXT BOOKS

- Mane, F. and Gandevia, K., Mental Health in Indian Issues and Concerns(eds.), Mumbai, Tata Institute of Social Sciences, 1993.
- Sonia Austrian, Mental Disorders, Medications and Clinical Social Work, Columbia: Columbia University Press, 2005.

## SUPPLEMENTARY READINGS

American Psychiatric ASSN, Diagnostic Criterion from DSM-IV American Psychiatric ASSN, 1994.

Berrios, G.E. and Dawson, J.H. Treatment and Management in Adult, Bailliere Findal, London, 1983.

Nina Rovinelli Heller, Mental Health and Social Problems, New Delhi, Rutledge: 2010.

Kappur, M. Sheppard, Ralph and Renate, Child Mental Health-Proceedingsof the Indo-US Symposium, eds, NIMHANS and ADAMHA, 1993

World Health Organisation, Geneva, The ICD 10 classification of Mental and Behavioural Disorders, Clinical Description and Diagnostic Guidelines, New Delhi: Oxford University Press, 1992.

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## **Course Outcomes**

Upon completion of the course the students will

- Know the history, scope and changingperspectives of psychiatric problems.
- Understand the various types of psychiatricproblems and their treatment
- Gain knowledge on modern treatment for psychiatric disorders.
- Comprehend the role of psychosomatic disorderin mental illness.

# PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST) SCHOOL OF EDUCATION VALUE ADDED COURSE

# COURSE CODE: 23130VAC03 - ENVIRONMENTAL AWARENESS

#### OBJECTIVES

- To understand the concept of environment ecology and Education.
- To grasp the significance of environmental education.
- To understand the nature and scope of environmental education with regard to Indian policies.
- 2. To have faith in conservation of bio-diversity and understand population and

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environment.

To understand the international effort and environment.

Unit-I: Introduction to Environmental Education Meaning and scope - Importance of Environmental Education - incorporating E.E at various levels- Primary, Secondary and Higher Secondary levels. Education about environment: Environment and Ecological factors - climate; Ecosystem - Structure and functions - Major ecosystems - aquatic and terrestrial system - Energy and its flow in ecosystem.

Unit-II: Environmental problems and protection Environmental pollution and its consequences - Air pollution, water pollution, land pollution, nuclear pollution, Ozone depletions - Urbanization and its impacts on environment - Deforestation and its impacts on environment - Ways of protecting, Management of Environment, Preserving and Restoring of environment.

Unit-III: India and Environmental Issues and Policies Environmental Awareness -Environmental problems of India - Environmental ethics - Nature conservation education movement - Social forestry scheme. Conservation of biodiversity : Meanings and need conservation of natural resources - soil, forest, water and wildlife In-situ conservation -National parks and sanctuaries ,- Biosphere Reserves -Man and Biosphere programme (MAP) -- Ex -- situ conservation, in -- situ conservation, IUCN Red list categories, hot spots.

Unit-IV: Human population and environment Population growth, Indian population situations population explosion - family welfare programme - Environment and Human health.-Factors affecting environment-Acid rain, green house effect-Extinction of species-soil erosion and energy crisis.

Unit-V: International Efforts for Environmental Protection The Stockholm conference 1972 - Brundtland commission 1983 - Nairobi conference 1982 - The Rio Summit 1992 - the Rio Declaration at the earth charter - Major achievement of the Rio Summit - Main features of the Rio Declaration - Kyoto conference and part on Global Warming 1997 - present developments.

#### **OUTCOMES:**

- Discussion on the need and importance of protecting theenvironment
- Seminar on environmental awareness and environmental attitude
- Teacher talk on the need and importance of protecting waterresources
- Preparation of a scrap book on issues related to environment .
- Power point presentation on different types of environmental pollutions and itscauses REFERENCE BOOKS

<u>ayon Institute of</u> where only (PHIST)

- Archana, T. (2011). Environmental education. KalpazPublications.
- Havilah, S. N. (2013). Environmental education. A.P.H. PublishingCorporation.

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- Maria, C. M. (2020). Effect of ecological intelligence on developing ecological sensitivity among prospective teachers. ShashwatPublication.
- Paachuri, S.C. & Kumar, P. (2013). Environmental education. A.P.H. Publishing Corporation.
- Palmer, J.A. (1998), Environmental education in the 21st Century; Theory, practice, progress, and promise, Routledge.

# PONNAIVAH RAMAJAYAM INSTITUTE OF SCIENCE & TECUNOLOGY (PRIST) SCHOOL OF EDUCATION VALUE ADDED COURSE

COURSE CODE: 23130VAC04 - BASICS OF LAPTOP MAINTANANCE AND OS INSTALLATION

**Objectives:** 

To describe the social and professional impact and importance of technology

Utdentify career opportunities related to technology

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## Unit: 1

The Essentials of a computer and its components Laptop Expansion options.

# Unit: II

Various motherboard technologies and identify important motherboard parts. Configuration changes to a computer.

## Unit: III

Plan for a memory installation or upgrade- configuring windows operating systems.

# Unit: IV

Wi-Fi and windows Networks hardware parts that connect to different port of a computer and laptop

## Unit: V

Basic troubleshooting - Install, configure, and troubleshoot Windows, Android, and OS

operating systems.

# OUTCOMES:

- Application of any laptop technique
- Preparation of digital networks for power point presentation
- Develop a Blog of your own and add it in online
- Visit any one IT centre and prepare the report
- Setting of the apparatus for any one experiment in the laboratory and demonstrating the same

## **REFERENCES:**

Balagursamy, Programming in Basic, THN, Delhi.

Aggarwal J.C., (2000) Principles, Methods and Techniques of Teaching, Vikas Publishing House Pvt. Ltd.,

Malvino, Digital Computer Electronics, TMH, Delhi.

Krishna Sagar, (2005) ICTs and teacher training, Delhi: Tarum offset.

Harley, H.K. (2007). The internet: complete reference. New Delhi: Tata McGraw Hill, pub.co. Ltd.

Goel, H.K (2007). Teaching of computer science. New Delhi: R.Lall Books

Brandwein Paul, F. (1955). The Gifted as Future Scientist, New York, Earcourt Deace and Falvery, P., Holbrook, J., Conian, D. (1994). Assessing Students, Longmans Publications, Foundation by Longmans, Penguin Books.

Williams, B., (1999). Internet for Teachers, John Wiley & Sons, U.S.A. World Inc.

Sharma, R.A. (2008). Technological foundation of education. Meerut: R.Lall Books Depot.

# PONNALVAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST) SCHOOL OF EDUCATION VALUE ADDED COURSE

# COURSE CODE: 23130VAC05 - TIME MANAGEMENT

## **OBJECTIVE:**

At the end of the course the students will be able to demonstrate an understanding on

- Introduction, definition and objectives of time management.
- Importance of time management
- Process of time management, tip sand strategies.



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- Benefits of time management
- Scientific narratives oneffective use of time management
- Detecting difficulties in managing time.
- Procrastination and strategies to prevent it.
- Planning time and best practices of time management.
- Unit I: Introduction to Time Management

Definition, Goals, Objectives and principles of time management, Importance and benefits of time management

Unit II Time management Process and Procrastination, Costing time, Goal setting, Planning, Scheduling

Strategies to prevent procrastination

Unit III: Time Management Mistakes, Time wasters, Mythsof time management, Common time management mistakes, Detecting difficulties, Symptoms of poor time management

Unit IV Strategies for students. Benefits of time management, Management tips for students. Time management grid, Working smarter to enhance productivity

Unit V Best Practices of time management, Practicum /Activities, Group Activities, Quiz and Individual Task.

#### Course Outcome:

Attheend of the course the students will be able to:

Demonstrate skil lin setting goals for themselves.

Demonstrate skill in planning of their time.

Adopt strategies for time management.

REFERENCE BOOK

Books ManciniM TimeManagement United Statesof America TheMcGraw-HillCompanies Research Journals(indexed):

Khan IA. Time management paractices used by secondary school heads in Khyber Pakhtunkhwa. GomalUniversity. DI Khan 2017.

Wilson, R., Joiner, K., & Abbasi, A. (2021). Improving students' performance withtime management skills. Journal of University Teaching & Learning Practice, 18(4). https://ro.uow.edu.au/jutlp/vol18/iss4/16

Romero-Pérez, C., & Sanchez-Lissen, E. (2022). Scientific Narratives in the Study of Student Time Management: A Critical Review. International and Multidisciplinary Journal of Social Sciences, 11(2), 60-86. https://doi.org/10.17583/rimcis.10322

https://tok.vo.globalindiauschool.org/blog/importance-of-time-management-to-students

Alyami A, Abdulwahed A, Azhar A, Binsaddik A, Bafaraj SM. Impact of Time- Management on the Student's Academic Performance: A Cross-Sectional Study. Creative Education. 2021 March 4, 12 (3) 471-485

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# SCHOOL OF AGRICULTURE

# DEPARTMENT OF AGRICULTURE

# MINUTES OF THE MEETING OF THE BOARD OF STUDIES (BoS)\*

# Board: Agriculture

# The Meeting of Board of Studies (BoS) was held as given below:

Name of the Body	Board of Studies
Department	Agriculture
Meeting No	13
	15.07.2023 & 10.30 AM
Date and Time	School of Agriculture
Venue	The details are given in the ANNEXURE-I
Members Attended	

AGENDA
To confirm the minutes of BOS meeting held on 18.05.2022
Action taken on previous meeting minutes. Discussion on the development of the B.Sc., (Hons) Agriculture new curriculum under
the norms of ICAR Council for 2023. Discussion on the total credit hours of the degree programme based on ICAR norms for
2023-2024. Discussion on new courses to be added and re-order the courses based on ICAR norms
for 2023-2024. Discussion on mandatory Elective courses on respective semesters for 2023-2024.
Discussion on mandatory Elective courses on respective semicire
Discussion on Mandatory Licentic construction of 2023-2024. Discussion on Bridge courses to be adopted for 2023-2024.
Lating an Non-Gradial compulsory courses for 2023-202 fr
Discussion on question paper setting based on arrivation of the students (Input Other academic activities of the department (Seminars, Workshops).
Other academic activities of the department (Seminars, Weinful) Other academic activities and skill enhancement activities of the students (Input gallery, Vocabulary skill enhancement, Seminars, Crop production and Initiation of student's market).



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# MINUTES OF THE BOARD OF STUDIES MEETING

Board:

The Chairman of BoS welcomed all the panel members for the meeting. The item listed in the agenda were taken for discussion.

The following are the minutes of the meeting

Agendum I: To confirm the minutes of BOS meeting held on 18.05.2022

Discussion: The minutes of the Board of Studies meeting held on 18.05.2023 were

communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the Academic council.

Resolution: The Board resolved to accept the same.

Agendum II: The action taken on the previous meeting minutes.

**Discussion:** Action taken report of the decisions made in the previous BOS and approved by the academic council. Action taken report was presented in the BOS.

Resolution: The Board resolved to accept the same.

Agendum III: Discussion on the development of the B.Sc., (Hons) Agriculture new curriculum under the norms of ICAR Council for 2023.

**Discussion:** A draft curriculum for B.Sc., (Hons) Agriculture was proposed with modification to committee and the following points were discussed.

The members wanted to confirm the total number of credits accounting for 184 credit hours which includes Rural Agricultural Work Experience Programme and Experiential Learning Programme.

The Dean and the External Members of BOS informed that it was done according to the norms of Indian Council of Agricultural Research (ICAR) and will put forth this to the Academic council.

**Resolution:** The Board resolved to accept the same. New syllabus with framed credit hours of ICAR rules for B.Sc., (Hons) Agriculture were discussed for revision and implementation. It will be effective from Academic year 2023-2024.

Agendum IV: Discussion on the total credit hours of the degree programme based on ICAR norms for 2023-2024.

Discussion: Credit hours in old regulation:

Semester Core Courses			ELP Courses		Elective Courses		Research		Total credits	
	No.	Credits	No.	Credits	No.	Credits	No.	Credits	for OGPA	
- 1	11	23	-		-	-	-		23	
				12.0			-		22	
II	9	22	-					-	23	
Ш	11	23	-	- <b>-</b>	-	-				



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V         9         20         -         -         1         3         -         -         23           VI         9         20         -         -         1         3         -         -         23           VI         9         20         -         -         1         3         -         -         23           VI         9         20         -         -         1         3         -         -         23           VII         -         -         1         14         -         -         23           VII         -         -         2         20         -         -         -         20           Final         58         128         3         34         3         9         1         6         177           evised Credit hours to be implemented:         -         24 (14 + 10)         -         24 (14 + 10)         -         24 (14 + 10)         -         24 (15 + 9)         -         -         2 (14 + 11)         -         -         2 (14 + 11)         -         -         2 (14 + 11)         -         -         -         2 (14 + 10)         -         -         -	IV	9	20	-	-	1	3	-		23
VI920-1323VII1141620VIII22020Foral581283343916177vised Credit hours to be implemented: bstract of Distribution Pattern of courses and credit:SemesterNumber of coursesCredit (Theory+ Practical)11124 (14 + 10)11024 (15 + 9)111124 (13 + 11)1V1024 (15 + 9)VI1024 (15 + 9)VI10186 (85 + 101)unmary of Credit hours:S.No.Title1371Core Courses92Elective Courses92Elective Courses93RA WE & ELP186Total186CAR rules for B.S.c., (Hons) Agriculture were approved. It will be effective from AcademiCAR rules for 2023-2024.3agendum V: Discussion on new courses to be added and re-order the courses based on IC.CAR		Constant and Constant			-	1		-	-	23
VII1141620VIII22020Fortal581283343916177evised Credit hours to be implemented: botrato f Distribution Pattern of courses and credit:20I11124 (14 + 10)20III1124 (15 + 9)20III1124 (13 + 11)20IV1025 (14 + 11)20V1124 (13 + 9)20VI1024 (15 + 9)20VI1024 (15 + 9)				-	-	1	3	-		
VIII22020Total5812833916177evised Credit hours to be implemented: bstract of Distribution Pattern of coursesCredit (Theory+ Practical)11124 (14 + 10)11024 (15 + 9)111024 (15 + 9)111124 (13 + 11)111024 (15 + 9)111024 (15 + 9)1124 (13 + 11)1124 (15 + 9)1124 (15 + 9)1124 (15 + 9)1124 (15 + 9)1124 (15 + 9)1141024 (15 + 9)1141024 (15 + 9)1141024 (15 + 9)1141024 (15 + 9)1141024 (15 + 9)11511712137131414186 (85 + 101)14186 (85 + 101)1513715141613717141818619186102023-202420186203-202421138201-12142023-20242124211422142314241624186				1	14	-	-	1	6	
Total581283343916177evised Credit hours to be implemented: bstract of Distribution Pattern of courses and credit:SemesterNumber of coursesCredit (Theory+ Practical)11124 (14 + 10)11024 (15 + 9)111124 (13 + 11)1V1024 (15 + 9)VI1124 (13 + 11)V1124 (15 + 9)VI1024 (15 + 9)VI10186 (85 + 101)ummary of Credit hours:9S.No.Title1371Core Courses92Elective Courses93RAWE & ELP186Total186Total186Total186Total186CAR rules for B.Sc., (Hons) Agriculture were approved. It will be effective from Academicar 2023-2024.act 2023-2024.113endum V: Discussion on new courses to be added and re-order the courses based on IC.orms for 2023-2024.3 AHS 201- Livestock Management3 ECANT 202- Urban Entomology (Ent)3 ECANT 202- Antagonistic formulations3ECANT 202- Antagonistic formulations3ECANT 202- Antagonistic formu			-	2	20	-	-	-	-	and the second se
Other intervention of the implemented:         bistract of Distribution Pattern of courses and credit:         bistract of Distribution Pattern of courses and credit:         implemented:         bistract of Distribution Pattern of courses and credit:         implemented:         bistract of Distribution Pattern of courses and credit:         implemented:         bistract of Distribution Pattern of courses and credit:         implemented:         bistract of Distribution Pattern of courses and credit:         implemented:         Implemen	ALC: NOTE: N	58	128		34	3	9	1	6	177
Total       186 (85 + 101)         ummary of Credit hours:       S.No.         S.No.       Title         1       Core Courses         2       Elective Courses         3       RAWE & ELP         1       Total         1       Total         2       Elective Courses         3       RAWE & ELP         1       186         1       Total         2       Elective Courses         40       186         3       RAWE & ELP         186       186         Coreal       186	bstract of Semester II III IV V V	of Distrib er N	ution Patter	m of courses	irses and	credit: Credit (Th	$     \begin{array}{r}       24 \\       24 \\       24 \\       25 \\       24 \\       24 \\       24 \\       41 \\       41       \end{array} $		) ) )	
S.No.       Title       137         1       Core Courses       9         2       Elective Courses       9         3       RAWE & ELP       40         3       RAWE & ELP       186         Total       186       100         tesolution: The Board resolved to accept the same. New syllabus with framed credit hours       credit hours         care 2023-2024.       186       100         agendum V: Discussion on new courses to be added and re-order the courses based on IC.       orms for 2023-2024.         3       AHS 202- Poultry and Fisheries Management       3AHS 201- Livestock Management         3       AHS 201- Livestock Management       3ECENT202- Urban Entomology (Ent)         3       BECAEC203- Project Management (AEC)       3ECPAT 302- Antagonistic formulations         3       BECAHS 301- Caprine and Ovine management(AHS)       NEW VALUE ADDDED COURSE         >       Hi tech nursery       Conservation agriculture         >       Conservation agriculture       Conservation agriculture         Wie or ord re-order of new courses semester wise:       Utien and re-order of new courses semester wise:	Summar	y of Credi		otal						
2       Elective Courses       40         3       RAWE & ELP       186         Total       186         cesolution: The Board resolved to accept the same. New syllabus with framed credit hours         CAR rules for B.Sc., (Hons) Agriculture were approved. It will be effective from Academi         car 2023-2024.         gendum V: Discussion on new courses to be added and re-order the courses based on IC.         orms for 2023-2024.         3 AHS 202- Poultry and Fisheries Management         3 AHS 201- Livestock Management         3 ECENT202- Urban Entomology (Ent)         3ECAEC203- Project Management (AEC)         3ECPAT 302- Antagonistic formulations         3EC AHS 301- Caprine and Ovine management(AHS)         VEW VALUE ADDDED COURSE         > Hi tech nursery         > Conservation agriculture         Witten and re-order of new courses semester wise:	S.No.	Title	18	1000	-				137	
3       RAWE & ELP       186         Total       186         tesolution: The Board resolved to accept the same. New syllabus with framed credit hours         CAR rules for B.Sc., (Hons) Agriculture were approved. It will be effective from Academic         car 2023-2024.         gendum V: Discussion on new courses to be added and re-order the courses based on IC.         orms for 2023-2024.         3 AHS 202- Poultry and Fisheries Management         3 AHS 201- Livestock Management         3 AHS 201- Livestock Management         3 ECENT202- Urban Entomology (Ent)         3 ECAEC203- Project Management (AEC)         3 ECPAT 302- Antagonistic formulations         3 EC AHS 301- Caprine and Ovine management(AHS)         VEW VALUE ADDDED COURSE         > Hi tech nursery         > Conservation agriculture         With re-order of new courses semester wise:	1							9		
Total         Resolution: The Board resolved to accept the same. New syllabus with framed credit hours:         CAR rules for B.Sc., (Hons) Agriculture were approved. It will be effective from Academi         car 2023-2024.         agendum V: Discussion on new courses to be added and re-order the courses based on IC.         orms for 2023-2024.         3 AHS 202- Poultry and Fisheries Management         3 AHS 201- Livestock Management         3 ECENT202- Urban Entomology (Ent)         3 ECAEC203- Project Management (AEC)         3 ECAEC203- Project Management (AEC)         3 ECAHS 301- Caprine and Ovine management(AHS)         VEW VALUE ADDDED COURSE         > Hi tech nursery         > Conservation agriculture         > Hi tech nursery         > Conservation agriculture         Hi tech nursery         > Mit tech nursery         > Conservation agriculture	2	Elective	Courses				· · · · · ·			
<ul> <li>CAR rules for B.Sc., (Holis) Agriculture in the ear 2023-2024.</li> <li>agendum V: Discussion on new courses to be added and re-order the courses based on IC. orms for 2023-2024.</li> <li>3 AHS 202- Poultry and Fisheries Management</li> <li>3 AHS 201- Livestock Management</li> <li>3 ECENT202- Urban Entomology (Ent)</li> <li>3 ECEAEC203- Project Management (AEC)</li> <li>3 ECPAT 302- Antagonistic formulations</li> <li>3 EC AHS 301- Caprine and Ovine management(AHS)</li> <li>3 WEW VALUE ADDDED COURSE</li> <li>&gt; Hi tech nursery</li> <li>&gt; Conservation agriculture</li> <li>1 Hitem and re-order of new courses semester wise:</li> </ul>	3	RAWE	& ELP	-			2		186	
<ul> <li>3 AHS 202- Poultry and Fisheries Management</li> <li>3 AHS 201- Livestock Management</li> <li>3 BECENT202- Urban Entomology (Ent)</li> <li>3 BECAEC203- Project Management (AEC)</li> <li>3 BECPAT 302- Antagonistic formulations</li> <li>3 BEC AHS 301- Caprine and Ovine management(AHS)</li> <li>3 WEW VALUE ADDDED COURSE</li> <li>&gt; Hi tech nursery</li> <li>&gt; Conservation agriculture</li> <li>1 Winer and re-order of new courses semester wise:</li> </ul>	CAR ru ear 202	les for B. 3-2024. m V: Dis	cussion on	ALICA		10-12 (1) ( ) ( )				
( Podut	23 AHS 23ECEN 23ECAI 23ECPA 23EC A 23EC A NEW V > I	201- Live NT202- U SC203- Pi AT 302- A HS 301- O ALUE A Hi tech nu	rban Enton roject Mana ntagonistic Caprine and DDDED C	agement formul Ovine OURS	Ent) (AEC) ations managen E	nent(AHS	5)			redit

Audition			Credit
Agronomy S.no. Semester	Course code 23AGR 101	Title Fundamentals of Agronomy	2 (2+1)
and the second se			

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2	n		climate change	2 (1+1)
3	n	and the second sec	Irrigation Management	2 (1+1)
1	in	23 AGR 201		2 (1+1)
5	m	23 AGR 202		2 (1+1)
0	iii	23 AGR 203		2 (1+1)
7	IN	23 AGR 204	Practical Crop Production-1	1 (0+1)
8	11	23 AGR 205	Crop Production Technology- II (Rabi 2 crops)	2 (1+1)
9	V	23 AGR 301	Practical Crop Production- II	1 (0+1)
10	V	23 AGR 302	Rainfed Agriculture, Watershed Management and Secondary Agriculture	3 (2+1)
11	VI	23 AGR 303	Farming Systems and Organic farming for sustainable agriculture	3 (2+1)
-			Total	23 (12+11)
Geneti	es and Plan	t Breeding	1	
S.no.	Semester	Course code	1 1110	Credit
1	1	23 GPB 101	Fundamentals of Crop Physiology	3 (2+1)
2	n n	23 GPB 102	Fundamentals of Genetics	3 (2+1)
3	in	23 GPB 201	Fundamentals of Plant Breeding	3 (2+1)
4	IV	23 GPB 202	Principles of Seed Technology	3 (2+1)
5	V	23 GPB 301	Crop Improvement-1 (Kharif crops)	2 (1+1)
6	VI	23 GPB 302	Crop Improvement-II (Rabi crops)	2(1+1)
1000	Children -	in the second	Total	16 (10+6)
- 11 0	lange and A	gricultural Ch	emistry	
Soil Nr	Tence and A	JET CONTINUE OF		
		Course code	Title	Credit
S.no.	Semester	Course code 23 SOL 101	Title Fundamentals of Soil Science	3 (2+1)
		Course code	Title	3 (2+1) 3 (2+1)
S.no. 1 2	Semester 1 11	Course code 23 SOL 101 23 SOL 102	Title         Fundamentals of Soil Science         Manures, Fertilizers and Soil Fertility         Management         Problem Soils and their management	3 (2+1) 3 (2+1) 2 (1+1)
S.no.	Semester 1	Course code 23 SOL 101	Title         Fundamentals of Soil Science         Manures, Fertilizers and Soil Fertility         Management         Problem Soils and their management         Geoinformatics, Nanotechnology and	3 (2+1) 3 (2+1)
S.no. 1 2 3	Semester 1 11 11 111	Course code 23 SOL 101 23 SOL 102 23SOL 201	Title         Fundamentals of Soil Science         Manures, Fertilizers and Soil Fertility         Management         Problem Soils and their management         Geoinformatics, Nanotechnology and         Precision farming	3 (2+1) 3 (2+1) 2 (1+1)
S.no. 1 2 3 4	Semester 1 11 11 111 V	Course code 23 SOL 101 23 SOL 102 23SOL 201	Title         Fundamentals of Soil Science         Manures, Fertilizers and Soil Fertility         Management         Problem Soils and their management         Geoinformatics, Nanotechnology and	3 (2+1) 3 (2+1) 2 (1+1) 2 (1+1)
S.no. 1 2 3 4 Enton	Semester 1 11 11 111 V 10logy	Course code 23 SOL 101 23 SOL 102 23SOL 201 23SOL 301	Title         Fundamentals of Soil Science         Manures, Fertilizers and Soil Fertility         Management         Problem Soils and their management         Geoinformatics, Nanotechnology and         Precision farming         Total	3 (2+1) 3 (2+1) 2 (1+1) 2 (1+1)
S.no. 1 2 3 4 Entom S.no.	Semester 1 1 1 1 1 V 1 1 1 1 0 0 0 0 0 0 0 0 0 0	Course code 23 SOL 101 23 SOL 102 23SOL 201 23SOL 301	Title         Fundamentals of Soil Science         Manures, Fertilizers and Soil Fertility         Management         Problem Soils and their management         Geoinformatics, Nanotechnology and         Precision farming         Total	3 (2+1) 3 (2+1) 2 (1+1) 2 (1+1) 10 (6+4) Credit
S.no. 1 2 3 4 Enton	Semester 1 11 11 111 V 10logy	Course code 23 SOL 101 23 SOL 102 23SOL 201 23SOL 301	Title         Fundamentals of Soil Science         Manures, Fertilizers and Soil Fertility         Management         Problem Soils and their management         Geoinformatics, Nanotechnology and         Precision farming         Total         Title         Fundamentals of Entomology         Management of beneficial insects and	3 (2+1) 3 (2+1) 2 (1+1) 2 (1+1) 10 (6+4) Credit 3 (2+1)
S.no. 1 2 3 4 Entom S.no. 1	Semester 1 1 1 1 1 V 1 1 V 1 0 000gv Semester 1 1	Course code 23 SOL 101 23 SOL 102 23SOL 201 23SOL 301 Course code 23 ENT 101	Title         Fundamentals of Soil Science         Manures, Fertilizers and Soil Fertility         Management         Problem Soils and their management         Geoinformatics, Nanotechnology and         Precision farming         Total         Title         Fundamentals of Entomology	3 (2+1) 3 (2+1) 2 (1+1) 2 (1+1) 10 (6+4) Credit 3 (2+1) 2 (1+1)

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T			management	11 (7+4)
-+			Total	<u></u>
	thelogy			Credit
	thology	Course code	Title	
	Semester	Course code	Eurodomentals of Plant Pathology	3 (2+1)
	1 1V	23 PAT 201	Diseases of Field and Horticultural	3 (2+1)
3	V	23PAT 301	Crops I Diseases of Field and Horticultural	3 (2+1)
5		23PAT 303	Crops II Principles of Integrated Disease	3 (2+1)
4	VI	23PAT 305	Management	12 (8+4)
	1		Total	<u></u>
Inti	ulture			Credit
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Course code	Title	2(1+1)
S.no.		23HOR 101	Fundamentals of Horticulture	$\frac{2(1+1)}{3(2+1)}$
1		23HOR 102	Production Technology for Fruit and	5 (211)
2	II	25110101010	Plantation Crops	3 (2+1)
3	III	23HOR 201	Production Technology for Vegetables, Spices and Protected	3 (271)
			Cultivation Technology for	3 (2+1)
4	IV	23HOR 202	Ornamental Crops, MAP and	
5	VI	23HOR 302	Doct hervest Management and Value	2 (1+1)
			Addition of Fruits and Vegetables Total	13 (8+5)
		t biology		Curdit
Agri	cultural M	icrobiology er   Course code	e Title	Credit
S.n		23AGM 101	A gricultural Microbiology	3 (2+1)
1		23AGM 101 23AGM 201	Principles of Food Science o	
3	IV	23AGM 202	2 Environmental Studies & Disaste	r 3 (2+1)
13	I V	-	Management Total	8 (5+3)
1	1	.5		
Aa	ricultural E	Conomics		Credit
$\left  \right  S.$	no. Semes	ster   Course cou	de Title Fundamentals of Agricultur	al 2(1+1)
1	11	23AEC 10	Economics Broduction	& 2(1+1)
2	111	23AEC 20	Persource Economics	& 2(1+1)
3	- IV	23AEC 20	1 Mandating I Fills	
			· · · Management	2 (1+1)
4	V	23AEC 30	Agri Dusilicas Malager	

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5	V			1 (1+0)
6	VI	23AEC 303	Cooperation	2 (2+0)
	197		Total	11 (7+4)
aricu	ltural Exter	ision		C. St. All are
S.no.	Semester	Course code	Title	Credit
1	I	23EXT 101		2 (2+0)
2	11	23EXT 102	Fundamentals of Agricultural Extension Education	3 (2+1)
3	V	23EXT 301	Communication Skills and Personality Development	2(1+1)
4	VI	23EXT 302	Entrepreneurship Development and Business Communication	2 (1+1)
	5 098 1591 L		Total	9 (6+3)
Anima	l Husbandı	*V		
S.no.		The second s	Title	Credit
1	III	23AHS 201	Livestock Management	2 (1+1)
2	IV	23AHS 202	Poultry and Fisheries Management	2(1+1)
	1.1		Total	4 (2+2)
Civila	nd Mechan	ical Engineerin	and the second	
S.no.			Title	Credit
1	III	23AEG 201	Introductory Soil and Water Conservation Engineering (Civil)	2 (1+1)
2	VI	23AEG 301	Farm Machinery, Power and Renewable Energy Sources (Mech)	1
-		and a second sec	Total	4 (2+2)
<b>D1</b>	Diaghamist	ry and Biotech		
			Title	Credit
S.no. 1	Semester 11	23BIO 101	Fundamentals of Plant Biochemistry and Biotechnology	2(1+1)
	1 1 1 2 2 2 2	47-1	Total	2 (1+1)
14 (C) 2014	<u>.</u>			att in the second
Statis	and the second second second	Course ande	Title	Credit
S.no.		Course code	Statistical methods	2 (1+1)
1.	VI	23STA 301	Total	2(1+1)
		*	10141	
Comp	outer Science	e	- mul	Credit
S.no.	The second second second	Course code	e Title	2(1+1)
1	V	23COM 301	Agri- Informatics	2(1+1) 2(1+1)
		1 - d <sup>1</sup> - asses	Total	[2(11)]
				Credit
Englis	:h		Title	i sandat



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1	1	23ENG 101	Comprehension & Communication Skills in English	2 (2+0)
			Total	2 (2+0)
rules for year 202	B.Sc., (H 23-2024.	ons) Agriculture	o accept the same. New syllabus with enhate is revised and approved. It will be effection	ve from Academic
Agendu 2024.	m VI: Du	scussion on man	datory elective courses on respective seme	esters for 2023-
followir ▷ 23E ▷ 23E ▷ 23E ▷ 23E	ng courses C ENT 20 C PAT 30 C AEC 31	: 02 Urban Entom 02 Antagonistic 1 03 Project Mana	formulations 3 (2+1)	ture proposed the
Resolut	ion: The l	Board resolved to	o accept the same.	
Agendu	m VII: D	iscussion on Bri	dge courses to be adopted for 2023-2024.	
Discuss	ion: Bridg	ge courses in bio	logy and mathematics will be conducted for	or those candidates
who ha	ve not un	dergone the res	pective courses during their higher second	dary programme
I hese c	ourses wil	I be offered for 8	3 weeks @ 2 hours/ week from the date of	commencement of
the prog	gramme.			
> Sen	nester I- N	IAT 001 Elemer	ntary Mathematics (Contact hours 2)	
Semeste	er I- GPB (	002 Introductory	Biology (Contact hours 2)	
Resolut	ion: The I	Board resolved to	o accept the same.	10 10 10 10 10 10 10 10 10 10 10 10 10 1
Agendu	m VIII: I	Discussion on No	on-Gradial compulsory courses for 2023-20	024
Discuss	ion: Sem	ester I- TAM 1	11/ EXT 111- Tamil/ Agricultural Heri	tage (Agriculture)
Cyrenzie	л)			age (Agricultural
Semeste	r VIII- EX	T 411- Educatio	onal Tour II (Agricultural Extension)	
Resolut	ion: The l	Board resolved to	o accept the same	2.6
Agendu	m IX: Di	scussion on activ	vities for the advanced laarnare	
Discuss	ion: Adva	nced learners sh	ould be encouraged to study. 1	
TNPSC	UPSC.	unee for Mildel,	and WBA also motivated to attend the cor	npetitive exams,
Resolut	ion: The I	Board resolved to	o accept the same.	
Agendu	m X: Dis	cussion on frami	no question paper based on DL	
the learn conceptu	ing object ally diffe	ives in cognitive rent which ultim	e, affective and psychomotor domains. Ea hately enhance the level of testing the stud	e three lists cover
	on, the L	oard resurven n	1 aurent the come	
Agendu	m XI: Oth	er academic act	ivities of the department (and	ahours)
	VAL ALLE U	ITTIC SCITTIALS	WORKSHOPS Internellogists	snops)
			ear were discussed.	



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Resolution: The Board resolved to accept the same.

Agendum XII: Other academic and skill enhancement activities of the students (Input gallery, vocabulary skill enhancement, seminars, crop production, initiation of student's market) Discussion: The Input gallery presentation, enhancing language skill, conducting student's seminar, engaging students to do crop production activities and to initiate student's market. Resolution: The Board resolved to accept the same.

Agendum XIII: Any other matters

Discussion:

- > The Board of Studies in Agriculture recommends the panel of experts as external examiners for examination purposes as per guidelines of the institution.
- X The Board also suggested measures to improve the practical sessions to engage the students to do the activities.

As a result of various suggestions received, the board discussed keen notes to improve practical oriented curriculum and skill enhancement internship training.

Resolution: The Board resolved to consider the above mentioned recommendations

The chairman of Board of Studies (BoS) thanked all the members for their active participation and cordially invited them for the next meeting

Dr.B.Chandra sekaran

DEAN.

School of Agriculture Ponnalyah Ramajayam Institute ( Science & Technology (PRISi) Institution Deamed to be University "3 3 of the UGC Act 1958 THA ...... VUR - 613 403, TAM \_ 11

Date: 15 07. 2023

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**Syllabus Revision** 

Board:Agriculture

# Semester: VI

Course Code/Name:23AGR 303- Farming systems and Organic farming for sustainable agriculture

Unit	Existing	Changes
I	Components and Principles of Organic Cotton	Farming System
	Organic sources of Nutrients	Resource Management
II	Non - Chemical weed and Pest disease management	Cropping system
V /	Indigenous Technical Knowledge (ITK	Organic farming for sustainable Agriculture
	Certification of labe	Organic certification and Labelling

# PERCENTAGE OF SYLLABUS REVISED:60

# **COURSE FOCUSES ON:**

Entrepreneurial development
Professional Ethics
Human Values
<ul> <li>Environment and</li> </ul>
Sustainability

\*insert v wherever applicable\*)



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#### Syllabus Revision

Semester: VI

Board:Agriculture

Course Code/Name:23AGR 303- Farming systems and Organic farming for sustainable agriculture

Unit	Existing	Changes
a 1	Components and Principles of Organic Cotton	Farming System
n	Organic sources of Nutrients	Resource Management
111	Non - Chemical weed and Pest disease management	Cropping system
IV	Indigenous Technical Knowledge (ITK	Organic farming for sustainable Agriculture
v	Certification of labe	Organic certification and Labelling

# PERCENTAGE OF SYLLABUS REVISED:60

#### **COURSE FOCUSES ON:**

<ul> <li>Image: A second s</li></ul>	Skill development		Entrepreneurial development
	Employability main demonstration	a-1 -4	Professional Ethics
	Gender Sensitization		Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights	- Indexes	

(\*insert √ wherever applicable\*)

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# Semester:IV

Course Code/Name: 23ENT 302- Insect Ecology & Integrated pestmanagement

	Changes
Existing	Insect Ecology
and tools of IPIVI	Integrated Pest Management and its
Economic importance of insect pests, discussed and pest risk analysis. Methods of detection and	Components
the among of insect nest and disease	Bio rational Pest Management
level and importance of Economic unestion level. Methods of control: Host plant resistance, cultural mechanical, physical, legislative,	Strategies
biological and chemical control	Chemical methods of Insect Pest
Host plant resistance, cultural, mechanical, physical, legislative, biological and chemical	Management
control	Ecological Perspectives of chemical
Introduction to conventional pesticides for the insect pests and disease management. Survey, surveillance and forecasting of Insect pest and	methods and IPM Strategies for cropsInsecticide
	<ul> <li>level. Methods of control: Host plant resistance, cultural, mechanical, physical, legislative, biological and chemical control</li> <li>Host plant resistance, cultural, mechanical, physical, legislative, biological and chemical control</li> <li>Ecological management of crop environment. Introduction to conventional pesticides for the insert pasts and disease management. Survey,</li> </ul>

# PERCENTAGE OF SYLLABUS REVISED: 40

# COURSE FOCUSES ON:

	Skill development		Entrepreneurial development
	Employability	an WEISSON	Professional Ethics
	Gender Sensitization		Human Values Environment and
1	Social Awareness/Environment		Sustainability
	Intellectual Property Rights	19	

(\*insert  $\sqrt{\text{wherever applicable*}}$ )

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# Syllabus Revision- New Course Board:AGRICULTURE

Semester:III Course Code/Name:23AHS 201-Livestock Management

Unit	Content
L	Introduction to Livestock Management
11	General Cattle Management
111	Reproductive and Housing Management of Dairy cattle
IV	Feeding and General Health Management of Dairy cattle
V	Milk and Milk Processing

# PERCENTAGE OF SYLLABUS REVISED: 100

# **COURSE FOCUSES ON:**

St. C.		~	Entrepreneurial development
~	Skill development		Professional Ethics
$\checkmark$	Employability		Human Values
	Gender Sensitization	1	Environment and
	Social Awareness/Environment		Sustainability
	Intellectual Property Rights	201 K	
	herever applicable*)		

(\*insert v wherever applicable\*)



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# Semester:IV Course Code/Name:3 AHS 202 POULTRY AND FISHERIES MANAGEMENT (1+1)

Content	
IIntroduction to Poultry Management	
Broiler Management	
Layer Management - I	
Layer Management - II	19 o harder i
Fisheries Management	
	IIntroduction to Poultry Management Broiler Management Layer Management - I Layer Management - II

# PERCENTAGE OF SYLLABUS REVISED:

# **COURSE FOCUSES ON: 100**

1	Skill development	1	Entrepreneurial development
· ·	Employability	0.0	Professional Ethics
100	Gender Sensitization		Human Values
		1	Environment and
	Social Awareness/Environment		Sustainability
	Intellectual Property Rights		

(\*insert  $\sqrt{\text{wherever applicable*}}$ )

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## Semester:IV Board: AGRICULTURE Course Code/Name: 23ECPAT 302ANTAGONISTIC FORMULATIONS

Unit	Content           Historyandconceptsofbiologicalcontrol,significance,meritsanddemeritsofdiseasemanagement           with antagonists- antagonistic organisms- mycorrhizal associations, suppressiveand           conductive soils – general and specific suppression	
I		
П	Mechanismsofactionsofantagonisticorganismsanditsrelevanceinbiologicalcontrolcompetition, antibiosis, lysis, hyper parasitism and Induced Systemic Resistance - ISR-SAR -rhizosphere colonization, competitive saprophytic ability, hypovirulence	
m	Factors governing biological management of crop diseases, role of physic environment, agroecosystem, and cultural practices in biological control of pathogens- Sc fungistasis, influence of root exudates on establishment of antagonists – Effect agrochemicals and fertilizers on antagonists – comparative approaches to biological contro of plant pathogens by resident and introduced antagonists	
IV	Commercial production of antagonists. Antagonists available in market. Quality control systemof biocontrol agents.	
v	Delivery systems of antagonists, special methods of delivery systems - Control of soil- borneand foliar diseases. Compatibility of bioagents with agrochemicals and other antagonisticmicrobes.	

# PERCENTAGE OF SYLLABUS REVISED:

## **COURSE FOCUSES ON:**

A Pro-	Skill development	Entrepreneurial development
	Employability	Professional Ethics
학식	Gender Sensitization	Human Values
	Social Awareness/Environment	Environment and Sustainability
	Intellectual Property Rights	

(\*insert v wherever applicable\*)



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#### Semester:IV

## Eer:1V Board: Course Code/Name:23IKS201 INDIAN KNOWLEDGE SYSTEM 2(1+1)

Unit	Content
1	IntroductiontoIndianKnowledgeSystem(IKS),Definition,ConceptandScopeof IKS(4)
11	IKSandIndianScholars,IndianLiterature (8)
Ш	IndianTraditional/tribal/ethniccommunities, theirlivelihoodandlocalwisdom
IV	UniqueTraditionalPractices andAppliedTraditionalKnowledge (8)
V	Protection, preservation, conservation and Management of Indian Knowledge System

# PERCENTAGE OF SYLLABUS REVISED:

# COURSE FOCUSES ON:

Entrepreneurial development Professional Ethics
Human Values
Environment and
Sustainability

(\*insert √ wherever applicable\*)



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#### Semester:VI

#### **Board: AGRICULTURE**

Course Code/Name:23 ECAHS 301 CAPRINE AND OVINE MANAGEMENT (2+1

Content		Station .
Introduction to Goat and Sheep Management		
Farming Practices		and the second second
Nutrition		2 C
Disease Management		
Products Technology		and a strength of the second sec
	Introduction to Goat and Sheep Management         Farming Practices         Nutrition         Disease Management	Introduction to Goat and Sheep Management         Farming Practices         Nutrition         Disease Management

# PERCENTAGE OF SYLLABUS REVISED: 100

## **COURSE FOCUSES ON:**

~	Skill development	1	Entrepreneurial development
~	Employability	1. 194 - C	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights	1	and the second second

(\*insert  $\sqrt{\text{wherever applicable*}}$ )



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## Semester:V

Board: AGRICULTURE

Course Code/Name:23ECPAT 302-Antagonistic formulations

Uni t	Content
1	Historyandconceptsofbiologicalcontrol, significance, merits and demerits of disease management with antagonists
11	Mechanismsofactionsofantagonisticorganismsanditsrelevanceinbiologicalcontrolcompetiti on, antibiosis, lysis
m	Factors governing biological management of crop diseases, role of physical environment, agroecosystem, and cultural practices in biological control of pathogens
IV	Commercial production of antagonists. Antagonists available in market. Quality control systemof biocontrol agents.
V	Delivery systems of antagonists, special methods of delivery systems - Control of soil- borneand foliar diseases.

## PERCENTAGE OF SYLLABUS REVISED: 100

# **COURSE FOCUSES ON:**

~	Skill development	Entrepreneurial development
ren e	Employability	Professional Ethics
	Gender Sensitization	Human Values
	Social Awareness/Environment	Environment and Sustainability
1	Intellectual Property Rights	

(\*insert √ wherever applicable\*)



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# Board: AGRICULTURE

Semester:IV

Course Code/Name:23 ECENT 202 URBAN ENTOMOLOGY (2+1)

Unit	Content	(ex/sec. 1)	the set
Ī	Urban pests: their importance and habitats	1992 - 1992 - 19	2.0
11	Principles of urban pest management		-
111	Classification, risks, and non-synthetic insecticides Urban Pesticides part II: Synthetic insecticides, insecticide resistance Cockroaches part I: Identification, biology of important species Cockroaches part II: Cockroach		~
IV	Termite management and other wood destroying insects Ant diversity, biology, and economic importance Important ant pests and their management		
V	Diversity and importance of stored product pests Management of stored product pests Mid-term exam Ectoparasites I: fleas, lice, ticks Ectoparasites II: Mites, kissing bugs, bed bugs, delusory parasites Occasional Arthropods other than Insects	invaders	2 2 2 2 2 2 2 2 3 2 2 3 2 3 2 3 2 3 2 3

# PERCENTAGE OF SYLLABUS REVISED: 100

# **COURSE FOCUSES ON:**

	Skill development	Entrepreneurial development
	Employability	Professional Ethics
	Gender Sensitization	Human Values
~	Social Awareness/Environment	Environment and Sustainability
	Intellectual Property Rights	

(\*insert  $\sqrt{}$  wherever applicable\*)



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# ATTENDANCE OF THE THIRTEENTH BOARD OF STUDIES MEETING

**Board: AGRICULTURE** 

Date:15.07.2023

Time:10.30 AM

# Venue: SCHOOL OF AGRICULTURE

The following members were present for the Board of Studies meeting

S.No.	llowing members were present Name/Degree/Designation	Institute/Organization/ Full address	Physical	Signature (scan, ifonline)
1.	Chairman	Dr.B.Chandra Sekaran Dean School of Agriculture	Physical	m
2.	External Members	Dr.S.Babu Professor, Department of Agronomy, Annnamalai University	Physical	8ml
3.	External Members	Mr.K.Magudapathy DunhillsPhytoherbs Vellakovil Tiruppur (Dt)	Physical	Mathe
4.	Professor	Dr. A.Udayakumar Professor Agronomy School of Agriculture	Physical	qui
5.	Professor	Dr.A.Sathyavelu Professor Agronomy School of Agriculture	Physical	gen at
6.	Associate Professor	Dr.R.Sudha Associate Professor, Microbiology School of Agriculture	Physical	Sully
7.	Associate Professor	Dr.P.Selva Raj Associate Professor Horticulture School of Agriculture	Physical	P. delno
8.	Assistant Professor	Mr.S.Tamilcovane Assistant Professor Genetics and plant breeding School of Agriculture	Physical	garle.



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9.	Assistant Professor	Dr.K.K.Kumara kuru Assistant Professor Genetics and plant breeding School of Agriculture	Physical	Kinder
10.	Alumni	Ms.A.Abinaya shiva sree	Physical	Ame
11.	Student Representatives	R.Kabilan	Physical	Kebre -
12.	Student Representatives	M.Yoga Shivani	Physical	yoga shi

Date: 15.07.2023.

BOS Chairman/HOD

DEAN School of Agriculture cnnaiyah Ramajayam Institute of Science & Technology (PRIST) stitution Deemed to be University ''s 3 of the UGC Act. 1956 'AVUR - 613 403, TAMIL NAT''

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BOS MICROBIOLOGY

# SCHOOL OF ARTS AND SCIENCE

# DEPARTMENT OF MICROBIOLOGY

# MINUTES OF THE MEETING OF THE BOARD OF STUDIES (BOS)

#### Board: MICROBIOLOGY

# The Meeting of Board of Studies (BOS) was held as given below:

Name of the Body	Board of Studies	
Department MICROBIOLOGY		
Meeting no	13	
Date and Time	21.06.2023	
Venue CRD -Seminar Hall		
Members Attended	The details are given in the ANNEXURE-I	

	AGENDA
I	To confirm the minutes of BOS meeting held on 04.05.2022
2	Action taken on the previous Meeting Minutes.
3	Discussion on the development of the B.Sc Microbiology New Curriculum under R 2023
4	Discussion on the development of the M.Sc Microbiology New Curriculum under R 2023
5	Discussion on Four years Under Graduate Programme (FYUGP) B.Sc Microbiology Hons
6	Discussion on Value added courses
7	Any other matters Panel of examiner (ug/Pg)
20	Discussion on Value added courses

A. Xm Ker DI.A. AAVIER FERNANDES, M St Marc M vint Vn.D.,

DIA. AAVIER FERNATIONS, A ST ARE ST AND Assistant Protessor Department of Microbiology School of Arts & Science Prist Deemed to be University, Thanjavur.

an

DEAN Dean of Arts & Science PRIST Deemed to be University Thanjavur - 613 403, Tamilnadu.



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BOS MICROBIOLOGY

#### MINUTES OF THE BOARD OF STUDIES MEETING

#### **Board: Microbiology**

The 13<sup>th</sup> Board of Studies Meeting of the Department of Microbiology, School of Arts and Science, Ponnaiyah Ramajayam Institute of Science and Technology was conducted as per the guidelines of the University Grants Commission on 21.6.2023 at 11.00 am through hybrid mode-online (Google meet) platform and offline mode. The following Members were present in the meeting.

Dr.A.Xavier Fernandes, Chairman of the Board of Studies Meeting welcomed all the Members and in her introducing speech, he explained the details of the Agenda and the academic matters to be discussed. The agenda of the meeting was taken up for discussion. The following points were discussed during the meeting. The resolutions made in the Meeting are given below.

The committee appreciated the formulation of syllabus for B.Sc., Microbiology programme to meet the criteria of the Education Empowerment and Social Relevance. In Addition, the Committee suggested the following corrections/modifications/ Suggestions in the Programme syllabus

- Programme outcomes (PO) and Programme Specific Outcomes (PSO) to be restructured.
- > Course Outcomes (CO) to be restructured for all the Courses.
- > Recent reference books to be included in each course.

The following are the minutes of the meeting

Agendum 1:	To confirm the minutes of BOS meeting held on 04.05.2022
Discussion:	The minutes of the Board of Studies meeting held on 04 <sup>th</sup> May, 2022 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the Academic council.
Resolution:	The Board resolved to accept the same.
Agendum 2:	Action taken on the previous Meeting Minutes.
Discussion:	Action taken report of the decisions made in the previous BoS and approved by the academic council. Action taken report was presented in the BOS.
Resolution:	The Board resolved to accept the same.



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BOS MICROBIOLOGY

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Agendum 3	Discussion on the development of the BSc Microbiology New Curriculum under Regulation 2023
Discussion:	A draft curriculum for B.Sc Microbiology was proposed with modification to the committee and
	the following points were discussed.
	> The members wanted to confirm the total number of credits accounting for 148.
	> The chairman informed that it was done according to the Tamil Nadu state Council fo
	Higher Education (TANSCHE) requirements and will put forth this to the Academi
	Council.
	New Course introduced:
	Core course:
	<ul> <li>&gt; 23116AEC13 - Fundamentals of Microbiology and Microbial Diversity</li> <li>&gt; 23116AEC23 - Microbial Physiology and Metabolism</li> <li>&gt; 23116AEC33 - Molecular Biology and Microbial Genetics</li> <li>&gt; 23116AEC43 - Immunology and Immunotechnology</li> <li>&gt; 23110AEC51 - Bacteriology and Mycology</li> <li>&gt; 23111AEC52 - Virology and Parasitology</li> <li>&gt; 23116AEC53 - Environmental and Agriculture Microbiology</li> <li>&gt; 23110AEC61 - Food, Dairy and Probiotic Microbiology</li> <li>&gt; 23111AEC62 - Recombinant DNA Technology</li> <li>Core allied course:</li> <li>&gt; 23116GEC14 - Biochemistry</li> <li>&gt; 23116GEC24 - Bio Instrumentation</li> <li>&gt; 23116GEC34 - Clinical Laboratory Technology</li> </ul>
	<ul> <li>Practical Courses</li> <li>23116SEC15L - Fundamentals of Microbiology And Microbial Diversity Lab</li> <li>23116SEC16L - Biochemistry Labs</li> <li>23116SEC25L - Microbial Physiology and Metabolism Lab</li> <li>23116SEC26L - Bio Instrumentation Lab</li> <li>23116SEC35L - Molecular Biology and Microbial Genetics Lab</li> <li>23116SEC36L - Clinical Laboratory Technology Lab</li> <li>23116SEC45L - Immunology and Immunotechnology Lab</li> </ul>
	> 23116SEC55L - Bacteriology, Mycology Virology and Parasitology Lab
	<ul> <li>&gt; 23116SEC56L - Environmental, Agriculture, Food and Probiotic Microbiology Lab</li> <li>Skill Enhancement Courses</li> <li>&gt; 23116SEC17 - Social &amp; Preventive Medicine</li> <li>&gt; 23116SEC18 - FC (Foundation Course)</li> </ul>



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BOS MICROBIOLOGY

- ➤ 23116SEC28 Sericulture
- > 23116SEC37 Microbial marketable products
- > 23116SEC38 Aquaculture
- ➤ 23116SEC47 Vaccine Technology
- > 23116SEC48 Apiculture
- > 23116DSE54A Biosafety & bioethics
- > 23116DSE54B Food Processing Technology
- 23116DSE54C Disaster Management
- > 23116DSE65A Pharmaceutical Microbiology
- > 23116DSE65B Entrepreneurship and Bio-business
- > 23116SEC57 Internship/ Industrial Training/Field Visit

# Ability Enhancement Compulsory course

- > 231 AECCCMS Communication Skills
- 231AECCEVS Environmental Studies
- > 231AECCVED Value Education

#### Audit Course

> 231ACSIKWS-Indian Knowledge System

#### COURSE STRUCTURE

	SEMESTER – I				
Course Code	Course Title	L	T	Р	С
	THEORY				
23110AEC11/ 23111AEC11/ 23132AEC11/ 23135AEC11	Tami – I/ Advanced English-I/ Hindi-I/ French - I	3	1	0	3
23111AEC12	English-I	3	1	0	3
23116AEC13	Fundamentals of Microbiology and Microbial Diversity	4	1	0	3
23116GEC14	Biochemistry	4	1	0	3
	PRACTICAL				
23116SEC15L	Fundamentals of Microbiology and Microbial Diversity Lab	0	0	3	3
23115SEC16L	Biochemistry Lab	0	0	3	3
	Skill Enhancement Course				
23116SEC17	Social & Preventive Medicine	2	0	0	2
23116SEC18	FC (Foundation Course)	2	0	0	2
	AUDIT COURSE				
2311AECCINC	Indian Constitution	2	0	0	2
231LSCUV	Universal Human Values		-	5 <b>.</b>	1
	Total Credit	20	4	6	25
	SEMESTER – II				



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BOS MICROBIOLOGY

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burse (nde	Course Title	1.	T	P	10
New York and a star strends on	THEORY	-			-
1110AFC21 1111AFC21 1112AFC21 13132AFC21	Tami – II <sup>1</sup> Advanced English-II2 Hindi-II <sup>1</sup> Ererch – II	X		¢	3
13111AF(22	Inglich-H	3	1	19	1
03116AEC23	Microbial Physiology and Metabolism	1	Į ×	19	1
231160/07/24	Ris Instrumentation	+	6	0	1
	PRACTICAL.				
23116513 251	Marridial Physiology and Matabellers Eath	(a)	0	1.	1
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23116534C21	Numition & Health Hypiene	1	[a	a	2
23116SEC28	Seriodare	1	[m	(A)	1
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	semester - m				
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23184 AFK 12	Englade III	1	Ð	(3:	X
23116.455.33	Molecular Diology and Microbial Genetics	E	ų.	æ	3
2311602/034	(Viewal Laboratory Tachnology		1 B	(d)	3
	PRACTICAL			-	
2311663362352	Molecular Dislogy and Microbiol Genetics Lab	0	0	13	1
2311651:C364	Chinasi Laboratory Technology Lab	10	0	1	3
	Nkill Exhaucement Course	e antinan	Constant and	Con contra	Invitio
2311651/037	Microbial marketable products	2	e	-	2
231165233	Aquaculture	10	6	0	V
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#### BOS MICROBIOLOGY

231ACLSOAN	Office Automation	-	-	-	1
	Tota	20	4	6	24
	SEMESTER - IV				
23110AEC41/ 23111AEC41/ 23132AEC41/ 23135AEC41/	Tamil-IV Advanced English-IV Hindi-IV French – IV	3	0	0	3
23111AEC42	English-IV	3	0	0	3
23116AEC43	Immunology and Immunotechnology	4	1	0	3
23116GEC44	Biostatistics & Bioinformatics	4	1	0	3
	PRACTICAL				
23116SEC45L	Immunology and Immunotechnology Lab	0	0	3	3
23116SEC46L	Biostatistics & Bioinformatics Lab	0	0	3	3
	Skill Enhancement Course				
23116SEC47	Vaccine Technology	2	0	0	2
23116SEC48	Apiculture	2	0	0	2
	Ability Enhancement				-
23116BRC49	Participation in Bounded Research	2	0	0	2
231AECCEVS	Environmental Studies	2	0	0	2
	AUDIT COURSE		-		
231LCSCLS	Leadership and Management Skills	0	0	0	1
	Total	22	2	6	27
	SEMESTER - V		- 2007		
23116AEC51	Bacteriology and Mycology	5	1	0	4
23116AEC52	Virology and Parasitology	5	1	0	4
23116AEC53	Environmental and Agriculture Microbiology	5	1	0	4
23116DSE54_	23116DSE54A - Biosafety & bioethics 23116DSE54B - Food Processing Technology 23116DSE54C - Disaster Management	5	0	0	3
	PRACTICAL				
23116SEC55L	Bacteriology, Mycology Virology and Parasitology Lab	0	0	3	3
23116SEC56L	Environmental, Agriculture, Food, Dairy and Probiotic Microbiology Lab	0	0	3	3
	Skill Enhancement Course	<u> </u>		1	
23116SEC57	Internship/Industrial Visit/Field Visit	0	0	0	2
	AUDIT COURSE		_L		
231ACLSPSL	Professional Skills	-	-	-	1
231AECCVED	Value Education	2	0	0	2

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BOS MICROBIOLOGY

		Total	22	3	6	26
	Third year					
	SEMESTER - VI					
23116ÅEC61	Food, Dairy and Probiotic Microbiology		5	0	0	4
23116AEC62	Recombinant DNA Technology		5	0	0	4
	PRACTICAL					
23116AEC63-	23116DSE65A - Pharmaceutical Microbiology 23116DSE65B - Entrepreneurship and Bio-business		0	0	5	3
23116PRW64	Project		0	0	13	4
23116SEC65	General awareness for competitive exam		2	0	0	2
231EXACT	Extension activity				-	1
	AUDIT COURSE					202
231ACSIKWS	Indian Knowledge System		-	-	-	2
_	Total		17	0	13	20
		Total Cr	edits -l	rogra	nme	140
		Total Credi	ts - Au	dit Co	urses	07
			Te	otal C	redits	147

- The members of the Board approved the syllabus for "New Courses Introduced in UG MICROBIOLOGY" that was proposed to them. Refer to Annexure 4 for the same.
- The LOCF document was presented for discussion by the BoS members. The BoS members confirmed that the syllabus-related matter has been incorporated into the LOCF document. Refer to the LOCF document for the same.
- > The syllabus for the course "Indian Knowledge System" was presented and discussed with the BoS members, followed by their approval. Refer to Annexure II for the same.
- > The syllabus for the course "Disaster Management" was presented and discussed by the BoS members, followed by their approval. Refer to Annexure IV for the same.
- It was proposed that advanced learners should actively participate in peer teaching and be motivated to participate in more than one online course. Activities like the departmental newsletter, student-organised seminars, and journal club discussion forum should be coordinated by them. It was also recommended to conduct a departmental-level finishing school programme for the graduating batch of students. Board members also opined to



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#### BOS MICROBIOLOGY

	<ul> <li>encourage students to join individual summer internship programmes in reputed research institutions like NCBS, CCMB, and IISC in order to strengthen their skills and expertise in the field of Biochemistry.</li> <li>&gt; It was resolved to make changes in Allied Microbiology I &amp; Microbiology II for BS Microbiology in the III semester and IV semester syllabuses. Refer to Annexure V for the same.</li> <li>&gt; It was resolved to make changes in Allied Microbiology for BSc Biotechnology in the I semester syllabus. Refer to Annexure VI for the same.</li> </ul>
Resolution:	The Board unanimously resolved and accepted the same. New syllabus for B.Sc Microbiology approved. It will be effective from the Academic year 2023-2024.
Agendum 4:	Discussion on the development of the MSc Microbiology New Curriculum under Regulation 2023
	<ul> <li>A draft curriculum for M.Sc Microbiology was proposed with modification to the committee and the following points were discussed.</li> <li>&gt; The members wanted to confirm the total number of credits accounting for 91.</li> <li>&gt; The chairman informed that it was done according to the Tamil Nadu state Council for Higher Education (TANSCHE) requirements and the same will be put forth to be Academic Council for approval.</li> <li>New Courses introduced: PG programme</li> </ul>
	<ul> <li>SEMESTER I</li> <li>23216AEC11 - General Microbiology and Microbial Diversity</li> <li>23216AEC12 - Immunology Immunomics and Microbial Genetics</li> <li>23216AEC13 - Forensic Science</li> <li>23216AEC14L - General Microbiology, Immunology and Genetics Lab</li> <li>Discipline specific Elective Courses-I <ul> <li>a) 23216DSC15A - Bioinstrumentation</li> <li>b) 23216DSC15B - Health Hygiene</li> <li>c) 23216DSC15C - Microalgal Technology</li> <li>d) 23216DSC15D - Essentials of Laboratory Management and Biosafety</li> </ul> </li> <li>23216RMC16 - Research Methodology</li> <li>SEMESTER II <ul> <li>23216AEC21 - Medical Bacteriology and Mycology</li> <li>23216AEC22 - Medical Virology and Parasitology</li> </ul> </li> </ul>



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BOS MICROBIOLOGY

- 223216SEC24L Medical Microbiology Lab > Discipline specific Elective Courses-II a) 23216DSC25A-Epidemiology b) 23216 DSC25B - Clinical Diagnostic Microbiology c) 23216 DSC25C - Bioremediation d) 23216 DSC25D - Clinical Research and Clinical Trials > 23216GEC26 – Vermitechnology > 23216BRC27 - Participation in Bounded research > 23216SEC28 - Internship SEMESTER III > 23216AEC31 - Soil and Environmental Microbiology > 23216AEC32 - Recombinant DNA Technology and Biotechnology > 23216AEC33 - Fermentation Technology and Pharmaceutical Microbiology > 23216AEC34L - Environmental Microbiology, rDNA Technology Lab > Discipline specific Elective Courses-III a) 23216DSC35A- Biosafety, Bioethics and IPR b) 23216DSC35B-Toxinology c) 23216DSC35C-Water Conservation and Water Treatment > 23216GEC36 - Nanobiotechnology > 23216SEC37- Industrial Visit SEMESTER IV > 23216AEC41 - Food & Dairy Microbiology > 23216AEC42 - Research Methodology & Biostatistics > 23216PRW43 - Project with Viva Voce > Discipline specific Elective Courses-IV a) 23216DSC44A- Bioenergy b) 23216DSC44B- Herbal Technology and Cosmetic Microbiology c) 23216DSC44C - Life Science for Competitive Examinations 23216DSC45 - Microbial Quality Control and Testing
  - 23216SEC46 Industrial Visit

Course Code	Course Title	L	T	P	C
	SEMESTER I				
23216AEC11	General Microbiology and Microbial Diversity	5	1	0	4
23216AEC12	Immunology Immunomics and Microbial Genetics	5	1	0	4
23216AEC13	Forensic Science	5	1	0	4
23216AEC14L	General Microbiology, Immunology and Genetics Lab	0	0	4	4
23216DSC15	Discipline specific Elective Courses-I	5	1	0	3
23216RMC16	Research Methodology	2		1.	2
	Total	22	4	4	21
12	SEMESTER II	0			
23216AEC21	Medical Bacteriology and Mycology	4	1	0	4
23216AEC22	Medical Virology and Parasitology	4	1	0	4
23216AEC23	Clinical Research and Clinical Trials	4	1	0	4



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BOS	MICROBIOLOGY
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21 ( )	232	16SEC24L	Practical II Made An					
			Practical-II Medical Bacteriology, Mycology, Virology and Parasitology	0	0	14	4	
		16DSC25	Discipline specific Elective Courses-II					
	232	16GEC26	Vermitechnology	4	1	0	3	
	232	16BRC27	Participation in Bounded research	4	0	0	3	
	232	16SEC28	Internship	2	-	•	2	
						100	2	
			SEMESTER III Total	22	3	4	26	
	232	16AEC31	Soil and Environmental Microbiology		-			
		I6AEC32	Recombinant DNA Technology and Distantest	5	1	0	4	
		16AEC33	rememanion reconology and pharmonautical Mr.	4	1	0	4	
		16AEC34L	the restancing Micropiology & the A Tochaster 1 at	4	1	0	4	
		16DSC35	a scipling specific Elective Courses 111	0	0	4	4	
	232	16GEC36	Nanobiotechnology	4	1	0	3	
	232	16SEC37	Industrial Visit	4	1	0	3	
			Total	21	-	-	2	
	222		SEMESTER IV	-21	5	4	24	
		IGAEC41	Food & Dairy Microbiology	4		0		
		IGAEC42	Marine Microbiology	4	+	0	4	
		16PRW43	Project with Viva Voce	0	0	10	4	
	232	I6DEC44	Discipline specific Elective Courses-IV	4	$\frac{0}{1}$	$\frac{10}{0}$	3	
	232	6DSC45	Microbial Quality Control and Testing	4	÷	0	3	
	2321	6SEC46	Industrial Visit			-	2	
			Total		4	10	20	
			Total Credits for the Program		-		91	
		Semester	Discipline specific Electives				/1	
		I	Discipline specific Elective Courses.					
			a) 23216DSC15A- Bioinstrumentation					
		10 A	b) 23216DSC15B - Health Hygiene					
			c) 23216DSC15C - Microalgal Technology d) 23216DSC15D - Essentials of Lebourg					
			d) 23216DSC15 D - Essentials of Laboratory Management and Bios Discipline specific Elective Courses-II	afety	_			
		11	a) 23216DSC25A-Epidemiology	-	_			
			b) 23216 DSC25B - Clinical Diagnostic Microbiology					
			c) 23216 DSC25C - Bioremediation		a (			
	1. 10		d) 23216 DSC25D - Clinical Research and Clinical Trials					
			Discipline specific Elective Courses-III	<u>190 ed</u>	-			
	1	ш	a) 23216DSC34A- Biosafety, Bioethics and IPR		-			
			b) 23216DSC34B-Toxinology					
			c) 23216DSC34C-Water Conservation and Water Treatment					
		V	Discipline specific Elective Courses-IV		-			
	1 10	10	a) 23216DSC44A- Bioenergy	1211-121				
	1 1	19 I I I I I I I I I I I I I I I I I I I	b) 23216DSC44B- Herbal Technology and Cosmetic Microbiology					
	The		e) 23216DSC44C - Life Science for Competitive Examinations	_				
	i ne n	lembers o	of the Board approved the syllabus for "New Courses	Intr	odu	iced	in P	G
	Miere	obiology"	that was proposed to them. Refer to Annexure V for t	the s	am	э.		а́.
esolution	The B effect	loard reso ive from t	lved to accept the same. New syllabus for B.Sc Micro he Academic year 2023-2024.	obio	logy	/ ap	prove	d. It will
gendum 5			our years Under Graduate Programme (FYUGP) BSc	Mi	crol	niol	any L	one
iscussion	FYUC	GP detaile	ed syllabus of the programme in the Annexure VI				-6y 11	
anormal fragmentation in the second second								



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# PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

Doctared as DEEMED.TO.BE.UNIVERSITY U/s 3 of UGG Act, 1956

BOS MICROBIOLOGY

Resolution	The Board recommended the EVITION a
Agendum 6	The Board recommended the FYUGP for approved by the Academic counsil. Discussion on Value added courses
Discussion:	<ul> <li>Value added courses (Job Oriented Courses ) were discussed, the Department of Microbiology proposed two courses like Seaweed Culture and Advances in Plant Tissue Culture.</li> <li>Members had a vivid discussion over the suggestions made in the Parent Teachers Association Meeting for enrichment of the syllabus.</li> <li>The Board Members verified and approved the panel of examiners for the upcoming End Semester Examinations.</li> </ul>
<b>Resolution:</b>	The suggestions by the Board Members have been considered.
Agendum 7:	Any other matter with the permission of the chairpersons
Discussion:	The board also suggested measures to improve the creative and innovative thinking ability of the post graduate students by assigning critical research problems in project and practical. The based on the suggestions received from the parents, students, Alumni and employers'the curriculum was made more practical-oriented with provisions for internship in industry/Hospitals/Organizations.
Resolution:	The board resolved to recommend the above for the approval of the AC.

The chairman of Board of Studies (BOS) thanked all the members for their active participation and cordially invited them for the next meeting.

Date: 21.06.2023

A·X HOD

Dr.A.XAVIER FERNANDES,N & MAR, M.M. M.D., Assistant Professor Department of Microbiology School of Arts & Science Prist Deemed to be University. Thanjavur.

(Dr.A.XAVIER FERNANDES)

DEAN Dean of Arts & Science **PRIST** Deemed to be University Thanjavur-613 403, Tamilnadu.

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Declared as DIEMED TO BE UNIVERSITY Us 3 of UGC Act 1956

BOS

# ATTENDANCE OF THE THIRTEENTH BOARD OF STUDIES MEETING

Board: Microbiology

Date: 21.06.2023

Time: 10.00am

Venue: Department of Microbiology

S.No	Name/Degree/Designation	were present for the Board Institute/Organization/ Full address	Online/ Physical	Signature
1	Dr.A. XAVIER FERNANDES Assistant Professor & Head Department of Microbiology	<u>Chairman</u> Ponnaiyah Ramajayam Institute of Science & Technology (PRIST)	Physical	A-X-Fro 21/06/23
2	Dr. K.KAVITHA Assistant Professor, Dept. of Environmental & Herbal Science,	Academic Expert Dept. of Environmental & Herbal Science, Tamil University, Thanjavur.	Physical	9 - A - Ary முனைவர் டு.க.கவிதா, வண்சுல் கம்ப இணைப்பாசியர் மற்றும் துறைத்தனை கற்றுக்குல் மற்றும் மூலிகை அறிவியல் துன தமிழ்ப் பங்கலைக்குலம், தஞ்சலைர் - 613 00
3	Dr.MANJULA KESAVAN Managing Director, Bio Techno Solutions Training and Research Institute	<u>Industrial Expert</u> 4/271, Thalampoo Street, Thirunagar West, Ponmalai Patti, Trichy-004 TN	Physical	-t
4	Dr. BAKRUDEEN ALI AHMED Professor & Senior Scientist, Department of Microbiology	<u>Special Invite</u> Ponnaiyah Ramajayam Institute of Science & Technology (PRIST)	Physical	thet
5	DR. T.USHADEVI Associate Professor Department of Microbiology	Associate Professor Ponnaiyah Ramajayam Institute of Science & Technology (PRIST)	Physical	Absent



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6 Dr.T.THIRUSELVI Ponnaiyah Ramajayam Physical Assistant Professor Institute of Science & Department of Microbiology Technology (PRIST) 7 Dr. N. MAHALAKSHMI Physical Ponnaiyah Ramajayam Assistant Professor Institute of Science & Department of Microbiology Technology (PRIST) 21623 8 S.Supraja Physical Alumna Supraji 21/6/13 Research Assistant II (S. SUPRAJA) **TANBIO R&D Solution** Trichy 9 M.Manjari Student Physical H. May 21/6/23 Representatives III UG (M. MANJARI) MICROBIOLOGY 10 R. Karthick Raja Physical Student Representatives **II PG MICROBIOLOGY** Physical 11 Dr.T.Arivukanni **Co-opted** member Assistant Professor Ponnaiyah Ramajayam Department of Tamil Institute of Science & Technology (PRIST) Physical 12 Prof. S.Rasakumar Co-opted member Ponnaiyah Ramajayam Assistant Professor Institute of Science & Department of English Technology (PRIST) Physical **Co-opted member** Dr.S.Ambiga 13 Ponnaiyah Ramajayam HOD & Department of Institute of Science & **Biochemistry** Technology (PRIST)

Date: 02 . 06 . 2023

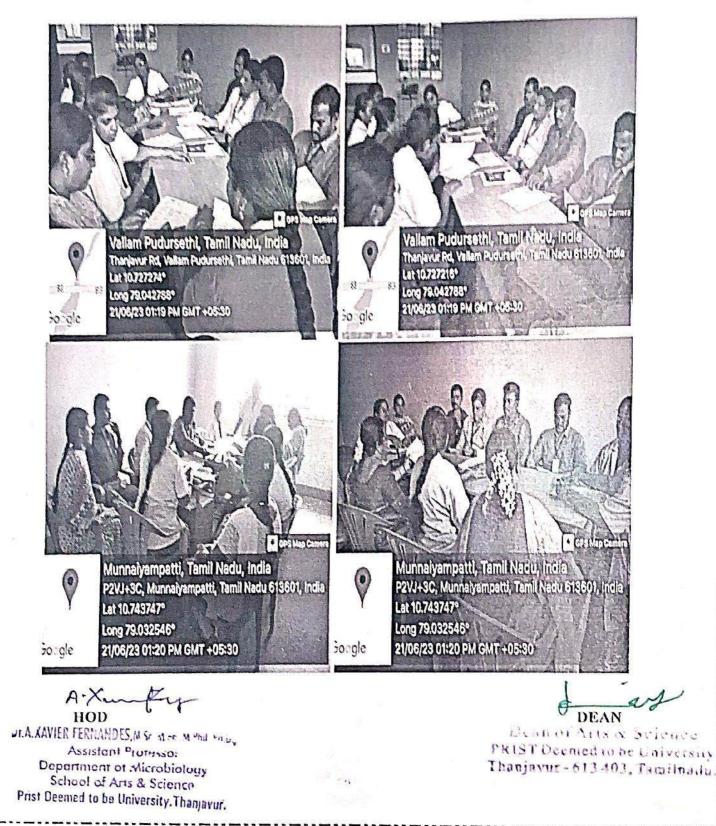
A·X **BOS Chairman/HOD** (4. <u>194 91</u> mar Lugar Cake Y - a contra tributari Providence i to ba Valvacetor, Theatherer,

BOS



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BOS MICROBIOLOGY





Dictared as DEFMED TO BE UNIVERSITY Us 3 of UGC Act, 1956

#### School of Arts and Science Department of Physics Minutes of the meeting of the Board of Studies (BoS)

Board: Physics

Details about the Board of Studies (BOS) Meeting, Physics are given below:

Nar	ne of the Body	Board of Studies
Dep	partment	Physics
Meeting year		2023-24
Date and Time		26.06.2023 & 3:00 PM
Venue		Department of Physics
Mei	nbers Attended	The details are given in the ANNEXURE-I
		AGENDA
I	To confirm the minutes of previou	s BOS meeting that was held on 10.05.2022
2	Discussion on the development of	the UG Physics New Curriculum under R 2023
3 -	Discussion on the development of	the PG Physics New Curriculum under R 2023
4	Discussion on Four years Under G	Graduate Programme (FYUGP) UG Physics (Hons)
5	Discussion on value added courses	S
6	Any other matters	

#### MINUTES OF THE BOARD OF STUDIES MEETING

#### Board: Physics

The Board of Studies Meeting, Department of Physics, School of Arts and Science, Ponnaiyah Ramajayam Institute of Science and Technology was conducted as per the guidelines of the University Grants Commission on 26.06.2023 at 3:00 pm through offline mode.

Dr. S. Subashchandrabose, Chairman of the Board of Studies Meeting welcomed the members and in his introducing speech, he explained the details of agenda and the academic matters to be discussed. The committee appreciated the formulation of syllabus for Physics, programme to meet out the criteria of the Education Empowerment and Social Relevance. The agenda of the meeting was taken up for discussion. The following points were discussed during the meeting. The resolutions made in the meeting are given below.

#### AGENDA

Agendum 1: Confirmation of minutes of BOS meeting that was held on 10.05.2022 Discussion: The minutes of the Board of Studies meeting held on 10.05.2022 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the Academic council. Resolution: The Board resolved to accept the same.

**Agendum 2:** Discussion on the development of the UG Physics New Curriculum under R 2023.

**Discussion:** A draft curriculum for Physics was proposed with modification to committee and the following points were discussed.

> It was decided that the total number of credits for UG curriculum must be 147.

> The chairman informed that curriculum revision was carried out as per the Tamil Nadu State

- <sup>\*</sup> Council for Higher Education (TANSCHE) requirements and this will be put forth to the Academic Council.
  - 1. The core paper, Properties of Matter was updated as Properties of Matter and Sound in the I semester.
  - In the III semester, Thermodynamics and Statistical Physics was included instead of Heat and Thermodynamics.
  - New topic, Spectroscopy was added in the core paper Optics and it is renamed as Optics and Spectroscopy in the IV semester.

Course Code	Course Title	L	Т	P	C
	Theory				
23110AEC11	Tamil-I				
23111AEC11	Advanced English-I	2	1	0	2
23132AEC11	Hindi-I	2	in .	0	2
23135AEC11	French-1		9		

23111AEC12	English-I	3	1	0	3
23113AEC13	Properties of Matter and Sound	4	1	0	4
23112AEC14	Allied Mathematics - I	5	1	0	4
	Practical				
23113SEC15	Physics Practical - I	0	0	3	3
	Skill Enhancement Course				
23113SEC16	Physics for Everyday Life	3	0	0	2
23113SEC17	Introductory Physics	3	0	0	2
	Ability Enhancement Compulsory Course		250-0011		
23113AECC1	Indian Constitution	2	0	0	2
	Audit Course				
231ACLSUHV	Universal Human Values	0	0	0	1
	Total	23	4	3	24

	SEMESTER - II				
Course Code	Course Title	L	Т	Р	C
	Theory				
23110AEC21	Tamil-II				
23111AEC21	Advanced English-II	3	1	0	3
23132AEC21	Hindi-II		1	0	1
23135AEC21	French-II			-	-
23111AEC22	English-II	3	1	0	3
23113AEC23	Mechanics And special theory of Relativity	4	I	0	-4
23112AEC24	Allied Mathematics - II	5	1	0	4
	Practical				
23113SEC25	Physics Practical - II	0	0	3	3
	Skill Enhancement Course				
23113SEC26	Astro Physics	3	0	0	2
23113SEC27	Communication Systems	3	0	0	2
	Ability Enhancement Compulsory Course				
23113AECC2	Communication Skills	2	0	0	2
	Audit Course				
231ACLSUHV	Basic Behavioral Etiquette	0	0	0	1
	Total	23	4	3	24

Course Code Course Title		L	T	Р	С
	Theory				-
23110AEC31	Tamil-III				
23111AEC31	Advanced English-III	3	1	0	3
23132AEC31	Hindi-III			0	
23135AEC31	French-III				
23111AEC32	English-III	3	1	0	3
23113AEC33	Thermodynamics and Statistical Physics	4	1	0	4

23112AEC34	Allied Chemistry - I	4	1	0	3
	Practical				
23113SEC35	Physics Practical - III	0	0	3	3
23114SEC36	Allied Chemistry Practical - I	0	0	3	3
	Skill Enhancement Course				
23113SEC37	Energy Physics	2	0	0	2
23113SEC38	Mathematical Physics	2	0	0	2
	Ability Enhancement Compulsory Course				_
23113AECC3	Research Methodology	1	0	0	2
23113AECC4	Environmental Studies	1	0	0	0
	Audit Course				
231ACLSOAN	Office Automation	0	0	0	1
	Total	20	4	6	26

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	SEMESTER - IV				
Course Code	Course Title	L	T	P	С
	Theory				
23110AEC41	Tamil-IV				
23111AEC41	Advanced English-IV	3	1	0	3
23132AEC41	Hindi-IV	2	1	0	2
23135AEC41	French-IV	3 1	22		
23111AEC42	English-IV	3	1	0	3
23113AEC43	Optics and Spectroscopy	4	1	0	4
23112AEC44	Allied Chemistry - II	4	1	0	3
	Practical				
23113SEC45	Physics Practical - IV	0	0	3	3
23114SEC46	Allied Chemistry Practical - II	0	0	3	3
	Skill Enhancement Course				
23113SEC47	Advanced Mathematical Physics	2	0	0	2
	Numerical Methods and C				
23113SEC48	programming	2	0	0	2
А	bility Enhancement Compulsory Course				
23113AECC5	Participation in Bounded research	1	0	0	2
23113AECC6	Environmental Studies	1	0	0	2
	Audit Course				
231ACLSLMS	Leadership and Management Skills	0	0	0	1
	Total	20	4	6	28

Course Code	SEMESTER - V	I	T	p	C
Course Code Course Title		LL	1	<u>r</u>	C
	Theory		, Li		
23113AEC51	Atomic Physics	4	1	0	4
23113AEC52	Basic Electronics	4	1	0	3
23113AEC53	Electricity and Magnetism	4	1	0	3

23113DSC54_	(A) Lasers and Fiber Optics / (B) Disaster Management	4	1	0	2
23113DSC55_	(A) Materials Science / (B) Digital Photography	4	1	0	2
	Practical				
23113SEC56	Physics Practical - V	0	0	3	3
	Skill Enhancement Course				
23113SEC57	Value Education	2	0	0	2
23113SEC58	Internship / Carried out in II Year Summer Vocation	0	0	0	2
	Audit Course				
231ACLSPSL	Professional Skills	0	0	0	1
	Total	22	5	3	22

	SEMESTER - VI				
Course Code	Course Title	L	Т	Р	С
	Theory				
23113AEC61	Nuclear and Particle Physics	4	1	0	3
23113AEC62	Digital Electronics and Microprocessor 3113AEC62 8085		1	0	3
23113AEC63	Solid State Physics	4	1	0	3
23113AEC64	Project Work	5	0	0	4
23113DSC65_	(A) Nano Science / (B) Medical Instrumentation	4	1	0	2
	Practical				
23113SEC66	Physics Practical - VI	0	0	3	3
	Skill Enhancement Course				
23113SEC67	General Awareness for Competitive Examination	2	0	0	2
	Audit Course				
231ACSIKWS	Indian Knowledge System	0	0	0	2
231EXACT	NSS/NCC/YRC/Physical Education	0	0	0	1
	Total	23	4	3	23
	Total Credits -Programme				14(
	Total Credits - Audit Courses		-	= }	07
	Total Credits				147

• The syllabus for the course "Indian Knowledge System" was presented and discussed with the BoS members, followed by their approval. Refer to Annexure II for the same.

**Resolution:** The Board resolved to accept the same. New syllabus for B.Sc., - Physics approved. It will be effective from Academic year 2023-2024.

Agendum 3: Discussion on the development of the PG Physics New Curriculum under R 2023. Discussion : The members discussed elaborately about the existing curriculum of PG courses. A draft curriculum for PG Physics was proposed with modification to committee and the following

points were discussed.

> It was planned that the total number of credits for PG curriculum must be 95.

The chairman informed that curriculum revision was carried out as per the Tamil Nadu State Council for Higher Education (TANSCHE) requirements and this will be put forth to the

Academic Council.

1. Dr. S. Subashchandrabose proposed that PG curriculum can be updated based on the CSIR-NET syllabus so that students will be benefited.

2. Dr. M. Sivanantham proposed that the core course, Classical and Statistical mechanics in the current curriculum can be divided in to two papers, Classical mechanics (23213AEC11) in I semester and Statistical mechanics (23213AEC21) in II semester.

3. Dr. T. Ganesh, external member (academic expert) suggested that using the content of the core paper, spectroscopy in the TANSCHE model syllabus, the discipline specific elective course, Atomic and Molecular Physics (in II semester) can be revised.

4. The discipline specific elective paper "Nanoscience and Technology" was renamed as "Physics of nanoscience and technology". Dr. L. Chinnappa, Dean suggested to include the reference book titled "Introduction to the characterization of nanomaterials and thin film" by Dr. T. Ganesh in the paper Physics of nanoscience and technology in the IV semester.

5. The core course, Microprocessor and Microcontroller was replaced by Statistical mechanics (23213AEC21) in II semester.

6. New core course, Linear and Digital ICs and Applications (23213AEC13) is added in the I semester.

7. New core courses, Advanced Optics (23213AEC41) and Spectroscopy (23213AEC42) are included in the IV semester.

8. New discipline specific elective courses, Energy Physics (23213DSC15A) and Communication Electronics (23213DSC15B) were introduced in the I semester. The discipline specific elective, Solar Energy Utilization (23213DSC25A) and Plasma Physics (23213DSC25B) were introduced in the II semester. In the III semester, discipline specific elective, Characterization of Materials (23213DSC34A) was added.

Course Code	Course Title	L	Т	Р	С
1	SEMESTER I				
23213AEC11	Mathematical Physics	5	1	0	4
23213AEC12	Classical Mechanics and Relativity	5	1	0	4
23213AEC13	Linear and Digital ICs and Applications	5	1	0	4
23213SEC14L	Spectroscopy and General Electronics Lab	0	0	4	4
23213DSC15_	Discipline Specific Elective – I	5	1	0	3
23213RMC16	Research Methodology	2	0	0	2
	Total	22	4	4	21
	SEMESTER II				

23213AEC21	Statistical Mechanics	4	1	0	4
23213AEC22	Quantum Mechanics - I	4	1	0	4
23213AEC23	Condensed Matter Physics	4	1	0	4
23213SEC24L	Advanced General Experiments and Electronics Lab	0	0	4	4
23213DSC25_	Discipline Specific Elective II	4	1	0	3
23213SEC26	Medical Physics	4	1	0	3
23213BRC27	Participation in Bounded Research	2	0	0	2
23213SEC28	Industrial Visit	-	-	-	2
	Total	22	5	4	26
	SEMESTER III				
23213AEC31	Electromagnetic Theory	5	1	0	4
23213AEC32	Nuclear and Particle Physics	4	1	0	4
23213AEC33	Quantum Mechanics - II	4	I	0	4
23213SEC34L	Advanced Electronics Lab	0	0	4	4
23213DSC35_	Discipline Specific Elective – III	4	1	0	3
23213SEC36	Sewage And Waste Water Treatment And Reuse	4	1	0	3
23213SEC37	Internship / Industrial Activity		-	-	2
	Total	21	5	4	24
	SEMESTER IV	-			
23213AEC41	Advanced Optics	4	1	0	4
23213AEC42	Spectroscopy	4	1	0	4
23213DSC43_	Discipline Specific Elective – IV	4	1	0	3
23213DSC44_	Discipline Specific Elective – V	4	1	0	3
23213PRW45	Project Work	0	0	10	4
23213SEC46	Industrial activity	-	-	-	2
	Total	16	4	10	20
	Total Credits for the Programme				91

**Resolution:** The Board resolved to accept the same. New syllabus for M.Sc., - Physics approved. It will be effective from Academic year 2023-2024.

Agendum 4: Discussion on Four years Under Graduate Programme (FYUGP) UG Physics (Hons)

**Discussion:** The committee discussed about the syllabus of the FYUGP programme. Detailed syllabus of the FYUGP programme is provided in the Annexure VI **Resolution:** The committee recommended and approved the syllabus of the FYUGP

programme.

Agendum 5: Discussion on value added courses

**Discussion:** Introduction of new value added courses were discussed, the department of Physics proposed two courses such as certificate course on regulated power supply and certificate course on cosmology and structure formation.

Resolution: The committee recommended and approved all courses.

Agendum 6: Any other matters Discussion:

- The board also suggested measures to improve the creative and innovative thinking ability of the post graduate students by assigning critical research problems in project and practical.
- The based on the suggestions received from the parents, students, alumni and employers' the curriculum was made more practical-oriented with provisions for internship in industry/hospitals/organizations.

**Resolution:** The board resolved to recommend the above for the approval of the Academic Council.

BOS committee resolved to recommend the syllabus revision for UG Physics and UG Physics and requested the Academic Council for approval.

The chairman of Board of Studies (BOS) thanked all the members for their active participation and cordially invited them for the next meeting.

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Date: 26.06.2023

Dean

Dean of Arts & Science PRIST Decried to be University Thanjavar - 613 403, Tomilanda.

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Signature (Dr. S. Subashchandrabose)

BOS Chairman/HOD Seal The Head, Department of Physics, PRIST Deemed to be University, Vallam, Thanjavur-613403. Tamilnadu, India.

### ATTENDANCE OF THE BOARD OF STUDIES MEETING

Board: Physics Date: 26.06.2023 Venue: Department of Physics Time: 3 pm The following members were present for the Board of Studies meeting

Chair: Dr. S. Subashchandrabose, M.Sc., M.Phil., Ph. D, Professor & HOD

### External Members

S.No.	Name/Degree/Designation	Institute/Organization/ Full address	Signature
1	Dr. T. Ganesh, M.Sc., M.Phil., M. Tech., Ph.D., Associate Professor	Department of Physics Rajah Serfoji Government College, Thanjavur- 613005	T. Cramedo
2	Mr. K. Amirtha Ganesh, M.E., Chief Innovation Officer, Three Dots Innovations	Three Dots Innovations LLP Plot No.121, Rahman Nagar, Neelagiri Thanjavur- 613004	K. Doops the

Internal Members

S.No.	Name/Degree/Designation	Department	Signature
1	Dr. S. Subashchandrabose, M.Sc., M.Phil., Ph.D, HOD, Professor	Physics	la
2	Dr. L. Chinnappa, M.Sc., M. Phil, Ph.D., PGDCA., Dean & Professor, School of Arts and Science	Dean & Professor, School of Arts and Science	df Ery
3	Dr. M. Sivanantham M.Sc., M.Phil., Ph.D, Associate Professor	Physics	Mr. Sax and
4	Dr. Sutapa Ghosh M.Sc., Ph.D, Associate Professor	Physics	Subapa
5	Dr. V. Vidhya M.Sc., M.Phil., Ph.D, Assistant Professor	Physics	N. Vronz
6	Mr. K. Swaminathan, M.Sc., M.Phil., Assistant Professor	Physics	SI
7	Dr. K. Vinoth M.Sc., M.Phil., Ph.D, Assistant Professor	Physics	5ehr

### Invited Participants

S.No.	Name/Degree/Designation	Department/Class Institute/Organizati on/Address	Signature
1	Dr. L. Chinnappa, M.Sc., M. Phil, Ph.D., PGDCA., Dean & Professor, School of Arts and Science	Dean & Professor, School of Arts and Science, PRIST Deemed to be University, Thanjavur	diay
2.	K.T. Barshini, B. Sc., Student	PRIST Deemed to be University, Thanjavur	Buni
3	M. Santhosh kumar, Alumni	PRIST Deemed to be University, Thanjavur	Senshale

diay

Date: 26.06.2023

Dean

Dean of Arts & Seicace
 PRIST Deemed to be University
 Thanjavur - 613 403, Tamilnadu.

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Signature (Dr. S. Subashchandrabose)

BOS Chairman/HOD Seal

The Head, Department of Physics, PRIST Deemed to be University, Vallam, Thanjavur-613403. Tamilnadu, India. List of revised and new courses

Cours	e Code	23113AEC13		Board: Physics
	e Name	Properties of Matter and Sou	ınd	Semester: 1
Unit		Existing	Cl	ianges
1	stress-st constan betweer Poisson	<b>TCITY:</b> Hooke's law – train diagram – elastic ts –Poisson's ratio – relation n elastic constants and 's ratio – work done in		
	twisting rigidity	ng and twisting a wire – couple on a cylinder – modulus by static torsion– Il pendulum (with and		
	without	masses)		
Ш	cantilev moment depressi cantilev cantilev period – Young's bending Young's method expressi experim	NG OF BEAMS: er– expression for Bending t – expression for ion at the loaded end of the er– oscillations of a er – expression for time - experiment to find s modulus – non-uniform g – experiment to determine s modulus by Koenig's – uniform bending – ion for elevation – hent to determine Young's s using microscope		
in				excess pressure over oplication to spherical ps and bubbles – rface tension by ariation of surface
IV			turbulent flow – rat capillary tube – Poi corrections – termin	nition – streamline and te of flow of liquid in a iseuille's formula – nal velocity and ariation of viscosity
V	AND U Intensity loudnes Sabine' acoustic affectin <i>Ultras</i>	STICS OF BUILDINGS LTRASONICS: y of sound – decibel – s of sound –reverberation – s reverberation formula – e intensity – factors g the acoustics of buildings. sonic waves: production of onic waves – Piezoelectric		

crystal method – magnetostriction	
effect – application of ultrasonic	
waves	

_	Skill development	$\checkmark$	Entrepreneurial development
$\checkmark$	Employability	$\checkmark$	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment	$\checkmark$	Environment and Sustainability
$\checkmark$	Intellectual Property Rights		

Syllabus Revision		
Course Code	23113SEC15	Board: Physics
Course Name	Physics Practical - I	Semester: 1

Unit	Existing	Changes
	1. Determination of rigidity	
	modulus without mass using Torsional	a second s
	pendulum.	
	2. Determination of rigidity	
	modulus with masses using Torsional	
	pendulum.	
	3. Determination of moment of	
	inertia of an irregular body.	
	4. Verification of parallel axes	
	theorem on moment of inertia.	
+.	5. Verification of perpendicular	
	axes theorem on moment of inertia.	
5 <b>4</b>	6. Determination of moment of	
	inertia and g using Bifilar pendulum.	
	7. Determination of Young's	
	modulus by stretching of wire with	
	known masses.	
	8. Verification of Hook's law by	
	stretching of wire method.	
	9. Determination of Young's	
	modulus by uniform bending - load	
	depression graph.	
	10. Determination of Young's	
	modulus by non-uniform bending –	
	scale & telescope.	
	11. Determination of Young's	
	modulusby cantilever – load	
	depression graph.	
	adhine an Biakin	12. Determination of Young's modulus by
		cantilever – oscillation method
	in particular and a second	13. Determination of Young's modulus
		by Koenig's method – ( or unknown load)
		14. Determination of rigidity modulus by
		static torsion.
		15. Determination of Y, n and K by Searle's double bar method.
	the second s	searie's double bar method.

	<ul> <li>16. Determination of surface tension &amp; interfacial surface tension by drop weight method.</li> <li>17. Determination of co-efficient of viscosity by Stokes' method – terminal velocity.</li> </ul>
	<ul> <li>18. Determination of critical pressure for streamline flow.</li> <li>19. Determination of Poisson's ratio of rubber tube.</li> </ul>
8	<ul><li>20. Determination of viscosity by</li><li>Poiseullie's flow method.</li><li>21. Determinationradius of capillary tube</li><li>by mercury pellet method.</li></ul>
*	22. Determination of g using compound pendulum.

$\checkmark$	Skill development	~	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
	Gender Sensitization	1	Human Values
	Social Awareness/Environment		Environment and Sustainability
$\checkmark$	Intellectual Property Rights		······································

	Syllabus Revision	
Course Code	23113AEC23	Board: Physics
Course Name	Mechanics And special theory of Relativity	Semester: II

Unit	Existing	Changes
Unit I	LAWS OF MOTION: Newton's Laws- forces - equations of motion - frictional force - motion of aparticlein a uniformgravitational field - types of everyday forces in Physics. <i>Gravitation</i> : Classical theory of gravitation-Kepler's laws, Newton's law of gravitation - Determination of G by Boy's method - Earth-moon system - weightlessness - earth satellites - parking orbit - earth density - mass of the Sun - gravitational potential - velocity of escape - satellite potential and kinetic energy -	Changes
II	Einstein's theory of gravitation – introduction –principle of equivalence – experimental tests of general theory of relativity – gravitational red shift – bending of light – perihelion of mercury. CONSERVATION LAWS OF	
	LINEAR AND ANGULAR MOMENTUM: conservation of	

	linear and angular momentum – Internal forces and momentum conservation – center of mass – examples – general elastic collision of particles of different masses – system with variable mass – examples – conservation of angular momentum – torque due to internal forces – torque due to gravity – angular momentum about center of mass – proton scatteringby heavy	
m	nucleus. CONSERVATION LAWS OF ENERGY: Introduction – significance of conservation laws – law of conservation of energy concepts of work- power – energy – conservative forces – potential energy and conservation of energy ingravitational and electric field – examples –non-conservative forces – general law of conservation of energy.	
IV	RIGID BODY DYNAMICS: translational and rotational motion – angular momentum – moment of inertia – general theorems of moment of inertia – examples – rotation about fixed axis – kinetic energy of rotation – examples – body rollingalong a plane surface – body rolling down an inclined plane – gyroscopic precision – gyrostatic applications.	
V		<b>SPECIAL THEORY OF RELATIVITY:</b> Michelson-Morley experiment-frames of reference – Galilean Relativity – postulates of special theory of relativity – Lorentz transformation – consequences – time dilation–concept of simultaneity – Doppler effect – length contraction–variation of mass with velocity – Einstein's mass-energy relation– relativistic momentum – energy relation

	Skill development	~	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
$\checkmark$	Gender Sensitization	$\checkmark$	Human Values
	Social Awareness/Environment	$\checkmark$	Environment and Sustainability
$\checkmark$	Intellectual Property Rights		

Syllabus Revision				
Contraction (Contraction	se Code 23113SEC25	Board: Physics		
Course Name Physics Practical - II		Semester: II		
Unit	Existing	Changes		
	<ol> <li>Calibration of low range and high range voltmeter using potentiometer</li> <li>Calibration of ammeter using potentiometer.</li> </ol>			
	<ol> <li>Measurement of low resistances using potentiometer.</li> <li>Determination of field along</li> </ol>			
	<ul> <li>the axis of a current carrying circular coil.</li> <li>5. Determination of earth's magnetic field using field along axis of current carrying coil.</li> </ul>			
	<ol> <li>Determination of specific resistance of the material of the wire usingPO box.</li> <li>Determination of resistance and specific resistance using Carey Foster's bridge.</li> </ol>			
	<ol> <li>8. Determination of internal resistance of a cell using potentiometer.</li> <li>9. Determination of specific conductance of an electrolyte.</li> </ol>			
•	10. Determination of e.m.f of thermo couple using potentiometer			
		<ol> <li>Determination of capacitance using Desauty's bridge and B.G./Spot galvanometer/head phone.</li> <li>Determination of figure of merit of BG or spot galvanometer.</li> <li>Comparison of EMF of two cells usingBG.</li> <li>Comparison of capacitance using BG</li> </ol>		

$\checkmark$	Skill development	$\checkmark$	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
4	Gender Sensitization	$\checkmark$	Human Values
1	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

Course Code	23113AEC33	Board: Physic
Course Name	Thermodynamics and Statistical Physics	Semester: III

1		THERMODYNAMICS - I: zeroth law
1		
		and first law of thermodynamics – P-V
		diagram – heat engine –efficiency of heat
		engine – Carnot's engine, construction,
		working and efficiency of petrol engine
		and diesel engines – comparison of
		engines.
II		THERMODYNAMICS - II: second law
		of thermodynamics –entropy of an ideal
		gas – entropy change in reversible and
•		irreversible processes – T-S diagram –
		thermodynamicalscale of temperature -
		Maxwell's thermodynamical relations –
		Clasius-Clapeyron's equation (first latent
16		heat equation) – third law of
		thermodynamics – unattainability of
		absolute zero – heat death.
III		LOW TEMPERATURE PHYSICS:
		Joule-Kelvin effect – porous plug
		experiment – Joule-Thomson effect –
		Boyletemperature – temperature of
		inversion – liquefaction of gas by Linde's
		Process – adiabatic demagnetization -
		specific heat capacity – specific heat
		capacity of gases $C_P \& C_V - Meyer's$
		relation – Joly's method for determination
		of $C_V$ – Regnault's method for
		determination of C <sub>P</sub>
IV	HEAT TRANSFER: modes of	
0	heat transfer: conduction,	
	convection and radiation.	
	Conduction: thermal conductivity -	
	determination of thermal	
Se	conductivity of a good conductor	
	by Forbe's method – determination	
	ofthermal conductivity of a bad	
	conductor by Lee's disc method.	
	Radiation: black body radiation	
	(Ferry's method) – distribution of	
	energy in black body radiation –	
	Wien's law and Rayleigh Jean's	
	law –Planck's law of radiation –	
	Stefan's law – deduction of	
	Newton's law of cooling from	
	Stefan's law.	
V	STATISTICALMECHANICS:	
	definition of phase-space - micro	
	and macro states - ensembles -	
	different types of ensembles -	
»:	classical and quantum Statistics -	
	Maxwell-Boltzmann statistics -	
	expression for distribution function	
	– Bose-Einstein statistics –	
	expression for distribution function	
	– Fermi-Dirac statistics –expression	
1		
	for distribution function –	

## comparison of three statistics.

Percentage of Syllabus Revised: 60% Courses focus on:

$\checkmark$	Skill development		Entrepreneurial development
~	Employability		Professional Ethics
$\checkmark$	Gender Sensitization	1	Human Values
	Social Awareness/Environment	$\checkmark$	Environment and Sustainability
$\checkmark$	Intellectual Property Rights		

	Syllabus Revision	
Course Code	23113SEC35	Board: Physics
Course Name	Physics Practical - III -	Semester: III

Unit	Existing	Changes
	1. Determination of specific heat by cooling – graphical method.	
	2. Determination of thermal	
	conductivity of good conductor by	
	Searle's method.	
	3. Determination of thermal	
	conductivity of bad conductor by	and the second
	Lee's disc method.	and the second se
	4. Determination of thermal	
	conductivity of bad conductor by	
	Charlaton's method.	
	5. Determination of specific heat	
	capacity of solid.	
	6. Determination of specific heat	
	of liquid by Joule's electrical heating	
	method (applying radiation correction	
2	by Barton's correction/graphical	and the second second second second
	method),	
	7. Determination of Latent heat	
	of a vaporization of a liquid.	
	8. Determination of Stefan's	
	constant for Black body radiation.	
	9. Verification of Stefan's-	
	Boltzmans law.	the second s
	10. Determination of thermal	
	conductivity of rubber tube.	
	11. Helmholtz resonator.	
	12. Velocity of sound through a	
	wire using Sonometer.	
		13. Determination of velocity of sound
		using Kunds tube.
		14. Determination of frequency of an
×		electrically maintained tuning fork
		15. To verify the laws of transverse
		vibration using sonometer.

16. Frequency of AC by using
sonometer.

	Skill development	~	Entrepreneurial development
$\checkmark$	Employability	1	Professional Ethics
$\checkmark$	Gender Sensitization		Human Values
~	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

	Syllabus Revision	
Course Code	23113AEC43	Board: Physics
Course Name	Optics and Spectroscopy	Semester: IV

Unit	Existing	Changes
I	INTRODUCTION TO OPTICS:	
	postulates of geometrical optics	
	Lens: thick and thin lenses – focal	
	length, critical thickness, power and	
_	cardinal points of a thick lens – lens	
	makers formula (no derivation) –	
	aberrations: spherical	
	aberration, chromatic aberrations,	
	coma,and astigmatism- curvature	
	of the field distortion chromatic	
	aberrations methods.	
	Prism: narrow angled prisms -	
	dispersion, deviation, aberrations -	
	applications rainbows and halos,	
	constant deviation spectroscope.	
	Eyepieces: advantage of an	
	eyepiece over a simple lens –	
	Huygen's and Ramsden's	
	eyepieces, construction and	
	workingmerits and demerits of	
	the eyepiece.	
	Resolving power: Rayleigh's	
	criterion for resolution – limit of	
	resolution for the eye – resolving	
	power of, (i) Prism (ii) grating (iii)	
	telescope	
	Fiber Optics: Basic ideas of optical	
	fibre – Numerical aperture –	
	Stepped and graded index fibres –	
	Fibre optic communication (Block	
	diagram only).	
п	INTERFERENCE: division of	
	wave front, Fresnel's biprism -	
•	fringes with white light – division	
	of amplitude: interference in thin	

	filme due to (i) reflected light (ii)	
	films due to, (i) reflected light, (ii)	
	transmitted light – colours of thin	
	films applications – air wedge –	
	Newton's rings.	
	Interferometers : Michelson's	
	interferometer – applications, (i)	
	determination of the wavelength of	
	a monochromatic source of light,	
	(ii) determination of the wavelength	
	and separation $D_1$ and $D_2$ lines of	
	sodium light, (iii) determination of	
	a thickness of a mica sheet.	
III	<b>DIFFRACTION:</b> Fresnel's	
	assumptions – zone plate – action	
	of zone plate for an incident	
	spherical wave front - differences	
а.	between a zone plate and a convex	
-	lens –Fresnel type of diffraction –	
	diffraction pattern due to a straight	
	edge – positions of maximum and	
	minimum intensities – diffraction	
	due to a narrow slit – Fraunhofer	
	type of diffraction – Fraunhofer	
	diffraction at a single slit – plane	
	diffraction grating- experiment to	
	determine wavelengths – width of	
137	principal maxima.	
IV	POLARISATION: optical activity	
	- optically active crystals polarizer	
5.56	and analyser-double refraction -	
e - 1	optic axis, principal plane –	
	Huygens's explanation of double	
	refraction in uniaxial crystals -	
1	polaroids and applications –	
	circularlyand elliptically polarized	
	light -quarter wave plate - half	
	wave plate – production and	
	detection of circularly and	
	elliptically polarized lights -	
	Fresnel's explanation – specific	
	rotation – Laurent half shade	
	polarimeter – experiment to	
	determine specific rotatory power.	
V		SPECTROSCOPY: infra-red spectroscopy
		near infra-red and far infra-red – properties –
		origin of IRspectra – IR spectrophotometer –
		applications interpretation of IR spectra -
		CH, CO, CN bending and stretching •
		vibrational modes only – scattering of light –
		Raman effect -classical theory -quantum
		theory –mutual exclusion principle – Raman
		spectrometer- characteristics of Raman lines
		-applications – ultraviolet and visible
		spectroscopy –properties –
		spectrophotometer.
		spectrophotometer.

$\checkmark$	Skill development	$\checkmark$	Entrepreneurial development
	Employability		Professional Ethics
$\checkmark$	Gender Sensitization	~	Human Values
	Social Awareness/Environment		Environment and Sustainability
$\checkmark$	Intellectual Property Rights		

Syllabus Revision		
Course Code	23113SEC45	Board: Physics
Course Name	Physics Practical - IV	Semester: IV

Unit	Existing	Changes
	1. Determination of refractive	
	index of prism using spectrometer.	
	2. Determination of refractive	
	index of liquid using hollow prism and	
	spectrometer	
	3. Determination of dispersive	
×.	power of a prism.	
	4. Determination of radius of	
	curvature of lens by forming Newton's	
	rings.	
	5. Determination of thickness of a	
	wire using air wedge.	
	6. Determination of Cauchy's	
	Constants.	
	7. Determination of resolving	
	power of grating	
	8. Determination of resolving	
	power of telescope	
	9. Comparison of intensities	
	using Lummer Brodhum Photometer.	
	10. Determination of range of	
	motion using Searlesgoniometer.	
	motion using beariesgomometer.	11. Verification of Newton's formula for
		a lens separated by a distance.
		12. Determination of refractive index of
		given liquid by forming liquid lens
		13. Determination of refractive index
		using Laser.
	· · · · · · · · · · · · · · · · · · ·	14. Determination of wavelengths,
		particle size using Laser/Monochromatic
		source.
		15. Determination of resolving power of
		Diffraction grating using Laser
		16. Determination of wire using Laser.

Percentage of Syllabus Revised: 30%

Courses focus on:

$\checkmark$	Skill development		Entrepreneurial development
~	Employability	1	Professional Ethics
	Gender Sensitization	1.	Human Values

Social Awareness/Environment	$\checkmark$	Environment and Sustainability
Intellectual Property Rights		

Syllabus Revision			
Course Code	23113AEC51	Board: Physics	
Course Name	Atomic Physics	Semester: V	

Unit	Existing	Changes
I	THE ELECTRON AND	
	POSITIVE RAYS: e/m of	
	electronby Dunnington's method -	
4	charge of electron by Millikan's oil	
	drop method – properties of positive	
	rays -e/m of positive rays by	
	Thomson's parabola method	
	(problems calculation of e/m ratio of	
	<i>positive rays</i> )-mass spectrographs	
	and uses– Bainbridge and	
1	Dempster's mass spectrographs	
II	PHOTOELECTRIC EFFECT:	
11		
	photoelectric emission – Leonard's	
	experiment – Richardson and	the second process short second in
	Compton experiment -laws of	
	photoelectric emission - Einstein's	
	photoelectric equation (problems	
	using Einstein's photoelectric	
	equation) –experimental	
	verification by Millikan's method -	
-	photoelectric cell- photo emissive	
	cell -photovoltaic cell - photo	
	conducting cell - applications of	
•	photoelectric cells -photomultiplier.	
III	ATOMIC STRUCTURE:	
	Sommerfield's relativistic atom	
	model -vector atom model -various	
	quantum numbers – L-S and J-J	
	coupling – Pauli's exclusion	
	principle -magnetic dipole moment	
	of an electron due to orbital and spin	
	motion – Bohr magneton - Stern and	
	Gerlach experiment – Lande 'g'	
	factor.	
IV	SPLITTING OF SPECTRAL	
- 1	LINES: excitation, ionisation and	
	critical potentials - Davis and	
	Goucher's method – optical spectra	
- 1	- spectral notation and selection	
-	rules – fine structure of sodium D-	
	line – Zeeman effect – experimental	
	arrangement and classical theory of	
	normal Zeeman effect – Larmor's	
	theorem -quantum theory of normal	

•	Zeeman effect –anomalous Zeeman effect –explanation of splitting of $D_1$ and $D_2$ lines of sodium – Paschen Back effect - Stark effect (Qualitative only).	
v		X-Ray SPECTRA: X-ray – Coolidge tube – Properties – X-ray Spectra – Continuous and characteristics X-ray spectrum – Mosley's law (Statement, Explanation and Importance) – Compton effect – Expression for change of wave length - X-ray diffraction-Bragg's law- Bragg's spectrometer- Powder crystal method – Quantum theory: The distribution of energy in the spectrum of a black body – its results - Planck's hypothesis – derivation of Planck's law of radiation

$\checkmark$	Skill development	$\checkmark$	Entrepreneurial development
$\checkmark$	Employability	1	Professional Ethics
Street, Street	Gender Sensitization	$\checkmark$	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

New Course		
Course Code	23113AEC52	Board: Physics
Course Name	Basic Electronics	Semester: V

UNITS	COURSE DETAILS
UNIT-I	SEMICONDUCTORS DEVICES:Diodes: Introduction – Hall effect – Junction diodes – PN Junction– Biased PN Junction – Volt Ampere characteristic of a PN Junction– Zener diode – Tunnel diode – Backward diode.Transistors: Junction Transistor – Transistor construction – Modesof operation of a transistor – static characteristic in CB and CEmodes – Transistor amplifier – Transistor Biasing.
UNIT-II	POWER ELECTRONICS:Introduction - power electronics - The Triac - Construction -Operations - Characteristics - Applications. The Diac - Operations- Applications of Diac - Lamp dimmer - heat controller.FET - SCR - UJT - Construction - Operations - Characteristics -advantages- applications - UJT over voltage detector.
UNIT-III	AMPLIFIERS:Voltage and power amplifiers: Classification of amplifiers –Transistor amplifiers in cascade – Power amplifiers – Class A poweramplifier – Push Pull connection – push pull class B Poweramplifier – Characteristics of an amplifier.Feedback amplifiers: feedback and related termsblock diagram of afeedback amplifier- Transfer gain of an amplifier with feedback-Emitter follower circuit

UNIT-IV	OSCILLATORS: Introduction - Types of oscillators - Fundamental principle of oscillator - Concept of feedback oscillator - Tuned collector oscillator - Analysis - Hartley oscillators - Analysis - Colpitt's oscillator - Analysis - Phase shift oscillator-Analysis - Wien bridge oscillator - Analysis - Crystal oscillator - Analysis.	
UNIT-V	OPERATIONAL AMPLIFIER: Differential amplifier – Basic circuit – Operation – CMRR - Operational amplifier – Characteristics – Circuit symbol - Frequency response - Slew rate – Applications - Inverting amplifier – Non inverting amplifier - Adder - Subtractor - Integrator- Differentiator.	

	Skill development		Entrepreneurial development
$\checkmark$	Employability	$\checkmark$	Professional Ethics
	Gender Sensitization	1	Human Values
$\checkmark$	Social Awareness/Environment	$\checkmark$	Environment and Sustainability
~	Intellectual Property Rights		

	Syllabus Revision	
Course Code	23113AEC53	Board: Physics
Course Name	Electricity and Magnetism	Semester: V

Unit	Existing	Changes
1	ELECTROSTATICS: Gauss theorem and its application – Intensity at a point due to uniformly charged cylinders – Electrostatic potential – Deduction of Coulomb's law from Gauss law - Electrical potential - Equipotential surface - Potential due to a (i) dipole (ii) uniformly charged sphere – Capacitor – Principle of a capacitor – Spherical and cylindrical capacitors – Capacitors in series and in parallel – Energy of a charged capacitor – Energy loss due to sharing of charges.	
п	<b>DIELECTRICS:</b> Dielectrics-Polar and Non-polar dielectrics- Effect of electric field on dielectrics - Dielectric strength, Capacitance of a parallel plate condenser with dielectric slab between the plates - Electric displacement D - electric polarization P - Relation between D, E and P - Dielectric constant and electric susceptibility.	
Ш	MAGNETOSTATICS:	

	Magnetic field – Intensity of magnetization – Permeiability – Susceptibility – Relation between them – Potential due to dipole – Relation between potential and intensity – Properties of dia, para, fero magnetic matterials – Hysteresis – B.H curve. Biot-Savart's law and its applications: (i) circular loop and (ii) solenoid, Divergence and curl of magnetic field, Ampere's Circuital Law and its application to Solenoid,Hall effect, determination of Hall coefficient and applications.	
IV		ELECTROMAGNETIC INDUCTION: Faraday's laws of Electromagnetic induction - Lenz's law - Self-induction - Self-inductance of a long solenoid – Mutual induction - Mutual inductance of two coils - Co-efficient of mutual inductance of two coils - Co-efficient of mutual inductance – Energy stored in magnetic field - Relation between self-induction and mutual inductance – Anderson method – Eddy current – Electromagnetic damping - Co-efficient of coupling – Transformer theory.
.V		ALTERNATNG CURRENT AND ELECTROMAGNETIC WAVES: Alternating current - A.C Circuit with single components - Relation between current and voltage in LR and CR circuit - Phase and Vector diagrams - LCR series and parallel resonant circuit - Q —factor - Power in ac circuits - Wattless current - Power factor. Idea of displacement current - Maxwell's equations – Derivation - Maxwell's wave equation (with derivation) - Transverse nature of electromagnetic waves - Poynting theorem (Statement only)

	Skill development	1	Entrepreneurial development
$\checkmark$	Employability	$\checkmark$	Professional Ethics
$\checkmark$	Gender Sensitization		Human Values
$\checkmark$	Social Awareness/Environment	1	Environment and Sustainability
	Intellectual Property Rights		

	Syllabus Revision	1
Course Code	23113SEC56	Board: Physics
Course Name	Physics Practical - V	Semester: V

Unit	Existing	Changes
1	<ol> <li>Bi-prism – Determination of μ.</li> </ol>	
	2. Thickness of a thin film of Bi-	
	prism	*
	3. Brewster's law – polarization	
	4. Y – by Corlus method.	
	5. Dispersive power of plane	
	diffraction grating.	
	6. Diffraction a straight edge.	
	7. Kundt's tube – Velocity of	
	sound, Adiabatic Young's modulus of	
2	the material of the rod.	
	8. Forbe's method – Thermal	
	<ul><li>conductivity of a metal rod.</li><li>9. Spectrometer- Grating -</li></ul>	
	Normal incidence - Wave length of Mercury spectral lines.	
	10. Spectrometer – Grating - Minimum deviation - Wave length of	
	Minimum deviation - wave length of Mercury spectral lines.	
	11. Spectral response of photo	
	conductor (LDR).	
	12. Potentiometer – Resistance and	
	Specific resistance of the coil.	
	13. Potentiometer – E.M.F of a	
	thermocouple.	
	14. Carey Foster's bridge -	
	Temperature coefficient of resistance	
	of the coil.	
	15. Deflection Magnetometer -	
	Determination of Magnetic moment of	
	a bar magnet and BHusing circular	
	coil carrying current.	
	16. Vibration magnetometer -	
	Determination of BH using circular	
_	coil carrying current- Tan B position.	the second s
	17. B.G – Figure of Merit –	
	Charge Sensitivity	
II		1. Zener diode – voltage regulations
		2. Bride rectifier using diodes
		3. Clipping and clamping circuits using
		diodes.
		4. Characteristics of a transistor –(CE
		mode)
		5. Characteristics of a transistor –(CB
_		mode).
		6. RC coupled CE transistor amplifier -
		single stage.
		7. Transistor Emitter follower,
		8. Colpitt's oscillator -transistor.
		9. Hartley oscillator - transistor.
		10. Astable multivibrator - transistor.
-		11. Bistablemultivibrator - transistor.
		12. FET - characteristics.
		13. FET - amplifier (common drain)
		14. UJT -characteristics

15. AC circuits with L,C,R -Series
resonance.
16. AC circuits with L,C,R - Parallel
resonance.
17. Operational amplifier - inverting
amplifier and summing.
18. Operational amplifier - non-inverting
amplifier and summing.
19. Operational amplifier – differential
amplifier
20. Operational amplifier - differentiator
& integrator.
21. Operational amplifier - D/A converter
by binary resistor method.

$\checkmark$	Skill development	~	Entrepreneurial development
	Employability	1	Professional Ethics
✓	Gender Sensitization	~	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights	-	· · · · · · · · · · · · · · · · · · ·

Syllabus Revision		
Course Code	23113AEC61	Board: Physics
Course Name	Nuclear and Particle Physics	Semester: VI

Unit	Existing	Changes
I	PROPERTIES OF NUCLEUS: constituents of nucleus – isotopes, isobars, isotones – nuclear size, mass, density, charge, spin, angular momentum, magnetic dipole moment, electric quadrupole moment (qualitative) – binding energy – mass defect – packing fraction – nuclear stability – binding energy per nucleon graph – properties of nuclear force – meson theory of nuclear forces – Yukawa potential. NUCLEAR MODELS: liquid drop model –Weizacker's semi- empirical mass formula – shell model – magic numbers.	
п	RADIO ACTIVITY: radio activity – laws of radioactivity – radioactive disintegration, decay constant, half-life, mean-life (only final formulae) – unitsof radioactivity–successive disintegration – transient and secular equilibrium– properties of alpha, beta and gamma rays –	

	Geiger-Nuttal law $-\alpha$ -ray spectra – Gammow's theory of $\alpha$ -decay (qualitative) $-\beta$ -ray spectrum – neutrino theory of $\beta$ -decay – nuclear isomerism – K-shell capture – internal conversion – non-conservation of parity in weak interactions.	
	PARTICLE DETECTORS AND ACCELERATORS DETECTORS: Interaction between the energetic particles and matter – Heavy charged particles – Electrons – Gamma ray - gas detectors –ionization chamber -	
	Solid State detector - Wilson Cloud chamber – Nuclear emission – Linear accelerators. <i>Accelerators:</i> linear accelerators - G-M counter – scintillation counter – photo multiplier tube (PMT) – semiconductor detectors – neutron detector – cyclotron – synchrotron – betatron– electron synchrotron – protonsynchrotron (bevatron)	
IV	NUCLEAR REACTIONS: types of nuclear reactions –conservation laws in nuclear reaction – Q-value– threshold energy – nuclear fission – energy released in fission – chain reaction – critical mass – nuclear reactor – nuclear fusion – sources of stellar energy – proton-proton cycle – Carbon-Nitrogen cycle – thermonuclear reactions – controlled thermonuclear reactions.	
· ·		COSMIC RAYS AND ELEMENTARY PARTICLES Cosmic rays: discovery of cosmic rays – primary and secondary cosmic rays – cascade theory of cosmic ray showers – altitude and latitude effects –discovery of positron – pair production – annihilation of matter – Van-Allen radiation belts – big-bang theory – future of the Universe (elementary ideas only). Elementary particles: particles and antiparticles – classification of elementary particles – types of fundamental interactions – quantum numbers of elementary particles – conservation laws and symmetry – quarks and types – quark model (elementary ideas only).

Percentage of Syllabus Revised: 20% Courses focus on:

$\checkmark$	Skill development		Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
$\checkmark$	Gender Sensitization	$\checkmark$	Human Values
	Social Awareness/Environment	~	Environment and Sustainability
	Intellectual Property Rights		

	Syllabus Revision	
Course Code	23113AEC62	Board: Physics
Course Name	Digital Electronics and Microprocessor 8085	Semester: VI

Unit	Existing	Changes
1		NUMBER SYSTEMS AND LOGIC
		GATES: decimal, binary, octal, hexadecimal numbers systems and their
		conversions – codes: BCD, gray and
		excess-3 codes – code conversions –
		complements (1's, 2's, 9's and 10's) –
_		binary addition, binary subtraction using
_		1's & 2's complement methods –basic
		logic gates -universal logic gates (NAND
		& NOR) – Boolean laws – De-Morgan's
120		theorem – minimization techniques
<u> </u>		(Karnaugh map: 2, 3, 4 variables).
II	LOGIC DESIGNS: adders, half	(Ramaugn map. 2, 5, 4 variables).
	&full adder – subtractors, half	
	&full subtractor – parallel binary	
	adder – magnitude comparator –	
	multiplexers (4:1) & demultiplexers	
	(1:4), encoder (8-line-to-3-line)	
	and decoder (3-line-to-8-line), BCD	
	to seven segment decoder.	
III	REGISTERS AND COUNTERS:	
	flip-flops: S-R Flip-flop, J-K Flip-	
-	flop, T and D type flip-flops,	
	master-slave flip-flop, truth tables -	
	registers:- serial in serial out and	
	parallel in and parallel out –	
	counters asynchronous:-mod-8,	
	mod-10, synchronous - 4-bit ˚	
	counter	
IV		MEMORY ELEMENTS: general
		memory operations, ROM, RAM (static
		and dynamic), PROM, EPROM,
	the second s	EEPROM, EAROM. IC – logic families:
		RTL, DTL, TTL logic, CMOS NAND &
		NOR Gates, CMOS Inverter,
		Programmable Logic Devices –
		Programmable Logic Array (PLA).
		Programmable Array Logic (PAL) -
		Magnetic tape – Magnetic disc – Bubble
		memory.
V		MICROPROCESSOR 8085:
		introduction to microprocessor – INTEL
	the second se	8085 architecture - register organization -

pin configuration of 8085, interrupts and
its priority – Program Status Word (PSW) –instruction set of 8085 –addressing
modes of 8085 –assembly language
programming using 8085 programmes
for addition (8-Bit & 16-Bit), subtraction
(8-Bit & 16-Bit), multiplication (8- Bit),
division (8- Bit) – largest and smallest number in an array – BCD to ASCII and
ASCII to BCD.

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	Skill development	$\checkmark$	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
$\checkmark$	Gender Sensitization	1	Human Values
	Social Awareness/Environment	$\checkmark$	Environment and Sustainability
	Intellectual Property Rights		~

	Syllabus Revision	1
Course Code	23113AEC63	Board: Physics
Course Name	Solid State Physics	Semester: VI

Unit	Existing	Changes
1	BONDING IN SOLIDS, CRYSTAL STRUCTURE: types of bonding –ionic bonding – bond energy of NaCl molecule –covalent bonding – metallic bonding – hydrogen bonding – Van-der-Waals bonding – crystal lattice – lattice	
•	translational vectors – lattice with basis – unit cell – Bravais' lattices – Miller indices – procedure for finding them –packing of BCC and FCC structures – structures of NaCl and diamond crystals –reciprocal lattice – reciprocal lattice vectors – properties – reciprocal lattices to SC, BCC and FCC structures – Brillouin zones – X-rays – Bragg's law(simple problems) – experimental methods: Laue method, powder method and	
II	rotating crystal method ELEMENTARY LATTICE DYNAMICS: lattice vibrations and phonons: linear monoatomicand diatomic chains. acoustical and optical phonons – qualitativedescription of the phonon spectrum in solids –Dulong and	

		p
	Petit's Law – Einstein and Debye	
	theories of specific heat of solids -	
	T <sup>3</sup> law (qualitative only)-properties	
	of metals – classical free electron	
	theory of metals(Drude-Lorentz) -	
	Ohm's law – electrical and thermal	
	conductivities - Weidemann-Franz'	
	law -Sommerfeld's quantum free	
	electron theory (qualitative only) -	
	Einstein's theory of specific heat	
	capacity.	
TTT	MAGNETIC PROPERTIES OF	
. III		
	SOLIDS: permeability,	
	susceptibility, relation between	
•	them – classification of magnetic	
	materials – properties ofdia,	
	para, ferro, ferri and	
	antiferromagnetism	
	Langevin'stheory of diamagnetism	
*	- Langevin'stheory of	
	paramagnetism – Curie-Weiss law	
	– Weiss theory of	
	ferromagnetism(qualitative only) –	
	Heisenberg's quantum theory of	
	ferromagnetism – domains –	
	-	
	discussion of B-H curve –hysteresis	
	and energy loss – soft and hard	
	magnets – magnetic alloys.	
IV		DIELECTRIC PROPERTIES OF
		MATERIALS: polarization and electric
	A	susceptibility -local electric field of an
		atom – dielectric constant and
		polarisability – polarization processes:
		electronic polarization-calculation of
		polarisability – ionic, orientational and
		space charge polarizationinternal field
ŧ.		Clausius-Mosotti relation – frequency
		dependence of dielectric constant –
		dielectric loss – effect of temperature on
		dielectric constant – dielectric breakdown
		and its types - classical theory of electric
		polarisability –normal and anomalous
		dispersion – Cauchy and Sellmeir
		relations –Langevin-Debye equation –
		complex dielectric constant -optical
		phenomena. Application – plasma
		oscillations – plasma frequency –
		plasmons,
. V		FERROELECTRIC and
. v		SUPERCONDUCTING PROPERTIES
		The second se
		OF MATERIALS: ferroelectric effect:
	*	Curie-Weiss Law – ferroelectric domains,
		P-E hysteresis loop – <i>elementary band</i>
		theory: Kronig-Penny model - band
e		

insulator –conductivity of semiconductor – mobility – Hall effect – measurement of conductivity (four probe method) - Hall coefficient.
Superconductivity: experimental results – critical temperature –critical magnetic field – Meissner effect –type-I and type-II superconductore – London's equation and
superconductors – London's equation and penetration depth – isotope effect – idea of BCS theory (no derivation)

## Percentage of Syllabus Revised: 40% Courses focus on:

$\checkmark$	Skill development		Entrepreneurial development
$\checkmark$	Employability	$\checkmark$	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment	$\checkmark$	Environment and Sustainability
	Intellectual Property Rights		

Syllabus Revision		
Course Code	23113SEC66	Board: Physics
Course Name	Physics Practical - VI	Semester: VI

Unit	Existing		Changes
		1.	Logic Gates
		2.	Universal Gates - NAND
		3.	Universal Gates – NOR
		4.	De-Morgan's theorem
		5.	Half adder and subtractor
		6.	Full adder and subtractor
		7.	Multiplexers (4:1)
		8.	Demultiplexers (1:4)
		9.	Encoder (8-line-to-3-line)
		10.	Decoder (3-line-to-8-line)
		11.	BCD to seven segment decoder.
		12.	S-R Flip-flop
		13.	J-K Flip-flop
		14.	T and D type flip-flops
		15.	Master-slave flip-flop
2	12	16.	Serial in serial out registers
		17.	Parallel in and parallel out registers
		18.	Asynchronous mod-8 counters
		19.	Asynchronous mod-10 counters
		20.	Synchronous - 4-bit counter
		21.	Ring counter
	1. Addition programme -		
	Microprocessor 8085		
	2. Subtraction programme -		
	Microprocessor 8085		
	3. Multiplication programme -		
	Microprocessor 8085		

	4. Division programme -	
	Microprocessor 8085	
	5. Finding the Largest number	
	programme - Microprocessor 8085	
	6. Finding the Smallest number	
	programme - Microprocessor 8085	
	7. Ascending order programme -	
	Microprocessor 8085	
	8. Descending order programme -	
8	Microprocessor 8085	
	9. Decimal to Hexadecimal Code	
	conversion programme -	
8	Microprocessor 8085	
	10. Interface DAC – saw tooth	
	wave programme - Microprocessor	
	8085	
	11. Serial Communication	
	programme - Microprocessor 8085	
	12. 16 bit addition programme -	
	Microprocessor 8085	×

Percentage of Syllabus Revised: 70% Courses focus on:

$\checkmark$	Skill development		Entrepreneurial development
$\checkmark$	Employability	$\checkmark$	Professional Ethics
	Gender Sensitization	$\checkmark$	Human Values
	Social Awareness/Environment		Environment and Sustainability
~	Intellectual Property Rights		The second se

New Course		
Course Code	23113SEC17	Board: Physics
Course Name	Introductory Physics	Semester: 1

Unit	Course		
1	vectors, scalars –examples for scalars and vectorsfrom physical quantities – addition, subtraction of vectors – resolution and resultant of vectors – units and dimensions– standard physics constants		
п	different types of forces-gravitational, electrostatic, magnetic, electromagnetic, nuclear -mechanical forces like, centripetal, centrifugal, friction, tension, cohesive, adhesive forces		
Ш	different forms of energy- conservation lawsof momentum, energy - typesof collisions -angular momentum- alternate energy sources-real life examples		
IV	types of motion-linear, projectile, circular, angular, simple harmonic motions - satellite motion - banking of a curved roads - stream line and turbulent motions - wave motion - comparisonof light and sound waves - free, forced, damped oscillations		
v	surface tension – shape of liquid drop – angle of contact – viscosity – lubricants – capillary flow – diffusion – real life examples – properties and types of materials in daily use- conductors, insulators – thermal and electric		

# Percentage of Syllabus Revised: 100% Courses focus on:

-	Skill development	$\checkmark$	Entrepreneurial development
. 🗸	Employability		Professional Ethics

	Gender Sensitization	~ ~	Human Values
$\checkmark$	Social Awareness/Environment	$\checkmark$	Environment and Sustainability
$\checkmark$	Intellectual Property Rights		

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New Course		
Course Code	23113SEC16	Board: Physics
Course Name	Physics for Everyday Life	Semester: 1

Unit	Course
Ι	<b>MECHANICAL OBJECTS:</b> spring scales – bouncing balls –roller coasters bicycles –rockets and space travel.
Ш	<b>OPTICAL INSTRUMENTS AND LASER:</b> vision corrective lenses – polaroid glasses – UV protective glass – polaroid camera – colour photography – holography and laser.
III	<b>PHYSICS OF HOME APPLIANCES:</b> bulb – fan – hair drier – television – air conditioners – microwave ovens – vacuum cleaners
IV	<b>SOLAR ENERGY:</b> Solar constant – General applications of solar energy – Solar water heaters – Solar Photo – voltaic cells – General applications of solar cells.
v	<b>INDIAN PHYSICIST AND THEIR CONTRIBUTIONS:</b> C.V.Raman, HomiJehangirBhabha, Vikram Sarabhai, Subrahmanyan Chandrasekhar, Venkatraman Ramakrishnan, Dr. APJ Abdul Kalam and their contribution to science and technology.

Percentage of Syllabus Revised: % Courses focus on:

$\checkmark$	Skill development	✓	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
$\checkmark$	Gender Sensitization	~	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

	New Cours	ie in the second se
Course Code	23113SEC26	Board: Physics
Course Name	Astro Physics	Semester: II

Unit	Course
. 1	<b>TELESCOPES:</b> Optical telescopes – magnifying power, brightness, resolving power and f/a ratio – types of reflecting and refracting telescopes – detectors and image processing – radio telescopes – Hubble space telescope.
II	<b>SOLAR SYSTEM:</b> Bode's law of planetary distances – meteors, meteorites, comets, asteroids – Kuiper belt – Oort cloud – detection of gravitational waves – recent advances in astrophysics.
III	ECLIPSES: types of eclipses – solar eclipse – total and partial solar eclipse – lunar eclipse – total and partial lunar eclipse – transits. THE SUN: physical and orbital data – solar atmosphere – photosphere – chromosphere – solar corona – prominences – sunspots – 11 year solar cycle – solar flares.

IV	<ul> <li>STELLAR EVOLUTION: H-R diagram – birth and death of low mass, intermediate mass and massive stars – Chandrasekar limit – white dwarfs – neutron stars – pulsars – black holes – supernovae.</li> <li>GALAXIES: classification of galaxies – galaxy clusters – interactions of galaxies, dark matter and super clusters – evolving universe.</li> </ul>
V	<ul> <li>ACTIVITIES IN ASTROPHYSICS:</li> <li>(i) Basic construction of telescope</li> <li>(ii) Develop models to demonstrate eclipses/planetary motion</li> <li>(iii) Night sky observation</li> <li>(iv) Conduct case study pertaining to any topic in this paper</li> <li>(v) Visit to any one of the National Observatories Any three activities to be done compulsorily.</li> </ul>

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$\checkmark$	Skill development	$\checkmark$	Entrepreneurial development
$\checkmark$	Employability	~	Professional Ethics
	Gender Sensitization	~	Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

	New Course	
Course Code	23113SEC27	Board: Physics
Course Name	Communication Physics	Semester: 11

Unit	Course
I	RADIO TRANSMISSION AND RECEPTION: transmitter – modulation types of modulation – amplitude modulation – limitations of amplitude modulation – frequency modulation – comparison of FM and AM – demodulation- essentials in demodulation – receivers: AM radio receivers – types of AM radio receivers – stages of superheterodyne radio receiver, advantages – FM receiver – difference between FM and AM receivers.
11	<b>FIBER OPTIC COMMUNICATION:</b> introduction – basic principle of fiber optics – advantages – construction of optical fiber – classification based on the refractive index profile – classification based on the number of modes of propagation – losses in optical fibers – attenuation–advantages of fiberoptic communication
Ш	<b>RADAR COMMUNICATION:</b> introduction - basic radar system –radar range – antenna scanning –pulsed radar system – search radar –tracking radar – moving target indicator Doppler effect-MTI principle – CW Doppler radar
IV	SATELLITE COMMUNICATION: introduction history of satellites – satellite communication system – satellite orbits – basic components of satellite communication system – commonly used frequency in satellite – communication –multiple access communication – satellite communication in India
V	MOBILE COMMUNICATION: introduction – concept of cell –basic cellular mobile radio system – cellphone – facsimile – important features of fax machine – application of facsimile – VSAT (very small aperture terminals) modem IPTV (internet protocol television) -Wi-Fi-4G (basic ideas)

Percentage of Syllabus Revised: 100%

Courses focus on:

✓ Skill development	✓	Entrepreneurial development
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	Employability	$\checkmark$	Professional Ethics
	Gender Sensitization	$\checkmark$	Human Values
	Social Awareness/Environment		Environment and Sustainability
$\checkmark$	Intellectual Property Rights		

	New Course	
Course Code	23113SEC37	Board: Physics
Course Name	Energy Physics	Semester: III

<sup>.</sup> Unit	Course		
I	<b>INTRODUCTION TO ENERGY SOURCES:</b> energy consumption as a measure of prosperity – world energy future – energy sources and their availability – conventional energy sources – non-conventional and renewable energy sources – comparison – merits and demerits.		
11	<b>SOLAR ENERGY:</b> solar energy Introduction – solar constant – solar radiation at the Earth's surface – solar radiation geometry – Solar radiation measurements – solar radiation data –solar energy storage and storage systems – solar pond – solar cooker – solar water heater – solar greenhouse – types of greenhouses – solar cells.		
Ш	WIND ENERGY: introduction –nature of the wind – basic principle of wind energy conversion – wind energy data and energy estimation – basic components of Wind Energy Conversion Systems (WECS) – advantages and disadvantages of WECS – applications – tidal energy		
IV	<b>BIOMASS ENERGY:</b> introduction – classification – biomass conversion technologies –photosynthesis – fermentation - biogas generation –classification of biogas plants – anaerobic digestion for biogas – wood gasification – advantages & disadvantages.		
V	<b>ENERGY STORAGE:</b> Energy storage systems – Mechanical Energy storage – Compressed Air storage – Electrical storage – Thermal energy storage - importance of energy storage- batteries - lead acid battery – nickel-cadmium battery – fuel cells – types of fuel cells – advantages and disadvantages of fuel cells – applications of fuel cells - hydrogen storage.		

Courses focus on:

$\checkmark$	Skill development	$\checkmark$	Entrepreneurial development
	Employability		Professional Ethics
	Gender Sensitization	√	Human Values
$\checkmark$	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

New Course			
Course Code	23113SEC38	Board: Physics	
Course Name	Mathematical Physics	Semester: III	

Unit Course

I	MATRICES: types of matrices – symmetric, Hermitian, unitary and orthogonal matrices– characteristic equation of a matrix – Eigen values and Eigen vectors of a matrix – Cayley-Hamilton theorem – inverse of matrix by Cayley-Hamilton theorem – similarity transformations – diagonalization of 2x2 real symmetric matrices.	
II	<b>VECTOR CALCULUS:</b> vector differentiation – directional derivatives – definitions and Physical significance of gradient, divergence, curl – Laplace operators– vector identities – line, surface and volume integrals – statement, proof and simple problems for Gauss's divergence theorem, Stoke's theorem, Green's theorem.	
III		
. IV		
V	APPLICATIONS OF PARTIAL DIFFERENTIAL EQUATIONS (PDE): PDE for transverse vibrations in elastic strings (one dimensional wave equation) –one dimensional heat flow equation – solutions to these PDE's by method of separation of variables – problems based on boundary conditions and initial conditions.	

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$\checkmark$	Skill development		Entrepreneurial development
$\checkmark$	Employability	1	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
$\checkmark$	Intellectual Property Rights		

	New Course	
Course Code	23113SEC47	Board: Physics
Course Name	Advanced Mathematical Physics	Semester: IV

Unit	Course		
1 .	MATRICES: introduction – special types of matrices – transpose – conjugate– conjugate transpose– symmetric andanti symmetric – Hermitian and skew Hermitian – orthogonal and unitary – properties – characteristic equation – roots and characteristic vectors – diagonalization– Cayley–Hamilton theorem –simple problems		
11 ,	<b>VECTOR CALCULUS:</b> Voperator – divergence – second derivative of vector functions or fields –Laplacian operator – curl of a vector – line integral – line Integral of a vector field around an infinitesimal rectangle – curl of conservative field – surface integral – volume integral (without problem) – Gauss's divergence theorem and proof – Stroke's theorem and proof –simple problems.		
III	<b>SPECIAL FUNCTIONS:</b> definition –Beta function – Gamma function – evaluation of Beta function – other forms of Beta function – evaluation of Gamma function – other forms of Gamma function – relation between Beta and Gamma functions – simple problems.		

IV	<b>FROBENIUS METHOD AND SPECIAL FUNCTIONS:</b> singular points of second order linear differential equations and importance –singularities of Bessels and Laguerre equations, Frobenius method and applications to differential equations: Legendre and Hermite differential equations – Legendre and Hermite polynomials – Rodrigues formula –generating function – orthogonality
V	PARTIAL DIFFERENTIAL EQUATIONS: solutions to partial differential equations using separation of variables - Laplace's equation in problems of rectangular – cylindrical and spherical symmetry – conducting and dielectric sphere in an external uniform electric field – wave equation and its solution for vibrational modes of a stretched string

Percentage of Syllabus Revised: 100% Courses focus on:

$\checkmark$	Skill development	$\checkmark$	Entrepreneurial development
$\checkmark$	Employability	~	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		· · · · · · · · · · · · · · · · · · ·

	New Course	
Course Code	23113SEC48	Board: Physics
Course Name	Numerical Methods and C programming	Semester: IV

Unit	Course
I	NUMERICAL SOLUTIONS: determination of zeros of polynomials – roots of linear and nonlinear algebraic and transcendental equations – bisection and Newton-Raphson methods – convergence and divergence of solutions
, II	NUMERICAL DIFFERENTIATION, INTEGRATION AND CURVE FITTING: Newton's forward and backward interpolation – Lagrange's interpolation – Newton-Raphson method to find square root and cube roots – principle of least squares – fitting a straight line and exponential curve – trapezoidal rule – Simpson's 1/3 and 1/8 rule
III	ALGORITHM, FLOW CHART AND PROGRAM: development of algorithm – flow chart for solving simple problems– average of set of numbers – greatest, smallest – conversion of Fahrenheit to Celsius and Celsius to Kelvin, miles to kilometer – sorting set of numbers in ascending and descending order – square matrix, addition, subtraction and multiplication of order (2x2) using arrays.
IV INTRODUCTION TO C: importance of C – basic structure of C program – constants, variables and data types – character set, key words and identific declaration of variables and data types – operators – expressions: arithmetic relational, logical, assignment – increment and decrement – conditional – c operators	
V	<b>CONTROL STRUCTURE:</b> decision making with if, if-else, nested if – switch –go to – break – continue –while, do while, for statements – arrays, one dimensional and two dimensional – declaring arrays – storing arrays in memory – initializing arrays – simple programs

Percentage of Syllabus Revised: 100% Courses focus on:

$\checkmark$	Skill development	$\checkmark$	Entrepreneurial development
•	Employability		Professional Ethics
	Gender Sensitization	~	Human Values
$\checkmark$	Social Awareness/Environment		Environment and Sustainability
$\checkmark$	Intellectual Property Rights		

#### DSC

New Course		
Course Code	23113DSC54A	Board: Physics
Course Name	Lasers and Fiber Optics	Semester: V

Unit	Course
Ι	FUNDAMENTALS OF LASER: basic principles: spontaneous and
2	stimulated emission - Einstein'scoefficient - pumping mechanism: optical,
	electrical and laser pumping – population inversion – two and three level laser system – resonatorconfiguration – quality factor – threshold condition – concept of Qswitching–Theoryofmodelocking– cavitydumping.
11	TYPES OF LASER: solidstatelaser: rubylaser, Nd:YAGlaser,Nd:Glasslaser-
п	semiconductor laser: intrinsic semiconductor laser, doped semiconductor laser, injection laser – dye laser – chemical laser: HCL laser, DF- CO <sub>2</sub> ,
	COchemicallaser. Gaslaser:neutral atom gas laser (He-Ne laser), CO <sub>2</sub> laser, Copper vapour laser.
Ш	<b>APPLICATIONS OF LASER:</b> application of laser in metrology – optical communication – materialprocessing: laser instrumentation of material processing, powder feeder, laser heating, laser welding, laser melting – medical application – Laser instrumentation for surgeries–laser in astronomy
IV	FIBER OPTICS: basic components of optical fiber communication -
	principles of lightpropagation through fiber – total internal reflection – optical fiber – coherent bundle – numerical aperture and skew mode – phase shift andattenuation during total internal reflection – types of fiber: single mode andmulti-mode fiber – step index and graded index fiber – fiber optic sensors – applicationoffiberoptics.
V	CHARACTERISTICS AND FABRICATION OF OPTICAL FIBER: fiber characteristics: mechanical and transmission characteristics – absorption loss and scattering loss measurements – dispersion – connectors and splicers – fiber termination – optical time domain reflectometer(OTDR) and its uses – fiber material – fiber fabrication – fiber optic cables design.

### Percentage of Syllabus Revised: % Courses focus on:

$\checkmark$	Skill development	$\checkmark$	Entrepreneurial development
~	Employability	$\checkmark$	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment	$\checkmark$	Environment and Sustainability
	Intellectual Property Rights		

New Course		
Course Code	23113DSC54B	Board: Physics
Course Name	Materials Science	Semester: I

Unit	Course
• I	<b>CRYSTALLOGRAPHIC FUNDAMENTALS:</b> Crystal lattice – Primitive and Unit cell – Seven classes of crystals – Bravais lattice – Miller Indices – Structure of crystals – Simple cubic, Hexagonal close packed structure, Face centered cubic structure, Body centered cubic structure – Sodium chloride structure – Zinc Blende structure – Diamond Structure. <i>Crystallography:</i> Diffraction of X-Rays by Crystals – Bragg's law in one dimension – Experimental method in X-Ray diffraction – Laue method, Rotating crystal method – Powder Photograph method – Laue's equations.
11	<b>CRYSTAL IMPERFECTIONS:</b> introduction – point defects: vacancies, interstitials, impurities, electronic defects – equilibrium concentration of point imperfections –application of point defects –line defects: edge dislocation, screw dislocation – surface defects: extrinsic defects – intrinsic defects: grain boundaries, tilt &twist boundaries, twin boundaries, stacking faults – volume defects – effect of imperfections.
III	MATERIAL DEFORMATION: introduction – elastic behavior of materials – atomic model of elastic behavior –modulus as a parameter in design – rubber like elasticity – inelastic behavior of materials – relaxation process – viscoelastic behavior of materials – spring-Dash pot models of viscoelastic behavior of materials.
IV	<b>OPTICAL MATERIALS:</b> introduction – optical absorption in metals, semiconductors and insulators – NLO materials and their applications – display devices and display materials: fluorescence and phosphorescence – light emitting diodes –liquid crystal displays.
v	<b>MECHANICAL TESTING:</b> destructive testing: tensile test, compression test, hardness test – nondestructive testing (NDT): radiographic methods, ultrasonic methods – thermal methods of NDT: thermography – equipment used for NDT: metallurgical microscope

## Percentage of Syllabus Revised: 100% Courses focus on:

$\checkmark$	Skill development	$\checkmark$	Entrepreneurial development
	Employability	$\checkmark$	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment	~	Environment and Sustainability
	Intellectual Property Rights		

	New Course	
Course Code	23113DSC55B	Board: Physics
Course Name	Digital Photography	Semester: V

Unit	Course
I	PHOTOGRAPHY AND BASIC PRINCIPLE OF IMAGE
	FORMATION: principle -chemical route and digital route -light,
	wavelengths, colours – shadows – light intensity and distance – making light
	form images –pin-hole images – practical limitations to pin-hole images – lens
	instead of pin-hole – focal length and image size – imaging of closer subjects.
11	LENSES - CONTROLLING THE IMAGES: photographic lens - focal
	length and angle of view ( <i>problems</i> ) – focusing movement – aperture and f- numbers ( <i>problems</i> ) – depth of field– depth of focus – image stabilization – lenses for digital cameras – lens and camera care

III	CAMERA USING FILMS AND ITS TYPES: camera and its essential components- shutter – aperture – light measurement – film housing – camera types: view camera- view finder camera – Reflex camera- single lens reflex (SLR) camera
IV	DIGITAL CAMERAS PRINCIPLE AND TYPES: principle of digital image capturing –comparison of digital and analog picture information – megapixel – grain, noise and pixel density – optical and digital zooming – image stabilizer – bit depth – white balance – colour modes – file formats (TIFF, RAW and JPEG) – storage cards and types – digital cameras: camera phones – compact camera – hybrid camera – digital SLR.
v	THE DIGITAL IMAGE – POSTPRODUCTION: hardware: computer and its peripherals – software: saving digital file – basic editing: navigating the image – undo/redo/history – crop – rotate – brightness andcontrast – colourbalance – hue/saturation – dodge/burn – cloning andretouching – removing an element in an image – advanced editing: histogram/levels – curves – selection tools: magic wand – printing digital images: inkjet printer – laser printer – dye sub printer – lambda/light jet printers.

Courses focus on:

. ✓	Skill development		Entrepreneurial development
1	Employability	$\checkmark$	Professional Ethics
	Gender Sensitization		Human Values
$\checkmark$	Social Awareness/Environment		Environment and Sustainability
$\checkmark$	Intellectual Property Rights		

New Course		
Course Code	23113DSC65A	Board: Physics
Course Name	Nanoscience	Semester: VI

Unit	Course
I	NANOSCIENCE AND NANOTECHINOLOGY: nanoscale- nature and nanostructures - nanostructures: 0D, 1D,2D- surface to volume ratio- size effect - excitons - quantum confinement- metal based nanoparticles (metal and metal oxide) - nanocomposites (non-polymer based) - carbon nanostructures - fullerene -SWCNT and MWCNT
II	<b>PROPERTIES OF NANOMATERIALS:</b> introduction –mechanical behavior – elastic properties – hardness and strength – ductility and toughness –superplastic behavior – optical properties – surface plasmon resonance – electrical properties – dielectric materials and properties – magnetic properties – super paramagnetism – electrochemical properties – properties of CNTs.
III	<b>FABRICATION METHODS AND VACUUM TECHNIQUES:</b> top-down and bottom-up approaches – electrochemical method – chemical and physical vapour depositions (CVD and PVD) – plasma arc discharge – sputtering – thermal evaporation – pulsed laser deposition – ball milling – lithography: photolithography – e-beam lithography – sol-gel methods – synthesis of CNT.
IV	CHARACTERIZATION TECHNIQUES:scanning probe microscopy – scanning tunneling microscopy – atomic force microscopy – scanning electron microscopy – transmission electron microscopy –powder XRD method: determination of structure and grain size analysis – UV-visible and photoluminescence spectroscopy.

V	APPLICATIONS OF NANOMATERIALS: medicine: drug delivery -
	photodynamic therapy - molecular motors -energy: fuel cells -rechargeable
	batteries – supercapacitors- photovoltaics, sensors: nanosensors based on optical
	and physical properties – electrochemical sensors – nanobiosensors.
	nanoelectronics: CNTFET – display screens – GMR read/write heads – nanorobots –applications of CNTs

Courses focus on:

$\checkmark$	Skill development	~	Entrepreneurial development
$\checkmark$	Employability	$\checkmark$	Professional Ethics
$\checkmark$	Gender Sensitization		Human Values
	Social Awareness/Environment	~	Environment and Sustainability
	Intellectual Property Rights		*

	New Course	
Course Code	23113DSC65B	Board: Physics
Course Name	Medical Instrumentation	Semester: VI

. Unit	Course
1	BIOMETRICS: introduction to man-instrument system and its components – problems encountered in measuring living systems – transducers– force, motion, pressure transducers. AUDIOMETRY: mechanism of hearing – air and bone conduction – threshold of hearing – audiometer – masking in audiometry – pure tone and speech audiometer – evoked response audiometry – hearing aids
п	BIOELECTRIC POTENTIALS AND ELECTRODES: biomedical signals – sources of bioelectric potentials – resting, action and propagation of bioelectric potentials –bio-potential electrodes – skin surface, needle electrodes. BIOMEDICAL RECORDERS: electro-conduction system of heart – electro
	cardiogram (ECG) – Einthoven's triangle — electro encephalogram (EEG) –brain waves – EEG instrumentation – recording of evoked potentials – electro myogram (EMG)–pulse oximeter.
111	<b>DIAGNOSTIC RADIOLOGY:</b> radiography – primary radiological image – contrast agents, filters – beam restrictor, grid – image quality
*	COMPUTED TOMOGRAPHY: linear tomography – computed tomography – helical and multi slice – image quality– radiation dose. RADIOISOTOPES AND NUCLEAR MEDICINE: radioisotopes –
	radiopharmaceuticals – technetium generator – gamma camera – positron emission tomography – disposal of radioactive waste.
IV	ULTRASOUND IMAGING: ultrasound transducer – ultrasound imaging– Doppler ultrasound – ultrasound image quality and bio-effects. MAGNETIC RESONANCE IMAGING:proton and external magnetic field – precession – radio frequency and resonance – MRI signal – relaxation time – MRI instrumentation – imaging sequences – biosafety
V	<b>PROJECT ASSIGNMENT:</b> clinical practice of <i>one</i> of the following: electro cardiogram, electro encephalogram, electro myogram, electro oculogram, computed tomography, positron emission tomography, ultrasound

Percentage of Syllabus Revised: 100% Courses focus on:

$\checkmark$	Skill development	~	Entrepreneurial development
$\checkmark$	Employability	1	Professional Ethics

$\checkmark$	Gender Sensitization	Human Values
	Social Awareness/Environment	Environment and Sustainability
	Intellectual Property Rights	

#### ALLIED PHYSICS

	New Course		
Course Code		Board: Physics	
Course Nam	Allied Physics – I	Semester: III	
Unit	Course	*	
1	<b>ROPERTIES OF MATTER:</b> Stress – eams – depression of cantilever- Detern niform bending method- Torsion in a wire	nination of Y by uniform and non-	
	y torsional pendulum - Newton's law of 0 boy's method - mass and density of ea Determination of g by compound pendulum	Gravitation - Determination of G by rth – acceleration due to gravity - n.	
	IEAT AND THERMODYNAMICS: Ze aw of thermodynamics – Reversible and in neorem – Second law of thermodynamics eversible and irreversible processes – Thir 'homson effect – Porous plug experiment f helium - Refrigerating mechanism –Air	rreversible process – Carnot's – Entropy – Change of entropy in rd law of thermodynamics - Joule- – liquefaction of gases: liquefaction	
	<ul> <li>ATOMIC SPECTROSCOPY: Pauli's exclusion principle - Optical spectra - Fine structure of sodium D line - Zeeman effect - Photo electric emission - laws</li> <li>Lenard's experiment - Richardson and Compton experiments - Einstein's photoelectric equation - Experimental verification of Einstein's photoelectric equation by Millikan's experiment - X-Rays: Introduction - Production - Coolidge tube - Bragg's law - derivation - X-Ray spectra - Continues - Characteristic - Moseley law and its importance.</li> </ul>		
	<ul> <li>ELECTRICITY: Ohm's law – Kirchoff's law – Application to Wheatstone's Bridge – Carey Foster Bridge – Potentiometer – Measurement of current and resistance – Calibration of low and high range voltmeter – Conversion of galvanometer into ammeter and voltmeter - Fleming's left and right hand rule - Electromagnetic induction - Eddy current - Transformers: Theory, energy loss and applications</li> </ul>		
I I I	<b>IAGNETISM:</b> Magnetic properties of Magnetisation M – Magnetising field H – Magnetic susceptibility – Magnetic perme erro magnetic materials – Curie temperatu mportance of hysteresis curves – magnetic	<ul> <li>Relation between – B, H and M – ability – Properties of dia, para and are – Energy loss due to hysteresis –</li> </ul>	

Percentage of Syllabus Revised: 100% Courses focus on:

$\checkmark$	Skill development	~	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
	Gender Sensitization	~	Human Values
	Social Awareness/Environment		Environment and Sustainability
$\checkmark$	Intellectual Property Rights		

New Course		
Course Code		Board: Physics
Course Name	Allied Physics Practical – I	Semester: III

- 1. Young's modulus by non-uniform bending using pin and microscope
- 2. Young's modulus by non-uniform bending using optic lever, scale and telescope
- 3. Rigidity modulus by static torsion method.
- 4. Rigidity modulus by torsional oscillations without mass
- 6. Surface tension and interfacial Surface tension drop weight method
- 7. Comparison of viscosities of two liquids burette method
- 8. Specific heat capacity of a liquid half time correction
- 9. Verification of laws of transverse vibrations using sonometer
- 10. Calibration of low range voltmeter using potentiometer
- 11. Determination of thermo emf using potentiometer
- 12. Verification of truth tables of basic logic gates using ICs
- 13. Verification of De Morgan's theorems using logic gate ICs.
- 14. Use of NAND as universal building block.

Courses focus on:

$\checkmark$	Skill development	$\checkmark$	Entrepreneurial development
$\checkmark$	Employability	1	Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
$\checkmark$	Intellectual Property Rights		

	New Course	
Course Code		Board: Physics
Course Name	Allied Physics – II	Semester: IV

Unit	Course
. 1	<b>MODERN PHYSICS:</b> Photo electric effect – Laws of photo electric effect – Einstein's photo electric equation – verification of Einstein's photo electric equation by Millikan's experiment – photo electric cells – applications. <i>Wave mechanics:</i> De Broglie matter waves – determination of De Broglie wave length – Experimental study of De Broglie matter wave by G.P. Thomson experiment.
11	<b>NUCLEAR PHYSICS:</b> Characteristics of nuclear forces – nuclear structure by liquid drop model – Binding energy – mass defect – particle accelerators – cyclotron and betatron – artificial transmutations by $\alpha$ – particles - nuclear Fission and nuclear Fusion – elementary particles – Leptons, Mesons and Baryons
III	<b>LASER PHYSICS:</b> Purity of spectral lines – Coherence length and time – spontaneous and induced emissions – population inversion – meta stable state – conditions for laser actions – Ruby laser – Helium – neon laser – applications of lasers – Raman effect – Raman shift – stokes and anti-stokes lines – Laser Raman Spectrometer.
IV	<b>SEMICONDUCTOR PHYSICS:</b> Volt – Ampere Characteristics of P-N junction Diode – Zener diode – applications of Zener diodes – photo diode-Principles of LED– Frequency Modulation and Amplitude modulation – basic principles of antennas – block diagram of Superhetrodyne receiver – block diagram of monochrome TV receiver – basic principles and applications of RADAR

V	DIGITAL ELECTRONICS: number systems - conversion of binary into
	decimal - conversion of decimal to binary - binary addition and subtraction -
	Complements, Codes: BCD, Gray - Basic logic gates - NAND and NOR as an
	universal logic gates – Demorgan's theorems – Boolean algebra – applications
	of Demorgans theorems – Half adder and Half subtractor – Multiplexers(1*4) –
	Demultiplexer(4*1) – Registers and Counters (statement only)

Courses focus on:

$\checkmark$	Skill development	1	Entrepreneurial development
	Employability	~	Professional Ethics
$\checkmark$	Gender Sensitization	~	Human Values
$\checkmark$	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

	New Course	
Course Code		Board: Physics
Course Name	Allied Physics Practical – II	Semester: IV

- 1. Radius of curvature of lens by forming Newton's rings
- 2. Thickness of a wire using air wedge
- 3. Wavelength of mercury lines using spectrometer and grating
- 4. Refractive index of material of the lens by minimum deviation
- 5. Refractive index of liquid using liquid prism
- 6. Determination of AC frequency using sonometer
- 7. Specific resistance of a wire using PO box
- 8. Thermal conductivity of poor conductor using Lee's disc
- 9. Determination of figure of merit table galvanometer
- 10. Determination of Earth's magnetic field using field along the axis of a coil
- 11. Characterization of Zener diode
- 12. Construction of Zerner/IC regulated power supply
- 13. Construction of AND, OR, NOT gates using diodes and transistor
- 14. NOR gate as a universal building block

Percentage of Syllabus Revised: 100%

Courses focus on:

$\checkmark$	Skill development	$\checkmark$	Entrepreneurial development
$\checkmark$	Employability		Professional Ethics
	Gender Sensitization		Human Values
•	Social Awareness/Environment	$\checkmark$	Environment and Sustainability
$\checkmark$	Intellectual Property Rights		

#### List of new value added courses

- 1. Certificate course on regulated power supply
- 2. Certificate course on cosmology and structure formation

Subject Code	Subject Name
23513RPS	Certificate course on Regulated Power Supply

#### **Course Objectives:**

To impart knowledge on

- Working principles of electrical and electronic circuits
- Operation of electrical and electronic circuits

#### Unit I

Basic elements (Resistor, Inductor & Capacitor) & its working. Colour coding of resistor & current rating of resistance. Transformers its principal working, types of transformer current rating of transformer. Multi-meter & testing of components using multi-meter

#### Unit II

Instantaneous current time period, frequency, wavelength, peak or maximum amplitude, peak to peak value, effective current or RMS value of current & voltage, the average current & Voltage, power in ac circuit. Phase & phase difference. Inductive reactance & capacitive reactance.

#### Unit III

Working of half wave, full wave & bridge rectifier. Rectifier with capacitor filter (shunt capacitor filter), with series inductor filter, LC filter &  $\pi$ - section filter. Ripple factor, efficiency & voltage regulation for each filter.

#### Unit IV

Zener diode: Its working & characteristics, Zener diode as regulated power supply. Design consideration with one example.

#### Unit V

Concept of IC, Three pin IC regulator block diagram, 78xx series & 79xx series. Dual power supply.

#### **Course Outcomes:**

At the end of the course the students will be able to

- Understand the working principles of electrical and electronic circuits
- Comprehend the operation of electrical and electronic circuits

#### **REFERENCE BOOKS:**

- 1) Electronic Circuits by A.P. Godse & U.A. Bakshi
- 2) Solid state electronics by Agarawal & Agarawal
- 3) Basics electronics by B.K. Bagade & Singh
- 4) Principles of electronics by Malivno
- 5) Electricity & magnetism by Murgeshan
- 6) Electricity & magnetism by Brijjal & Subramian

Subject Code	Subject Name
23513CSF	Certificate course on Cosmology and Structure Formation

#### **Course Objectives**

This course is a graduate-level introduction to astrophysical cosmology, with emphasis on the "standard" big bang theory of the universe and, in the latter part of the course, its extension to a more detailed theory (the inflation + cold dark matter + cosmological constant model) that is presently the leading scenario for explaining the origin of structure in the universe.

#### Unit I

Introduction: observational and theoretical basis of the standard model

#### Unit II

The homogeneous universe - A minimal sketch of general relativity

#### Unit III

Homogeneous cosmological models (the Friedmann-Robertson Walker universe)Thumbnail sketch of cosmic history - The cosmic microwave background -Primordial nucleosynthesis Horizons and inflation

#### Unit IV

The inhomogeneous universe - Perturbation theory- Spherical collapse - The cold dark matter paradigm

#### Unit V

The cosmic expansion history and dark energy - Microwave background fluctuations - Large- scale structure- Galaxy formation

#### **Course Outcomes:**

At the end of the course the students will be able to

- Know the "standard" big bang theory of the universe
- Realize the origin of structure in the universe

#### References

- 1. Ryden, Introduction to Cosmology
- 2. Kolb and Turner, The Early Universe
- 3. Padmanabhan, Structure Formation in the Universe
- 4. Peacock, Cosmological Physics
- 5. Peebles, Principles of Physical Cosmology



PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST) Undared as OTEMED TO DE DE UNIVERSE) X U/S 3 at URC ACT, 1950

## SCHOOL OF ARTS AND SCIENCE DEPARTMENT OF BIOTECHNOLOGY MINUTES OF THE MEETING OF THE BOARD OF STUDIES (BOS)\*

#### Board: Biotechnology

### The Meeting of Board of Studies (BOS) was held as given below:

Nan	ne of the Body	Board of Studies
	artment	Biotechnology
	ting no	13
	and Time	21,06.2023 & 11.00 AM
Ven	ue	Department of Biotechnology
Men	nbers Attended	The details are given in the ANNEXURE-1
	P	AGENDA
1	To confirm the minutes of BOS 1	
2	Action taken on the previous Me	
3	Discussion on the development o sion 2023 Annexure -11	f B.Sc., Biotechnology New curriculum under Revi-
4	Discussion on the development o sion 2023Annexure -III	f M.Sc., Biotechnology New curriculum under Revi-
5	Discussion on Four years under g Hon s Annexure -IV	graduate programme (FYUGP) B.Sc., Biotechnology
6	Discussion on Value added cours	es
7	Discussion on Activities for the a	dvanced learners
8	Discussion on Part 1 (Tamil) offe	red by language department for 2023-2024 batch.
9	Discussion on Part II (English) of	ffered by department of English for 2023-2024 batch
10	Discussion on Part IV (AECC) E 2023-2024 batch	nvironmental Studies by department of Chemistry for
11	Discussion on credits for Part V I	Extension Activity for 2023-2024.
12	Other academic activities of the d	epartment (Seminars, workshops)
13	Discussion on Indian Knowledge	System Syllabus
14	Discussion on Disaster Managem	ent
15	Any other matters	

HOD

Head of the Department Department of Biotechnology School of Arts & Science Prist Deemed to be University, Thanjavak DEAN DEAN School of Arts & Science Ponnalyah Ramajayam Institute of Science & Technology (PRIST) Deamad to be University Vailam, Thanjavur - 613 403.





## PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

Declared as DEEMED TO BL UNIVERSITY UIS 3 of UGC Act, 1856

## MINUTES OF THE BOARD OF STUDIES MEETING

#### Board: Biotechnology

The 13th Board of Studies Meeting of Department of Biotechnology. School of Arts and Science, Ponnaiyah Ramajayam Institute of Science and Technology were conducted as the guidelines of the University Grants Commission on 21.6.2023 at 11 am. The following members were present in the meeting.

The Chairman welcomed and outlined the changes to be made in the following for the board approval. He explained the details of the agenda and academic matters to be discussed. The agenda of the meeting has been taken up for discussion. The following points were discussed during the meeting. The resolutions made in the Meeting are given below. The committee appreciated the formulation of syllabus for B.Sc Biotechnology programme to meet out criteria of the Education Empowerment and Social Relevance. In addition the committee suggested the following corrections / modifications/ suggestions in the programme syllabus.

- Programme outcomes (PO) and Programme Specific outcomes (PSO) to be restructured.
- course outcome (CO) to be restructured for all the courses
- . Recent reference books to be included in each course

Agendum 1: To confirm the minutes of BOS meeting held on 04.05.2022

Discussion: The minutes of the Board of Studies meeting held on 4th May 2022 were communicated to the members. The comments have been incorporated and placed for confirmation. The same was approved by the Academic Council.

Resolution: The board members resolved to accept the same.

Agendum 2: Action taken on the previous Meeting minutes

Discussion: Action taken report of the decisions made in the previous BoS and approved by the Academic council. Action taken report was presented in the BoS

Resolution: The board resolved to accept the same.

Agendum 3:Discussion on the development of the B.Sc Biotechnology New curriculum under R 2023

Discussion: A draft curriculum for B.Sc Biotechnology was proposed with modifications go committee and the following points were discussed.

- The Members to confirm the total number of credits accounting for 147.
  - The Chairman informed that it has done according to the Tamilnadu State council for

Higher Education (TANSCHE) requirements and further it will forward to the Academic Council. We have 100 % revised B.Sc., Biotechnology Curriculum. The Members of the Board Approved the syllabus for B.Sc., Biotechnology. Refer Annexure I for the same.

- The Learning outcomes based Curriculum Frame work was presented to the BoS members. The BoS members confirmed that the syllabus related matter has been incorporated in to LOCF document.
- The syllabus for the course "Indian Knowledge System" was presented and discussed with the BoS members, followed by their approval. Refer to Annexure III for the same.
- The syllabus for the course "Disaster Management" was presented and discussed with the BoS members, followed by their approval. Refer to Annexure IV for the same.

It was proposed that advanced learners should actively participate in peer teaching and be motivated to participate in more than one online course. Activities like the Departmental newsletter, student-organized seminars, and journal club discussion forum should be coordinated by them. It was also recommended to conduct a departmentallevel finishing school programme for the graduating batch of students. Board members also opined to encourage students to join individual summer internship programmes in reputed research institutions like NCBS, CCMB, and IISC in order to strengthen their skills and expertise in the field of Biotechnology.

Resolution: The Board resolved to accept the same. New syllabus for B.Sc., Biotechnology was approved. It will be effective from the Academic year 2023-2024.

Agendum 4: Discussion on the development of the M.Sc., Biotechnology New curriculum under R 2023 (Annexure II)

Discussion: The draft curriculum for M.Sc., Biotechnology was proposed with modification to the committee and following points were discussed.

The members wanted to confirm the total number of credits accounting for 91.

> The chairman informed that it was done according to the Tamil Nadu state Council for Higher Education (TANSCHE) requirements and will put forth this to the Academic Council. Refer Annexure I & II.

Resolution: The Board resolved to accept the same. New syllabus for M.Sc., Biotechnology was approved. It will be effective from Academic year 2023-2024.

Agendum 5: Discussion on Four years under graduate programme (FYUGP) B.Sc., Biotechnology Hons

Discussion: FYUGP detailed syllabus of the programme in the Annexure V.

Resolution: The committee recommended and approved both the courses.

Agendum 6: Discussion on Value added courses

Discussion: Value added courses (Job Oriented Courses ) were discussed, the Department of Biotechnology proposed two course like Diploma course in Fermentation Technology, Certificate course in MLT, 3D Bioprinting, Tools in Network Pharmacology and Herbal products.

- Member had a vivid discussion over the suggestions made in the parent Teachers Association Meeting for enrichment of the syllabus.
- The Board members verified and approved the panel of examiners for the upcoming

End semester Examination

Resolution: The committee recommended and approved both the courses.

Agendum 7: Discussion on Activities for the advanced learners

Discussion:

Advanced learners motivated to participate various competitive examinations, They are promote to present their research ideas to National and International level Conference Presentations.

Resolution: The members resolved to accept the same.

Agendum 8: Discussion on Part I (Tamil) offered by language department for 2023-2024 batch.

Discussion:

23110AEC11 Part I: Tamil. The unified syllabi approved by the Board of Studies in Languages were placed for endorsement.

Resolution: The Board unanimously approved the syllabi

Agendum 9: Discussion on Part II (English) offered by department of English for 2023-2024 batch

Discussion: 23111AEC11/ 23111AEC21/23111AEC31/23111AEC41: Part II: English. The Unified syllabi approved by the Board of Studies in English were placed for endorsement.

Resolution: The Board Unanimously approved the Syllabi

Agendum 10: Discussion on Part IV (AECC) Environmental Studies by department of Chemistry for 2023-2024 batch

Discussion: 23115AECC4/ 23115AECC6: Environmental Studies-1 & Environmental Studies-II. The unified syllabi approved by the Board of Studies in Chemistry were placed for endorsement.

Resolution: The Board unanimously approved the Syllabi.

Agendum 11: Discussion on credits for Part V Extension Activity for 2023-2024.

Discussion: One credit to be awarded for participation in Extension activity like

YRC/NCC/NSS/RRC/YOGA/SPORTS/Clubs.

Resolution: The Board members approved one credit for Extension activity

Agendum 12: Other academic activities of the department (Seminars, workshops)

Discussion: The online seminars, workshops, intercollegiate competitions conducted by the department during this academic year were discussed.

Resolution: The Board resolved to accept the same.

Agendum 13: Discussion on Indian Knowledge System Syllabus

Discussion: Discussion on Indian Knowledge System Syllabus by the department during this academic year was discussed.

Resolution: The Board resolved to accept the same.

Agendum 14: Discussion on Disaster Management

Discussion: Discussion on Disaster management Syllabus by the department during this academic year was discussed.

Resolution: The Board resolved to accept the same.

Agendum 15: Any other matters

The board of studies in Biochemistry recommends the panel of experts for examination purposes as per the guidelines of the institution.

• The board also suggested measures to improve the creative and innovative thinking ability of the post graduate students by assigning critical research problems in projects and practical's.

• The suggestions received from the parents, students. Alumni and employer viz, practical oriented curriculum and skill enhancement internship training were discussed.

• The board also suggested enlisting minimal skill sets required to pass the degree proramme.

• The list of panel of examiners was revised by adding more number of examiners.

Resolution: The board resolved to consider the above mentioned recommendations.

The members had a brainstorming discussion and interaction among themselves. After discussion, fruitful suggestions were incorporated appropriately in the curriculum and syllabus of R-2023. Based on the suggestion given by the members, BOS resolved to recommend the syllabus for BSc Biotechnology and MSc., Biotechnology under Regulation 2023 to the Academic Council for further approval.

The chairman of Board of Studies (BOS) thanked all the members for their active participation and cordially invited them for the next meeting

Date: 21.06.2023

Head of the Department Department of Biotechnology School of Arts & Science Prist Deemed to be University, Thanjavur.

DEAN

DEAN School of Arts & Science Ponnalyah Ramajayam Institute Science & Technology (Poli-Desmed to be Univers Vallam, Thanjavur - 613 4





## PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

 $16^{th}$ 

Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjavur-613403

BOS

## MINUTES OF THE 16<sup>th</sup>BOARD OF STUDIES MEETING

#### Faculty:BAS

#### **Board: Mathematics**

The Chairman of BoS welcomed all the Panel members for the meeting. The items listed in the agenda were taken for discussion.

The following are the minutes of the meeting.

	- 83 m	and the second	AGENDA	而自然的意思。如何是这些	
Item-01	Discu: depar	ssion on Part 1 tment for 2023	I (Tamil/Hindi/French/Malay -24 Batch and onwards.	valam) offered	by langua
Discussion	The u	nified syllabus sement.	approved by the Board of Stud	dies in Tamil w	as places f
Resolution	The B	oard approve the	e same		
Item-02	Discus	sion on Part I and onwards.	I (English) offered by Englis	sh Department	for 2023-2
Discussion	The ur		approved by the Board of Studi	ies in English w	as places fo
Resolution	-	oard approve the	e same		
Resolution Item-03 Discussion	The Bo Discus 24 Bat In UG	sion on UG syl ch and onward Syllabus the pa	llabi for Part III-Core Cours ls anel members Dr.A.Mohan &	Dr S Ramasuh	amanian or
Item-03	The Bo Discus 24 Bat In UG sugges papers. The fo Sem.	sion on UG syl ch and onward Syllabus the pa ted to revise the	llabi for Part III-Core Cours ls	Dr S.Ramasubr papers except t	amanian or
Item-03	The Bo Discus 24 Bat In UG sugges papers. The fo	sion on UG syl ch and onward Syllabus the pa ted to revise the llowing <u>list of p</u> Sub. Code	Ilabi for Part III-Core Course ls anel members Dr.A.Mohan & contents of each unit of all the papers NOT CHANGE in con Title of the Paper	Dr S.Ramasubr papers except t tents New code	ramanian ar he followin
Item-03	The Bo Discus 24 Bat In UG sugges papers. The fo Sem.	sion on UG syl ch and onward Syllabus the pa ted to revise the llowing list of p Sub. Code 20112AEC52	Ilabi for Part III-Core Cours ls anel members Dr.A.Mohan & contents of each unit of all the papers NOT CHANGE in con Title of the Paper Real Analysis	Dr S.Ramasubr papers except t tents New code 23112AEC52	amanian ar he followin Revision
Item-03	The Bo Discus 24 Bat In UG sugges papers. The fo Sem.	sion on UG syl ch and onward Syllabus the pa ted to revise the llowing list of p Sub. Code 20112AEC52 20112DSC55	Ilabi for Part III-Core Course Is anel members Dr.A.Mohan & contents of each unit of all the papers NOT CHANGE in con Title of the Paper Real Analysis Discipline Specific Elective –I Fuzzy Analysis	Dr S.Ramasubr papers except t tents New code	amanian ar he followin Revision in %
Item-03	The Bo Discus 24 Bat In UG sugges papers. The fo Sem.	sion on UG syl ch and onward Syllabus the pa ted to revise the llowing list of p Sub. Code 20112AEC52 20112DSC55 20112AEC61	Ilabi for Part III-Core Course ls anel members Dr.A.Mohan & contents of each unit of all the papers NOT CHANGE in con Title of the Paper Real Analysis Discipline Specific Elective –I Fuzzy Analysis Complex Analysis	Dr S.Ramasubr papers except t tents New code 23112AEC52	amanian ar he followin Revision in % 0%
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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403

Dean School of Arts & Science Ponnalysh Ramajayam Institute (\* Science & Technology ( PRIST Deement to be University Vallam, Thenjovur - 613 +03

Sem. No	Sub. Code	Title of the Paper
I	20112AEC13	Differential Calculus and Vector Calculus
	20112AEC14	Trigonometry, Analytical Geometry 3D and Calculus
	20120AEC15	Programming in C
	20120AEC16L	Programming in C Lab
11	20112AEC23	Integrals & Differential Equations
	20112SEC24	Sequence and series
	20120AEC26L	Web Programming Lab
	20112RLC27	Research Led Seminar
III	20112AEC33	Number Theory
	20112AEC34	Numerical Analysis
	20118AEC35	Mathematical Statistics-I
	20118AEC36L	Mathematical Statistics-I Lab
	20112RMC37	Research Methodology
IV	20112SEC43	Operations Research
	20112AEC44	Astronomy
	201ENSTU45	Environmental Studies
	20118AEC46	Mathematical Statistics-II
	20118AEC47L	Mathematical Statistics- II Lab
V	20112AEC51	Modern Algebra
	20112SEC53	Statics
	20112SEC54	Programming in C++
	20112BRC56	Participation in Bounded Research
VI	20112SEC62	Dynamics
	20112AEC63	Discrete Mathematics

### List of NEW PAPERS

Sem No.	New Sub. Code	Title of the Paper	Revision in %
I	23112AEC13	Algebra & Trigonometry	100%
	23112 AEC14	Differential Calculus	100%
II	23112 AEC23	Analytical Geometry (Two &Three Dimensions)	100%
	23112 AEC24	Integral Calculus	100%
III	23112 AEC33	Vector Calculus and Applications	100%
	23112 AEC34	Differential Equations and Applications	100%

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403 Dean Scrool of Arts & Science Ponnalyse Ramsiayam Institute of Science & Technology ( PPIST) Dectmonto by Contensity Value 7. Themsvirt Strokers

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		23112 AEC43	Industry Module - Industrial	100%
			Mathematics	
		23112 AEC44	Elements of Mathematical Analysis	100%
	V	23112 AEC51	Abstract Algebra	100%
		23112 AEC53	Mathematical Modelling	100%
		23112 AEC54	Mechanics	100%
	VI	23112 AEC62	Linear Algebra	100%
Resolution	- ba	rd approved the		
	1.2607.2			
Item-04			for Part III-Extra Disciplinary Cou	arse (EDC) offer
<b>D</b>			es for 2023-24 Batch and onwards.	
Discussion	The foll		Ders NOT CHANGE in contents	
	Sem. No	Sub. Code	Title of the Paper	
	I		NIL	An and a second s
	II		NIL	
	III		NIL	
	IV		NIL	
	V		NIL	
			- 1884	
	List of 1	DELETED PAP	ERS	
	Sem. No	Sub. Code	Title of the Paper	
	I	20120AEC15	Programming in C	
		20120AEC16L		
	II	20120AEC25	Web Programming	
		20120AEC26L		
	III	20118AEC35	Mathematical Statistics-I	
		20118AEC36L	Mathematical Statistics-I Lab	
	IV	20118AEC46	Mathematical Statistics-II	
		20118AEC47L		
	V	NIL		
	VI	NIL		and the second se
	List of N	EW PAPERS		
	Sem.No		Title of the Paper	Revision in %
1	的现在分	State State of the		icevision in %
	道和時代以外1991 T	2212002015		
		23120DSC15	OOPS with C++	100%
	II	23120DSC25	Cloud Computing	100%
	III	23112GEC35	Actuarial Mathematics	100%

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 483

Dean School of Arts & Science Ponnalysh Ramajayam Institute Science & Technology (PRIST) Deemed to be University Vallem, Thanjavur - 613 403

		23112GE	C56	Optimization Techniqu	es	100	%
	VI	23112GE	C63	Astronomy		1009	2/0
Resolution	The Bo	oard approve tl	ie sai	me		1	
al hilled deap	The same					1.2	
Item-05	Discus Enhand	sion on Syll	abus ilsory	for Part IV-Skill En Course and Audit Cours	hancement e.	Co	urse, Abili
Discussion	The fo	llowing list of	pape	ers NOT CHANGE in c	ontents		1999-2004-149-200-200-200-200-200-200-200-200-200-20
	Sem.	Sub. Code		Title of the Paper	New co	ode	Revision
	No			Sector and the sector and the sector			in %
	I	201ACLSIC	N	Indian Constitution	231AECC	INC	0%
		201ACLSUF	180	Universal Human Values	231AECC	UHV	0%
	II	201ACSSBB	E	Basic Behavioural Etiquette	231AECC	CBE	0%
	III	201ACLSOA		Office Automation	231AECC	OAN	0%
		20112RMC3		Research Methodology	23112RM		0%
	IV	201ACLSPSI		Professional Skills	231ACLSI	503104002	0%
	V	20120SEC65		Project Work	23112PRV		0%
		201ACSSIST		Interview Skills	231ACSSI	57. 11.=500.05 A	0%
				Training and Mock Test		~	070
		DELETED I	Paper				
	Sem.		Paper	rs Title Environmental Studies	of the Pape	r	
		No Sub. Co	Paper	rs Title Environmental Studies NIL	of the Pape	r	
	Sem. I II	No Sub. Co	Paper	rs Title Environmental Studies NIL NIL	of the Pape	r	
	Sem. 1 11 111	No Sub. Co	Paper ode U45	rs Environmental Studies NIL NIL NIL		r	
	Sem. I II III IV	No Sub. Co 201ENST	Paper ode U45	rs Title Environmental Studies NIL NIL NIL Participation in Bounded	Research	r	
	Sem. I II III IV V	No Sub. Co 201ENSTI 20112BRC	Paper ode U45	rs Environmental Studies NIL NIL NIL	Research	r	
	Sem.           I           II           III           IV           V           VI	No Sub. Co 201ENSTI 20112BRC 20112BRC 20120SEC	Paper ode U45 C56 C66L CET	rs Environmental Studies NIL NIL NIL Participation in Bounded Program Exit Examinatio	Research	<b>r</b>	
	Sem.           I           II           III           IV           V           VI	No Sub. Co 201ENSTI 20112BRC 20120SEC 201ACLSC	Paper ode U45 C56 CET RS	rs Environmental Studies NIL NIL NIL Participation in Bounded Program Exit Examinatio	Research n		on in %
	Sem.           I           II           IV           V           VI           List of           Scm           No.	No Sub. Co 201ENSTI 201ENSTI 20112BRC 20120SEC 201ACLSC NEW PAPE New Sub. Code	Paper ode U45 C56 66L CET RS Ti	rs Environmental Studies NIL NIL Participation in Bounded Program Exit Examinatio Community Engagement	Research n	Revisi	on in %
	Sem.           I           III           IIV           V           VI           List of           Scm	No         Sub. Co           201ENSTI         201ENSTI           20120SEC         20120SEC           201ACLSC         201ACLSC           NEW PAPE         New           Sub. Code         23120SEC17	Paper ode U45 C56 CET RS Ti	rs Environmental Studies NIL NIL NIL Participation in Bounded Program Exit Examinatio Community Engagement tle of the Paper eb Designing	Research n	Revisi	on in %
	Sem.           I           II           IV           V           VI           List of           Scm           No.	No         Sub. Co           201ENSTI           20112BRC           20120SEC           201ACLSC           NEW PAPE           New           Sub. Code           23120SEC17           23112SEC18	Paper ode U45 CET RS Tin Wo Bri	rs Environmental Studies NIL NIL NIL Participation in Bounded Program Exit Examinatio Community Engagement tle of the Paper eb Designing idge Mathematics	Research n 1	Revisi	on in %
	Sem.IIIIIIIVVVIList ofSemNo.I	No         Sub. Co           201ENSTI           20112BRC           20120SEC           201ACLSC           NEW PAPE           New           Sub. Code           23120SEC17           23112SEC18           23112SEC27	Paper ode U45 C56 66L CET RS Ti Bri E-C	rs Environmental Studies NIL NIL NIL Participation in Bounded Program Exit Examinatio Community Engagement tle of the Paper eb Designing idge Mathematics Commerce & Tally	Research n 1 1 1	Revisi	on in %
	Sem.IIIIIIIVVVIList ofSemNo.I	No         Sub. Co           201ENSTI           20112BRC           20120SEC           201ACLSC           NEW PAPE           New           Sub. Code           23120SEC17           23112SEC18	Paper ode U45 C56 66L CET RS Ti Bri E-C Co Ent	rs Title Environmental Studies NIL NIL NIL Participation in Bounded Program Exit Examinatio Community Engagement tle of the Paper eb Designing idge Mathematics Commerce & Tally mputational Skill treprencurial Based on	Research n	Revisi	on in %
	Sem.           I           II           III           IV           V           VI           List of           Sem           No.           I           II           II           III	No         Sub. Co           201ENSTI           20112BRC           20120SEC           20120SEC           201ACLSC           NEW PAPE           New           Sub. Code           23120SEC17           23112SEC18           23112SEC28           23112SEC37	Paper ode U45 256 66L CET RS Ti Bri E-C Co Ent Ma	rs Environmental Studies NIL NIL NIL Participation in Bounded Program Exit Examinatio Community Engagement tle of the Paper eb Designing idge Mathematics Commerce & Tally mputational Skill treprencurial Based on athematics	Research n  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Revisi 00% 00% 00% 00%	on in %
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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403 Dean School of Arts & Science Ponnalysh Ramajaysm Institutr Science & Technology ( PRIS I , Deemed to be University Valiam, Thanjevur - 613 403

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	2	3112SEC48	Computing Mathematics	100%		
	A DESCRIPTION OF A DESC		Participation in Bounded Research	100%		
		31AECVED	Value Education-1	100%		
			Internship	100%		
				100%		
			Professional Competency Skill	100%		
		the side was a second to be a second	Extension Activity	100%		
	1		Indian Knowledge System	100%		
Resolution	The Board	d approve the s	same			
A CAR AND AND	Statisticists!					
Itenm-06	Discussion onwards.		or Part V Extension Activity for 2023-24 Batch a			
Discussion	2002 (2017) (2017)		be awarded to each exten Toga/Sports/Clubs	sion activity i		
Resolution		d approve the s				
	S. Martinet			and the second		
Item-07	Discussion and onwa		abi for core courses in all semeste	r for 2023-24 Batc		
Discussion			r S Ramasubramanian Suggested to 1	revise the contents c		
	In PG Dr.A.Mohan& Dr S.Ramasubramanian Suggested to revise the contents of each units of all the papers and include some new papers instead of some delete papers.					
	and the second se	s of all the pap	pers and include some new papers ins	stead of some delete		
	papers.			stead of some defere		
	papers.	DELETED PA	PERS			
	papers. List of D Sem.		PERS			
	papers. List of D Sem. No	DELETED PA	PERS Title of the Pap			
	papers. List of D Sem.	DELETED PA Sub. Code 20212AEC11	PERS Title of the Pap			
	papers. List of D Sem. No	DELETED PA Sub. Code 20212AEC11 20212AEC12	PERS Title of the Pap Algebra Real Analysis			
	papers. List of D Sem. No I	DELETED PA Sub. Code 20212AEC11 20212AEC12 20212RLC16	PERS         Title of the Pap         Algebra         Real Analysis         Research Led seminar			
	papers. List of D Sem. No	DELETED PA Sub. Code 20212AEC11 20212AEC12 20212RLC16 20212AEC22	PERS         Title of the Pap         Algebra         Real Analysis         Research Led seminar         Measure Theory and Integration			
	papers. List of D Sem. No I	DELETED PA Sub. Code 20212AEC11 20212AEC12 20212AEC12 20212RLC16 20212AEC22 20212SEC23	PERS         Title of the Pap         Algebra         Real Analysis         Research Led seminar         Measure Theory and Integration         Mathematical Methods			
	papers. List of D Sem. No I	DELETED PA Sub. Code 20212AEC11 20212AEC12 20212RLC16 20212AEC22 20212SEC23 20212AEC24	PERS         Algebra         Algebra         Real Analysis         Research Led seminar         Measure Theory and Integration         Mathematical Methods         Graph Theory			
	papers. List of I Sem. No I II II	DELETED PA Sub. Code 20212AEC11 20212AEC12 20212RLC16 20212AEC22 20212SEC23 20212AEC24 20212RMC26	PERS         Algebra         Algebra         Real Analysis         Research Led seminar         Measure Theory and Integration         Mathematical Methods         Graph Theory         Research Methodology			
	papers. List of D Sem. No I	DELETED PA Sub. Code 20212AEC11 20212AEC12 20212AEC12 20212AEC22 20212SEC23 20212AEC24 20212RMC20 20212SEC32	PERS         Algebra         Algebra         Real Analysis         Research Led seminar         Measure Theory and Integration         Mathematical Methods         Graph Theory         Research Methodology         Stochastic Process			
	papers. List of D Sem. No I II II III	Sub. Code           20212AEC11           20212AEC12           20212AEC12           20212AEC22           20212AEC23           20212AEC24           20212RMC26           20212SEC32           20212SEC32           20212AEC24           20212SEC32           20212AEC32           20212AEC33	PERS         Algebra         Algebra         Real Analysis         Research Led seminar         Measure Theory and Integration         Mathematical Methods         Graph Theory         Research Methodology         Stochastic Process         Advanced Numerical Analysis			
	papers. List of I Sem. No I II II	DELETED PA Sub. Code 20212AEC11 20212AEC12 20212RLC16 20212AEC22 20212SEC23 20212AEC24 20212RMC26 20212SEC32 20212SEC32 20212SEC32	PERS         Algebra         Algebra         Real Analysis         Research Led seminar         Measure Theory and Integration         Mathematical Methods         Graph Theory         Research Methodology         Stochastic Process         Advanced Numerical Analysis         Visual Programming			
	papers. List of D Sem. No I II II III	Sub. Code           20212AEC11           20212AEC12           20212AEC12           20212AEC22           20212AEC23           20212AEC24           20212RMC26           20212SEC32           20212SEC32           20212AEC24           20212SEC32           20212AEC32           20212AEC33	PERS         Algebra         Algebra         Real Analysis         Research Led seminar         Measure Theory and Integration         Mathematical Methods         Graph Theory         Research Methodology         Stochastic Process         Advanced Numerical Analysis         Visual Programming			
	papers. List of D Sem. No I II II II IV List of R	DELETED PA           Sub. Code           20212AEC11           20212AEC12           20212AEC12           20212AEC22           20212AEC23           20212AEC24           20212AEC24           20212AEC32           20212SEC32           20212SEC32           20212SEC32           20212SEC32           20212SEC32           20212SEC32           20212AEC33           20212AEC43           20212AEC43           20212AEC43	PERS         Algebra         Algebra         Real Analysis         Research Led seminar         Measure Theory and Integration         Mathematical Methods         Graph Theory         Research Methodology         Stochastic Process         Advanced Numerical Analysis         Visual Programming         Number Theory	er		
	papers. List of D Sem. No I II II III III IV	DELETED PA           Sub. Code           20212AEC11           20212AEC12           20212AEC12           20212AEC22           20212AEC23           20212AEC24           20212AEC24           20212AEC32           20212AEC33           20212AEC33           20212AEC33           20212AEC34           20212AEC33           20212AEC34           20212AEC34           20212AEC34           20212AEC34           20212AEC34	PERS         Algebra         Algebra         Real Analysis         Research Led seminar         Measure Theory and Integration         Mathematical Methods         Graph Theory         Research Methodology         Stochastic Process         Advanced Numerical Analysis         Visual Programming         Number Theory	er		
	papers. List of D Sem. No I II II II List of R Sem.	DELETED PA           Sub. Code           20212AEC11           20212AEC12           20212AEC12           20212AEC22           20212AEC23           20212AEC24           20212AEC24           20212AEC32           20212SEC32           20212SEC32           20212SEC32           20212SEC32           20212SEC32           20212SEC32           20212AEC33           20212AEC43           20212AEC43           20212AEC43	PERS         Algebra         Algebra         Real Analysis         Research Led seminar         Measure Theory and Integration         Mathematical Methods         Graph Theory         Research Methodology         Stochastic Process         Advanced Numerical Analysis         Visual Programming         Number Theory	er		
	papers. List of D Sem. No I II II II List of R Sem.	DELETED PA           Sub. Code           20212AEC11           20212AEC12           20212AEC12           20212AEC22           20212AEC23           20212AEC24           20212AEC24           20212AEC32           20212AEC33           20212AEC33           20212AEC33           20212AEC42           20212AEC42           20212AEC43           20212AEC43           SEVISED Pap           Sub. Code	PERS         Algebra         Algebra         Real Analysis         Research Led seminar         Measure Theory and Integration         Mathematical Methods         Graph Theory         Research Methodology         Stochastic Process         Advanced Numerical Analysis         Visual Programming         Number Theory         Title of the Pag         3	er		
	papers. List of D Sem. No I III III IV List of R Sem. No I	DELETED PA           Sub. Code           20212AEC11           20212AEC12           20212AEC12           20212AEC22           20212AEC23           20212AEC24           20212AEC24           20212AEC32           20212SEC32           20212AEC42           20212AEC32           20212AEC43           20212AEC43           20212AEC43           20212AEC43           EVISED Pap           Sub. Code           20212AEC1	PERS         Algebra         Real Analysis         Research Led seminar         Measure Theory and Integration         Mathematical Methods         Graph Theory         Research Methodology         Stochastic Process         Advanced Numerical Analysis         Visual Programming         Number Theory         algebra         Crifte of the Page         Condinary Differential Equations         Complex Analysis	er		

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403 Dean Schoel of Arts & Science Ponnelysh Remajayam Institut Science & Technelogy (PR15+, Deemad to be University Vallam, Thanjayur - 613 ±03

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	Sem, No	Sub. Code Title of the Paper				
	1	23212AEC11	Algebraic Structures			
		23212AEC12				
	II	23212AEC21	Advanced Algebra			
		23212AEC22	Real Analysis II			
		23212AEC23 Partial Differential Equations				
	III	23212AEC32 Probability Theory				
		23212AEC34 Core Industry Module				
	IV	23212AEC42	Differential Geometry			
		23212AEC43	Mechanics			
		23212EA	Extension Activity			
Resolution	The Boar	d approve the san	ne			
tem-08	Discussio	n on syllabus for	Extra Disciplinary Course (EDC) offered by Compute			
Discussion	Science d	epartment.	S.Ramasubramanian suggested to delete some paper			
		ELETED PAPE				
	Sem.	Sub. Code	Title of the Paper			
	No	Sub. Code	Title of the Paper			
	and the second	Sub. Code 20212DSC15A	Title of the Paper     Classical Dynamics			
	No	Sub. Code           20212DSC15A           20212DSC15B	Title of the Paper     Classical Dynamics     Fluid Dynamics			
	No I	Sub. Code 20212DSC15A	Title of the Paper     Classical Dynamics     Fluid Dynamics     Mathematical Probability			
	No I	Sub. Code           20212DSC15A           20212DSC15B           20212DSC25A	Title of the Paper       -     Classical Dynamics       -     Fluid Dynamics       -     Mathematical Probability       B-     Mathematical Modelling			
	No I II	Sub. Code           20212DSC15A           20212DSC15B           20212DSC25A           20212DSC25B	Title of the Paper       -     Classical Dynamics       -     Fluid Dynamics       -     Mathematical Probability       B-     Mathematical Modelling       -     Cryptography			
	No I II	Sub. Code           20212DSC15A           20212DSC15B           20212DSC25A           20212DSC25B           20212DSC25B           20212DSC34A	Title of the Paper         -       Classical Dynamics         -       Fluid Dynamics         -       Mathematical Probability         3-       Mathematical Modelling         -       Cryptography         3-       Algebraic Coding Theory			
	No I III III	Sub. Code           20212DSC15A           20212DSC15B           20212DSC25A           20212DSC25B           20212DSC34A           20212DSC34B	Title of the Paper         -       Classical Dynamics         -       Fluid Dynamics         -       Mathematical Probability         3-       Mathematical Modelling         -       Cryptography         3-       Algebraic Coding Theory         -       Combinatorial Mathematics			
	No I III III IV	Sub. Code           20212DSC15A           20212DSC15B           20212DSC25A           20212DSC25B           20212DSC25B           20212DSC34A           20212DSC34E           20212DSC44A	Title of the Paper         -       Classical Dynamics         -       Fluid Dynamics         -       Mathematical Probability         3-       Mathematical Modelling         -       Cryptography         3-       Algebraic Coding Theory         -       Combinatorial Mathematics         3-       Design And Analysis of Algorithm			
	No I III III IV	Sub. Code           20212DSC15A           20212DSC15B           20212DSC25A           20212DSC25B           20212DSC34A           20212DSC34B           20212DSC44A           20212DSC44B	Title of the Paper         -       Classical Dynamics         -       Fluid Dynamics         -       Mathematical Probability         3-       Mathematical Modelling         -       Cryptography         3-       Algebraic Coding Theory         -       Combinatorial Mathematics         3-       Design And Analysis of Algorithm			
	No I III III IV List of R	Sub. Code           20212DSC15A           20212DSC15B           20212DSC25A           20212DSC25B           20212DSC34A           20212DSC34A           20212DSC44A           20212DSC44B           20212DSC44B           20212DSC44B           20212DSC44B           20212DSC44B	Title of the Paper         -       Classical Dynamics         -       Fluid Dynamics         -       Fluid Dynamics         -       Mathematical Probability         3-       Mathematical Modelling         -       Cryptography         3-       Algebraic Coding Theory         -       Combinatorial Mathematics         3-       Design And Analysis of Algorithm			
	No I III III IV List of R	Sub. Code           20212DSC15A           20212DSC15B           20212DSC25A           20212DSC25B           20212DSC34A           20212DSC34A           20212DSC44A           20212DSC44B           20212DSC44B           20212DSC44B           20212DSC44B           20212DSC44B	Title of the Paper         - Classical Dynamics         - Fluid Dynamics         - Mathematical Probability         - Mathematical Modelling         - Cryptography         - Algebraic Coding Theory         - Combinatorial Mathematics         - Design And Analysis of Algorithm			
	No I II III IV List of R Sem. No I	Sub. Code           20212DSC15A           20212DSC15B           20212DSC25A           20212DSC25B           20212DSC34A           20212DSC34A           20212DSC44A           20212DSC44B           20212DSC44B           20212DSC44B           20212DSC44B           20212DSC44B	Title of the Paper         - Classical Dynamics         - Fluid Dynamics         - Mathematical Probability         3- Mathematical Modelling         - Cryptography         3- Algebraic Coding Theory         - Combinatorial Mathematics         3- Design And Analysis of Algorithm         Image: Title of the Paper         NIL			
	No I III III IV List of R Sem. No I I II	Sub. Code           20212DSC15A           20212DSC15B           20212DSC25A           20212DSC25B           20212DSC34A           20212DSC34A           20212DSC44A           20212DSC44B           20212DSC44B           20212DSC44B           20212DSC44B           20212DSC44B	Title of the Paper         -       Classical Dynamics         -       Fluid Dynamics         -       Mathematical Probability         3-       Mathematical Modelling         -       Cryptography         3-       Algebraic Coding Theory         -       Combinatorial Mathematics         3-       Design And Analysis of Algorithm         Title of the Paper         NIL       NIL			
	No I III III IV List of R Sem. No I II III	Sub. Code           20212DSC15A           20212DSC15B           20212DSC25A           20212DSC25B           20212DSC34A           20212DSC34A           20212DSC44A           20212DSC44B           20212DSC44B           20212DSC44B           20212DSC44B           20212DSC44B	Title of the Paper         - Classical Dynamics         - Fluid Dynamics         - Mathematical Probability         - Mathematical Modelling         - Cryptography         - Algebraic Coding Theory         - Combinatorial Mathematics         - Design And Analysis of Algorithm         - NIL         NIL         NIL         NIL			

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 493 DBan School of Arts & Science Ponnalysh Ramejaysm Institut Science & Technology (PRIST) Deemed to be University Vallam, Thianjayur - 613 403

	Sem.	EW Papers Sub. Code	Title - Cil D		
	No	Sub, Code	Title of the Paper		
	I	23212GSC15	Elective-II Discrete Mathematics		
	II	23212GSC24	Elective-III Mathematical Statistics		
	· ·	23212MSE25	Elective-IV Modelling and Simulation with Excel		
	III	23212DSC35	Elective-V Mathematical Python		
	IV	23212GSC45	Elective-VI Resource Management Techniques		
Resolution	The Board	d approve the sar	ne		
	<b>D</b>				
Item-09 Discussion	Discussio	n on syllabi for S	SKILL Elective Course S.Ramasubramanian suggested to delete some paper		
		EW Papers			
	Sem. No	Sub. Code	Title of the Paper		
	Sem. No I	Sub. Code			
	Sem. No	Sub. Code	Skill Enhancement Course-SEC2		
	Sem. No I	Sub. Code			
	Sem. No I II	Sub. Code NIL 23212 SEC2-	Skill Enhancement Course-SEC2         Numerical analysis using SCILAB         Professional Competency Skill Enhancement         Course Training for Competitive Examinations         A. Mathematics for NET / UGC - CSIR/ SET / TRB Competitive Examinations (2 hours)         B. General Studies for UPSC / TNPSC / Other Competitive Examinations (2 hours)         OR         C. Mathematics for Advanced Research		
Resolution	Sem. No I II III IV	Sub. Code NIL 23212 SEC2- NIL	Skill Enhancement Course-SEC2         Numerical analysis using SCILAB         Professional Competency Skill Enhancement         Course Training for Competitive Examinations         A. Mathematics for NET / UGC - CSIR/ SET / TRB Competitive Examinations (2 hours)         B. General Studies for UPSC / TNPSC / Other Competitive Examinations (2 hours)         OR         C. Mathematics for Advanced Research Studies (4 hours)		
Resolution	Sem. No I II III IV	Sub. Code NIL 23212 SEC2- NIL 23212TCE-	Skill Enhancement Course-SEC2         Numerical analysis using SCILAB         Professional Competency Skill Enhancement         Course Training for Competitive Examinations         A. Mathematics for NET / UGC - CSIR/ SET / TRB Competitive Examinations (2 hours)         B. General Studies for UPSC / TNPSC / Other Competitive Examinations (2 hours)         OR         C. Mathematics for Advanced Research Studies (4 hours)		
(tem-10	Sem. No I II III IV The Board	Sub. Code NIL 23212 SEC2- NIL 23212TCE- approve the sam	Skill Enhancement Course-SEC2         Numerical analysis using SCILAB         Professional Competency Skill Enhancement         Course Training for Competitive Examinations         A. Mathematics for NET / UGC - CSIR/ SET / TRB Competitive Examinations (2 hours)         B. General Studies for UPSC / TNPSC / Other Competitive Examinations (2 hours)         OR         C. Mathematics for Advanced Research Studies (4 hours)		
Resolution Item-10 Discussion	Sem. No I II III IV The Board	Sub. Code NIL 23212 SEC2- NIL 23212TCE- approve the sam	Skill Enhancement Course-SEC2         Numerical analysis using SCILAB         Professional Competency Skill Enhancement         Course Training for Competitive Examinations         A. Mathematics for NET / UGC - CSIR/ SET / TRB Competitive Examinations (2 hours)         B. General Studies for UPSC / TNPSC / Other Competitive Examinations (2 hours)         OR         C. Mathematics for Advanced Research Studies (4 hours)         1e		

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Item-11	Any other Matter	
Discussion	-	
Resolution	-	

Date: 26.6.23

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Dr. S, Subramanian BOS Chairman

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## PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

16<sup>th</sup> BOS

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## B.Sc., Mathematics Syllabus Revision

Faculty: BAS	Board: Mathematics	Semester: I
Course Code	23120SEC17	
Title	Part-IV-Skill Enhancement Course WEB PROGRAMMING	

UNIT	EXISTING	CHANGE
Ι	Introduction to HTML- Head and body sections-Hyper text and Link in HTML documents.	No Change
II	Designing the body section- Managing images in HTML.	No Change
III	Ordered and Unordered Lists –Table Handling.	No Change
IV	DHTML and Style Sheet – Frames.	No Change
V	A Webpage design project – Forms	No Change

Course	Focuses on:		
~	Skill Development	Entrepreneurial Development	
~	Employability	Innovations	
	Intellectual Property Rights	Gender Sensitization	
	Social Awareness/ Environment	Constitutional Rights/Hum Values/Ethics	

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16<sup>th</sup> BOS

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#### B.Sc., Mathematics Syllabus Revision

Faculty: BAS	Board: Mathematics	Semester:
Course Code	231AECCINC	
Title	Part-IV	
	Ability Enhancement Compulso	ry Course
	INDIAN CONSTITUTIO	ON
	INDIAN CONSTITUTIO	ON

EXISTING	CHANGE
The making of Indian constitution: The constitution assembly organization - character - work salient features of the constitution- written and detailed constitution - socialism -secularism- democracy and republic.	No Change
Fundamental rights and fundamental duties of the citizens: Right of equality - right of freedom- right against exploitation -right to freedom of religion- cultural and educational rights -right to constitutional remedies -fundamental duties.	No Change
<b>Directive principles of state policy:</b> Socialistic principles - Gandhi an principles-liberal and general principles -differences between fundamental rights and directive principles	No Change
The union executive, union parliament and Supreme Court : Powers and positions of the president - qualification - method of election of president and vice president -prime minister -Rajya Sabah -Lok Sabah .the supreme court - high court -functions and position of supreme court and high	No Change
	<ul> <li>The making of Indian constitution:</li> <li>The constitution assembly organization - character - work salient features of the constitution- written and detailed constitution - socialism -secularism- democracy and republic.</li> <li>Fundamental rights and fundamental duties of the citizens: Right of equality - right of freedom- right against exploitation -right to freedom of religion- cultural and educational rights -right to constitutional remedies -fundamental duties.</li> <li>Directive principles of state policy: Socialistic principles - Gandhi an principles-liberal and general principles -differences between fundamental rights and directive principles</li> <li>The union executive, union parliament and Supreme Court : Powers and positions of the president - qualification - method of election of president and vice president -prime minister -Rajya Sabah -Lok Sabah .the supreme court - high court -functions</li> </ul>

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	court	
V	State council -election system and parliamentary democracy in India: State council of ministers -chief minister -election system in India-main features election commission-features of Indian democracy.	No Change

Percenta	age of Syllabus Revised: 0%			
	Focuses on:			
$\checkmark$	Skill Development		Entrepreneurial Dev	elonment
$\checkmark$	Employability	✓ Innovations		ciopinent
	Intellectual Property Rights		Gender Sensitization	1
	Social Awareness/ Environment		Constitutional Values/Ethics	Rights/Human

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### B.Sc., Mathematics Syllabus Revision Board: Mathematics

Semester: III

Course Code 23112RMC39		
Title	Soft Skill-3	
	<b>RESEARCH METHODOLOGY</b>	

UNIT	EXISTING	CHANGE
Ι	Research – Definition, Objectives, Motivation and purpose – types of research – Pure and applied, survey, case study experimental, exploratory – Concept of Research Design –Criteria of Good Research, Problems Encountered by Researchers in India. General guidelines for Good housekeeping & Lab-safety- Hygiene (Eye, foot, skin and hand protection) – Safety rules -Equipment protection – Respiratory protective equipment – safety equipment – Leaking, compressed gas cylinders – electrical safety. Fire – extinguishers.	No Change
Π	Research Problem: Definition & need of research problem, Types & selection of proper research question and suitable research design with Examples, Literature types- compendia and tables of information, Reviews, General treatises, Monographs.	No Change
ш.	Methods of data collection – Primary and secondary data – observation – interview –Questionnaire – Tools for questionnaire; surveying & literature survey, spreadsheets, Technical writing, Construction of tools for data collection – testing validity – pilot	No Change

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	study and pre-testing, Survey vs Experiment, Practical Exercises.	
IV	Processing and analysis of data – editing – coding – transcription – tabulation –outline of statistical analysis – descriptive statistics – elements of processing through computer- packages for analysis (Excel).	No Change
v	Review of literature, Report writing – target audience – types of reports – contents of reports – styles and Conventions in reporting – steps in drafting a report. Technical Presentation	No Change

Percenta	age of Syllabus Revised: 0%			
Course	Focuses on:			
~	Skill Development		Entrepreneurial Dev	elopment
$\checkmark$	Employability	~	Innovations	
	Intellectual Property Rights	_	Gender Sensitization	n
ů.	Social Awareness/ Environment		Constitutional Values/Ethics	Rights/Human

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### B.Sc., Mathematics Syllabus Revision Board: Mathematics

Semester: V

Faculty: BAS	Board
Course Code	23112AEC1
Title	ABSTRACT ALGEBRA

UNIT	EXISTING		CHANGE
I	Cosets and Lagrange's theorem		Introduction to groups- Subgroups- cyclic groups and properties of cyclic groups- Lagrange's Theorem-A counting principle – Examples
П	Normal subgroups - Quotient groups Homeomorphisms –Isomorphism		Normal subgroups and Quotient group- Homomorphism-Automorphism-Examples.
III	RING THEORY: Definition and Examples of Rings - Some special Classes of Rings - Homomorphisms- Ideals and Quotient Rings - More ideals and Quotient Rings - Euclidean Rings.		Cayley's Theorem-Permutation groups - Examples
IV	VECTORSPACE: Elementary Basic concepts - Linear independence and Bases and spaces - Inner product spaces		Definition and examples of ring- Some special classes of rings- homomorphism of rings- Ideals and quotient rings- More ideals and quotient rings.
V	VECTOR SPACE: Rank and Nullity-Matrix of a linear transformation INNER PRODUCT SPACES: Introduction-Definitions and examples- Orthogonality-Orthogonal Complement		The field of quotients of an integral domain- Euclidean Rings - The particular Euclidean Ring – Examples
Percenta	ge of Syllabus Revised: 50%		
Course F	ocuses on:		
✓	Skill Development		Entrepreneurial Development
~	Employability	~	linovations
	Intellectual Property Rights		Gender Sensitization
	Social Awareness/ Environment		Constitutional Rights/Human Values/Ethics

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Faculty: BAS

## PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

16<sup>th</sup> BOS

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#### B.Sc., Mathematics Syllabus Revision Board: Mathematics

Semester: V

Course Code	23112AEC52	Semester, t
Title	REAL ANALYSIS	

UNIT	EXISTING	CHANGE
I	BASIC TOPOLOGY:- Finite, countable and uncountable sets - Metric spaces - Compact spaces - Perfect sets - Connected sets	Continuous Functions on Metric Spaces: Open sets– closed sets–Discontinuous function on R <sup>1</sup> . Connectedness, Completeness and Compactness: More about open sets-Connected sets.
Ш	NUMERICAL SEQUENCES AND SERIES:- Convergent sequences - Subsequence's -Cauchy Sequences - Upper and Lower limits - some special sequences - Series -Series of Non negative Terms -The Number E - The Root and Ratio Tests-Power series -Summation by parts - Absolute convergence - Addition and Multiplication of series.	Bounded sets and totally bounded sets: Complete metric spaces- compact metric spaces, continuous functions on a compact metric space, continuity of inverse functions, uniform continuity.
III	<b>CONTINUITY:-</b> Limits of functions -continuous functions -Continuity and compactness -Continuity and connectedness- Discontinuity -Monotonic functions – Infinite limits and limits at infinity.	Calculus: Sets of measure zero, definition of the Riemann integral, existence of the Riemann integral-properties of Riemann integral.
IV	<b>DIFFERENTIATION:-</b> The derivative of a Real function - Mean value theorems - The continuity of Derivatives -L'Hospital's Rule - Derivatives of Higher order -Taylor's theorem.	Derivatives-Rolle's theorem, Law of mean, Fundamental theorems of calculus.

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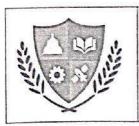
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v	THE RIEMANN- INTEGRA Definition and Existence of the Integra - Properties of the Integral - Integra and Differentiation	egral	Taylor's theorem-Point wise convergence of sequences of functions, uniform convergence of sequences of functions.
Percent	age of Syllabus Revised: 50%		
	Focuses on:		
$\checkmark$	Skill Development	~	Entrepreneurial Development
$\checkmark$	Employability	~	Innovations
	Intellectual Property Rights		Gender Sensitization
_	Social Awareness/ Environment		Constitutional Rights/Human Values/Ethics

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### B.Sc., Mathematics Syllabus Revision Board: Mathematics

Semester: V

16<sup>th</sup> BOS

Faculty: BAS		
Course Code		
Title	Fuzzy Analysis	

UNIT	EXISTING		CHANGE
I	Fuzzy sets-basic types-basic concepts- $\alpha$ cuts-additional properties of $\alpha$ cuts- extension principle for fuzzy sets,		No Change
Π	Operation on fuzzy sets-types of operations- fuzzy complements- t-norms- fuzzy unions-combinations of operations		
III	OperationsFuzzy Arithmetic - Fuzzy numbers- Arithmetic operations on intervals Arithmetic operations on fuzzy numbers		5512
IV	Fuzzy relations-Binary fuzzy relation- fuzzy equivalence relation-fuzzy compatibility relation-fuzzy ordering relations-fuzzy morphism.		
V	Fuzzy relation equation-general iscussion-problem partitioning solution method-fuzzy relation equations based on sup-i compositions- fuzzy relation equations based on w <sub>i</sub> compositions.		
Percenta	ge of Syllabus Revised: 0%		
Course F	ocuses on:		
$\checkmark$	Skill Development		Entrepreneurial Development
$\checkmark$	Employability	~	/ Innovations
	Intellectual Property Rights		Gender Sensitization
	Social Awareness/ Environment		Constitutional Rights/Human Values/Ethics

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 $16^{th}$ BOS

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> **B.Sc.**, Mathematics **Syllabus Revision**

> > Semester: VI

Faculty: BAS	Board: Mathematics
Course Code	23112AEC61
Title	COMPLEX ANALYSIS

UNIT	EXISTING	CHANGE	
I	Analytic Functions: Functions of complex variables-Limits theorems on limits-continuous functions functions-Diffetentiability- C.R. Equations-Analytic Functions Harmonic functions	Analytic functions: Functions of a Complevariable –Limits –Theorem on limits Continuity – Derivatives – Differentiatio formulas – Cauchy Riemann equation conditions for differentiability – Pola coordinates– Analytic functions– Harmoni functions.	
II	Bilincar Transformations: Elementary transformations-Bilinear Transformations-cross ratio-fixed points of bilinear transformations- Some special bilinear transformations.	Analytic functions: Functions of a Complex variable –Limits –Theorem on limits – Continuity – Derivatives – Differentiation formulas – Cauchy Riemann equation – conditions for differentiability – Polar coordinates– Analytic functions– Harmonic functions.	
III	Complex Integration: Definite Integral-Cauchy's Theorem- Cauchy's integral formula-Higher derivations	<b>Complex Integration:</b> Contour integrals– Some examples – Simply and Multiply connected domains– Cauchy integral formula – Formula for derivatives– Liouville's theorem –Fundamental theorem of Algebra– Maximum modulus principle.	
IV	Series Expansions: Taylor's series-Laurent series-Zeros of analytic functions-Singularities	Sequences and Series: Convergence of sequences – Convergence of series – Taylor's series – Laurent series – Absolute and uniform convergence of power Series – Continuity of sums of power series – Integration & differentiation of power series	
V	Calculus of residues: Residues- Cauchy's Residue theorem — Evaluation of definite integrals	<b>Residues and Poles:</b> Isolated singular points – Residues– Cauchy Residue theorem – Residue at infinity – The three types of isolated singular points – Residues at poles – Zeros of analytical functions – Zeros and poles – Evaluation of real improper integrals	

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		(excluding poles on the real axis).
Percent	age of Syllabus Revised: 25%	
Course	Focuses on:	
~	Skill Development	Entrepreneurial Development
$\checkmark$	Employability	Innovations
	Intellectual Property Rights	Gender Sensitization
	Social Awareness/ Environment	Constitutional Rights/Human Values/Ethics

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Faculty:BAS

### PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

**NEW Course** 

**Board: Mathematics** 

16<sup>th</sup> BOS

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Semester: I

Course Co		1: Mathematics Semester: 1			
Course Co	de 23112AEC13	*			
Title	Algebra & Trigonometry	Algebra & Trigonometry			
UNIT		Contents			
Ι	given equation- Removal	Reciprocal Equations-Standard form-Increasing or decreasing the roots of a given equation- Removal of terms, Approximate solutions of roots of polynomials by Horner's method – related problems.			
II	Summation of Series: Bino without proof) – Approximation	mial- Exponential -Logarithmic series (Theorems			
III	Characteristic equation – E Cayley – Hamilton Theore	Characteristic equation – Eigen values and Eigen Vectors-Similar matrices – Cayley – Hamilton Theorem (Statement only) – Finding powers of square matrix, Inverse of a square matrix up to order 3, Diagonalization of square			
IV					
<ul> <li>V Hyperbolic functions – Relation between circular and hyperbolic functions, Logarithm of complex quantities, Summa trigonometric series - related problems.</li> </ul>		s, Logarithm of complex quantities, Summation of			
Percentage	of Syllabus Revised: 100%	•			
Course Foc	uses on:				
✓ §	Skill Development	Entrepreneurial Development			
✓ I	Employability	Innovations			
	ntellectual Property Rights	Gender Sensitization			
S	Social Awareness/ Environment	Constitutional Rights/Human Values/Ethics			

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Faculty:BAS

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**NEW Course** 

**Board: Mathematics** 

Semester:I

16<sup>th</sup> BOS

Course Co	ode 23112 AEC14	in mathematics Semester.			
Title	DIFFERENTIAL CALCULUS				
UNIT		Contents			
Ι	derivative – Standard results transformation – Formation c	Successive Differentiation: Introduction (Review of basic concepts) – The $n^{th}$ derivative – Standard results – Fractional expressions – Trigonometrical transformation – Formation of equations involving derivatives – Leibnitz formula for the $n^{th}$ derivative of a product – Feynman's method of differentiation			
II Partial Differentiation: Partial derivatives – Successive partial derivative Function of a function rule – Total differential coefficient – A special cas Implicit Functions.					
III <b>Partial Differentiation (Continued):</b> Homogeneous functions – Par derivatives of a function of two variables – Maxima and Minima of f two variables - Lagrange's method of undetermined multipliers.		vo variables – Maxima and Minima of functions of			
IV	Envelope: Method of finding	the envelope – Another definition of envelope – which are quadratic in the parameter.			
V	Curvature: Definition of Cu	Curvature: Definition of Curvature – Circle, Radius and Centre of Curvature – Evolutes and Involutes – Radius of Curvature in Polar Co-ordinates.			
Percentage	of Syllabus Revised: 100%				
Course For	cuses on:				
✓ 1	Skill Development	Entrepreneurial Development			
✓ )	Employability	Innovations			
	Intellectual Property Rights	Gender Sensitization			
	Social Awareness/ Environment	Constitutional Rights/Human Values/Ethics			

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### **NEW Course**

Faculty:BA	~	: Mathe		Semester:I
Course Co				50mester M
Title	Part-IV-Skill Enhancement C WEB PROGRAMMING	ourse		
UNIT		С	ontents	
Ι	I Introduction to HTML- Head and body sections-Hyper text and Link in H' documents.			t and Link in HTML
II	Designing the body section- I	Managin	g images in HTML	
III	Ordered and Unordered Lists	Ordered and Unordered Lists – Table Handling.		
IV	DHTML and Style Sheet – F	et – Frames		
v	A Webpage design project - 1	Forms		
Percentage	of Syllabus Revised: 100%			
Course For	cuses on:			
✓	Skill Development	elopment  ✓ Entrepreneurial Development		velopment
✓	Employability		Innovations	
	Intellectual Property Rights		Gender Sensitizatio	n
	Social Awareness/ Environment		Constitutional Values/Ethics	Rights/Human

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**NEW Course** 

16<sup>th</sup> BOS

### Faculty:BAS

Faculty:B.	Dour de Infantitudites			
Course Co	ode 23112SEC18	23112SEC18		
Title	Foundation course - Bridge Ma	Foundation course - Bridge Mathematics		
UNIT		Contents		
I	Algebra: Binomial theorem, Ger concepts	neral term, middle term, problems based on these		
II	Sequences and series (Progree Factorial n.	essions). Fundamental principle of counting		
III		Permutations and combinations, Derivation of formulae and their connections, simple applications, combinations with repetitions, arrangements within groups, formation of groups		
IV	Trigonometry: Introduction to cos(A+B), tan(A+B) formulae, cos(2A), tan(2A) etc., transform	Trigonometry: Introduction to trigonometric ratios, proof of sin(A+B), cos(A+B), tan(A+B) formulae, multiple and sub multiple angles, sin(2A), cos(2A), tan(2A) etc., transformations sum into product and product into sum formulae, inverse trigonometric functions, sine rule and cosine rule		
V				
Percentage	of Syllabus Revised: 100%			
Course Foo	cuses on:			
1	Skill Development	Entrepreneurial Development		
\[	Employability	Innovations		
	Intellectual Property Rights	Gender Sensitization		
Social Awareness/ Environment Con		Constitutional Rights/Human Values/Ethics		

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**NEW Course** 

Faculty:BA	AS Board: Mathematics	Semester: II		
Course Co		Semester. II		
Title	ANALYTICAL GEOMETRY (Two & Three	Dimensions)		
UNIT	Contents			
1	Pole, Polar - conjugate points and conjugate diameters of an ellipse - semi diameters- conjugate	lines – diameters – conjugate te diameters of hyperbola.		
II Polar coordinates: General polar equation circle given a diameter, Equation of a st chord, tangent, normal. Equations of the		aight line – Polar equation of a ine, circle, conic – Equation of		
III		nes-Length of the perpendicular–Orthogonal projection.		
IV	Representation of line-angle between a line an shortest distance between two skew lines - intersection of three planes.			
V	Equation of a sphere-general equation-section of a sphere by a plane-equation of the circle- tangent plane- angle of intersection of two spheres- condition for the orthogonality- radical plane.			
Percentage	of Syllabus Revised: 100%			
Course Foo	cuses on:			
✓ :	Skill Development Entrepret	neurial Development		
	Employability 🗸 Innovation	ons		
	Intellectual Property Rights Gender S	Sensitization		
	Social Awareness/ Environment Constitut Values/E			

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## PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

**NEW Course** 

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16<sup>th</sup> BOS

Faculty:BAS Bo		: Mathematics	Semester: II			
Course Co	ode 23112 AEC24					
Title	INTEGRAL CALCULUS					
UNIT		Contents				
I	trigonometric functions, inte	Reduction formulae -Types, integration of product of powers of algebraic and trigonometric functions, integration of product of powers of algebraic and logarithmic functions - Bernoulli's formula, Feyman's technique of integration.				
II         Multiple Integrals - definition of double integrals - evaluation of double integrals - double integrals in polar coordinates - Change of order of integration.						
III Triple integrals –applications of multiple integrals - volumes of sol revolution - areas of curved surfaces–change of variables -Jacobian.			volumes of solids of			
IV         Beta and Gamma functions – infinite integral - definitions-recurrent           Gamma functions – properties of Beta and Gamma functions- related         Beta and Gamma functions - Applications.			-recurrence formula of			
V	Geometric and Physical Appl					
Percentage	of Syllabus Revised: 100%					
Course Foo	cuses on:					
× .	Skill Development	Entrepreneurial D	evelopment			
✓ ]	Employability	Innovations				
	Intellectual Property Rights	Gender Sensitizat	ion			
	Social Awareness/ Environment	Constitutional Values/Ethics	Rights/Human			

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H.O.B. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403

Dean School of Arts & Science Ponnaiyah Ramajayam Institute of Science & Technology ( PRIST) Deemed to be University Vallam, Thanjavur - 613 403.



Faculty:BAS

Title

Course Code

# PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thaninyur-613403 16<sup>th</sup> BOS

neederen beeringen op en menselsen heren ver	NEW Course	
	Board: Mathematics	Semester:II
23112SEC28		
	Skill Enhancement Course	
	<b>Computational Mathematics</b>	
	(NUMERICAL METHODS)	

		(NUMERICAL METHODS) Contents Solutions of Algebraic and transcendental equation iterative method, Bisection method-Aitken's process Method of False Position-Newton- Raphson methods.				
UNI	l'I'					
1						
11		Finite differences-Forward differences backward differences Central differences symbolic relations-Newton's formula for interpolation. Interpolation with unevenly spaced points Lagrange's interpolation formula-divided differences and their properties Newton's General interpolation formula.				
111	U.	Numerical differentiation — integration — Trapezoidal rule and Simpson rule,				
IV		Solution of Linear systems C Jacobi and Gauss seidal Metho		Elimination method — Iterative method		
V		Numerical solution of Ordinary -Differential Equations. Solution by Tayl series - Picard's method of successive approximations -Euler method Mod Euler's method –RungeKutta methods				
Percenta	ige of	Syllabus Revised: 100%				
Course l	Focuse	es on:				
✓	Skil	ill Development Entrepreneurial Development		Entrepreneurial Development		
~	Em	ployability	~	Innovations		
	Inte	llectual Property Rights		Gender Sensitization		
	Soc	ial Awareness/ Environment		Constitutional Rights/Huma Values/Ethics		

Dean School of Arts & Science Pornalyah Ramaiayam Institute of Science & Technology (PRIST) Deemed to be University Vettam, Thanjavur - 613 403.

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DEPARTMENT OF MACHEMATICS PRIST DELMED TO BE UNIVERSITY THANJAVUR - 613-403



Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjavur-613403 16<sup>th</sup> BOS

Faculty:BAS

NEW Course Board: Mathematics

Semester:III

Course Co	23112 AEC33			
Title VECTOR CALCULUS AND ITS APPLICATIONS				
UNIT		Contents		
I	derivative of a sum of vectors - I	Vector point function - Scalar point function - Derivative of a vector and derivative of a sum of vectors - Derivative of a product of a scalar and a vector point function - Derivative of a scalar product and vector product.		
II				
III	Laplacian operator, Vector identit	Laplacian operator, Vector identities - Line integral - simple problems.		
IV	Surface integral - Volume integra	l – Applications.		
V Gauss divergence Theorem, Stoke's Theorem, Green's Theorem i dimensions – Applications to real life situations.				
Percentage	of Syllabus Revised: 100%			
Course Foo	cuses on:			
1	Skill Development	Entrepreneurial Development		
✓ ]	Employability	Innovations		
]	Intellectual Property Rights	Gender Sensitization		
5	Social Awareness/ Environment	Constitutional Rights/Human Values/Ethics		

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403

Dean School of Arts & Science Ponnalyah Ramajayam Institute of Science & Technology ( PRIST) Deemed to be University Vatlem, Thenjavur - 613 493,



**NEW Course** 

Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjayur-613403 16<sup>th</sup> BOS

Faculty:B.	Dunie Dunie Dunie			Semester:III	
Course Co	e 23112 AEC34				
Title DIFFERENTIAL EQUATIONS AND APPLICATIONS					
UNIT	UNIT Contents				
I	Ordinary Differential Equations: Variable separable Homogene Equation-Non-Homogeneous Equations of first degree in two variables -Lir Equation - Bernoulli's Equation-Exact differential equations.			vo variables -Linear	
II Equation of first order but not of higher degree: Equation Equation solvable for y-Equation solvable for x-Clair Equations with constant coefficients-Particular inte exponential, trigonometric functions and their products.		igher degree: Equation solvable for x-Clairau ients-Particular integr	solvable for dy/dx- its' form - Linear		
III Simultaneous linear differential equations- Linear Equat Order -Complete solution in terms of a known integrals-Rec form-Change of the Independent Variable-Method of Variat		uations- Linear Equational a known integrals-Redu	etion to the Normal		
IV	Partial differential equatio constants and arbitrary funct	Partial differential equation: Formation of PDE by Eliminating arbitrary constants and arbitrary functions – complete integral – singular integral-General integral-Lagrange's Linear Equations –Simple Applications.			
v		Special methods – Standard forms-Charpit's Methods – Simple Applications			
Percentage	of Syllabus Revised: 100%				
Course Foc	uses on:		1		
✓ S	Skill Development		Entrepreneurial Deve	lopment	
Contraction of the second s	Employability	~	Innovations		
I	ntellectual Property Rights		Gender Sensitization		
5	Social Awareness/ Environment		Constitutional Values/Ethics	Rights/Human	

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Dean School of Arts & Science Ponnalysh Ramalaysm Institute Science & Technology ( PRIS) Destriant to be University Vallam, Thangavut - 613 403

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Faculty:BAS

# PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

### Declared as DEEMED-TD-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjavur-613403

NEW Course Board: Mathematics

Semester:III

16<sup>th</sup> BOS

<b>Course</b> Code	23112GEC36			
Title	Part-III: ACTUARIAL MATHEMATICS			
UNIT	Contents			
I	discount function -Interest a actuarial equivalence -Vector reserves-Basic concepts -Rel versus retrospective methods	sh flows -An analogy with currencies-Discount functions -Calculating the count function -Interest and discount rates -Constant interest-Values and uarial equivalence -Vector notation -Regular pattern cash flows -Balances and reves-Basic concepts -Relation between balances and reserves-Prospective rsus retrospective methods -Recursion formulas		
II	Life expectancy-Choice of l sample table	ife table	ucting the life table from the values of $qx$ -s -Standard notation and terminology -A	
III	Introduction -Calculating annuity premiums -The interest and survivorship discount function-The basic definition-Relations between $yx$ for various values of $x$ -Guaranteed payments -Deferred annuities with annual premiums -Some practical considerations -Gross premiums -Gender aspects-Standard notation and terminology-Spreadsheet calculations			
IV	Introduction -Calculating life insurance premiums -Types of life insurance - Combined insurance-annuity benefits -Insurances viewed as annuities - Summary of formulas -A general insurance-annuity identity-The general identity -The endowment identity-Standard notation and terminology - Single- premium notation -Annual-premium notation-Identities -Spreadsheet applications			
V	Introduction to reserves -The analysis of an insurance or an decomposition-Bases for re return of the reserve -Prer difference formulas -Paid-up notation and terminology -Sp.	ntroduction to reserves -The general pattern of reserves –Recursion-Detailed nalysis of an insurance or annuity contract-Gains and losses -The risk-saving ecomposition-Bases for reserves-Nonforfeiture values-Policies involving eturn of the reserve -Premium difference and paid-up formulas-Premium ifference formulas -Paid-up formulas -Level endowment reserves -Standard otation and terminology -Spreadsheet applications		
	Syllabus Revised: 100%			
Course Focus		1		
	ill Development	 ✓	Entrepreneurial Development Innovations	
	ployability ellectual Property Rights	v	Gender Sensitization	
	tellectual Property Rights Gender Sensitization cial Awareness/ Environment Constitutional Rights/I Values/Ethics			

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403

Dean School of Arts & Science Pomalyah Ramajayam Institute ot Science & Technology (PRIST) Deemed tr = e University Lafam, Thailjavur - (13.403.



Faculty:BAS

### PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjavur-613403

**NEW Course** 

**Board: Mathematics** 

16<sup>th</sup> BOS

Semester:III

		ui mainei	natics	Semester .m
Code	23112SEC37			
	Part-IV			
Т				
	Arithmetic:			
	Ratios and Proportions			
		est includi	ing application of Annuit	v
				<i>.</i>
	Algebra:			E.
			Venn Diagram	
	Permutation and Combination	ons – basic	concepts	
	Diagrammatic representation	ı of data		
	Frequency distribution			
	Graphical representation of I	Frequency	Distribution - Histogram	n, Frequency
	Polygon, Ogive, Pie-chart			
	Index Numbers:			
	Uses of Index Numbers			
	Problems involved in constru	uction of I	ndex Numbers	
	Methods of construction of I	ndex Nun	nbers	
	Time Series Analysis:			
	Basic application including I	Moving A	verage	
	Moving Average Method		J	
	Method of Least Squares			
ge of S				
M				
Skill	Development		Entrepreneurial Develo	opment
	· · · · · · · · · · · · · · · · · · ·	~	Innovations	- Fundary
Statute				
				Rights/Human
			Values/Ethics	rugino, ruman
	T ge of S ocuses Skill Emp Intell	Code       23112SEC37         SI ENTREPREN         T       Arithmetic: Ratios and Proportions Simple and Compound inter Bill Discounting and Averag Mathematical reasoning – ba         Algebra: Set Theory and Simple appli Variation, Indices, Logarithm Permutation and Combination Statistical Representation of Diagrammatic representation Frequency distribution Graphical representation of D Polygon, Ogive, Pie-chart         Index Numbers: Uses of Index Numbers Problems involved in constru- Methods of construction of I Time Series Analysis: Basic application including I	Code       23112SEC37         Preschilt Enhart         Skill Enhart         ENTREPRENERIAL         T         Cod         Arithmetic:         Ratios and Proportions         Simple and Compound interest includi         Bill Discounting and Average Due Da         Mathematical reasoning – basic applic         Algebra:         Set Theory and simple application of V         Variation, Indices, Logarithms         Permutation and Combinations – basic         Statistical Representation of Data:         Diagrammatic representation of Jata         Diagrammatic representation of Frequency         Polygon, Ogive, Pie-chart         Index Numbers:         Problems involved in construction of I         Methods of construction of Index Nun         Time Scries Analysis:         Basic application including Moving A         Moving Average Method         Method of Least Squares         ge of Syllabus Revised: 100%         occuses on:         Skill Development         Employability       ✓	Part-IV         Skill Enhancement Course         ENTREPRENERIAL BASED MATHEMATI         T       Contents         Arithmetic:       Contents         Ratios and Proportions       Simple and Compound interest including application of Annuit Bill Discounting and Average Due Date         Mathematical reasoning – basic application       Algebra:         Set Theory and simple application of Venn Diagram       Variation, Indices, Logarithms         Permutation and Combinations – basic concepts       Statistical Representation of Data:         Diagrammatic representation of Data:       Diagrammatic representation of Frequency Distribution – Histogram         Graphical representation of Frequency Distribution – Histogram       Polygon, Ogive, Pie-chart         Index Numbers:       Uses of Index Numbers         Problems involved in construction of Index Numbers       Methods of construction of Index Numbers         Methods of construction of Index Numbers       Time Series Analysis:         Basic application including Moving Average       Moving Average Method         Method of Least Squares       Entrepreneurial Develo         Benjoyability       ✓       Innovations         Intellectual Property Rights       Gender Sensitization

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403 School of Arts & Science Pennalyah Ramatayam Institute of Science & Technology (PRIST) Baemou to be University Vallam, Than, ovur - 113 103.



**NEW Course** 

Declared as DEEMED.TO-BE.UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjavur-613403

 $16^{th}$ BOS

EH. DIC		EW Cours		
Faculty:BAS Board: Mathem Course Code 23112SEC38			natics	Semester: III
	23112SEC38			
Title Part-IV Skill Enhancement Course				
			cement Course	
	STATIST	ICS WIT	H R PROGRAMMING	
UNIT		Co	ontents	
I	Introduction, How to run R Data Types, Vectors, Con Lists, Matrices, Arrays, Cla	clusion, A	Advanced Data Structure	es, Data Frames,
II	R Programming Structure Nonvector Sets,- If-Else, An Values for Argument, Retur Returning Complex Object	Programming Structures, Control Statements, Loops, - Looping Over onvector Sets,- If-Else, Arithmetic and Boolean Operators and values, Default dues for Argument, Return Values, Deciding Whether to explicitly call return- eturning Complex Objects, Functions are Objective, No Pointers in R, cursion, A Quicksort Implementation-Extended Extended Example: A Binary		
III	Doing Math and Simulation in R, Math Function, Extended Example Calculating ProbabilityCumulative Sums and Products-Minima and Maxima- Calculus, Functions Fir Statistical Distribution, Sorting, Linear Algebra Operation on Vectors and Matrices, Extended Example: Vector cross Product- Extended Example: Finding Stationary Distribution of Markov Chains, Se Operation, Input /out put, Accessing the Keyboard and Monitor, Reading and writer Files.			
IV	Graphics, Creating Graphs Function – Customizing Gra			phics, the plot()
V				ther Generalized
the second se	Syllabus Revised: 100%			
Course Focuses				
the second	Development	1	Entrepreneurial Develo	pment
	loyability		Innovations	
	lectual Property Rights		Gender Sensitization	
Socia	al Awareness/ Environment		Constitutional Values/Ethics	Rights/Human

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403

Dean School of Arts & Science Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University Valern, Thanjavur - 613 403.



Faculty: BAS

### PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

BOS

 $16^{th}$ 

Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjavur-613403

> NEW Course Board: Mathematics

Semester: IV

Course Co	ode 23112 AEC43		
Title	Part-III Industrial Mathematics (Operations Research & Numerical Methods)		
UNIT	Contents		
Ι	Introduction to OR-Meaning and scope of O.R, Definition of O.R, LPP (Linear Programming Problem). Formulation of LPP, graphical solution of LPP-Problems.		
II	Transportation problem- Its definition, feasible solution by North-West corner rule, matrix minima VAM methods. Optimal solution through MODI & stepping stone method for balanced and unbalanced transportation problem		
III	PERT and CPM network - critical and sub critical jobs -Determining the critical path. Network calculation PERT networks probability aspect of PERT- PERT time -PERT cist (omitting Crashing)		
IV	Test of Hypothesis-Null and alternative hypothesis(Concept only) One tail and two tail tests, tests of significance based on normal and t-distribution for mean, simple correlation and properties.		
V			
Percentage	e of Syllabus Revised: 100%		
Course Fo	cuses on:		
~	Skill Development  ✓ Entrepreneurial Development		
~	Employability Innovations		
	Intellectual Property Rights Gender Sensitization		
	Social Awareness/ Environment Constitutional Rights/Human Values/Ethics		

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVLIR - 6.13 493

Dean School of Arts & Science Ponneiyah Ramajayam Institute of Science & Tachhology (PRIST) Beamen to be University Vatism, Thanjayur - 613 403.

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Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjavur-613403 16<sup>th</sup> BOS

Faculty: BAS

NEW Course Board: Mathematics

Semester: IV

Course Coo		1: Mathe	Semester: IV			
	25112 AEC44	23112 AEC44				
Title	ELEMENTS OF MATHE	ELEMENTS OF MATHEMATICAL ANALYSIS				
UNIT		Contents				
Ι	Sets and Functions: Sets a valued functions- equivalence	ets and elements- Operations on sets- functions- real alence-countability- real numbers- least upper bounds.				
II	Sequences of Real Numbers	nces of Real Numbers: Definition of a sequence and subsequence-limit of uence – convergent sequences-divergent sequences- bounded sequences-				
III	Operations on convergent se	Operations on convergent sequences – operations on divergent sequences – lim superior and limit inferior-Cauchy sequences.				
IV	Series of Real Numbers: ( negative terms-alternating	Series of Real Numbers: Convergence and divergence – series with non negative terms-alternating series-conditional convergence and absolu convergence- tests for absolute convergence.				
V	Limits and Metric Spaces: I Limits in metric spaces –	and Metric Spaces: Limit of a function on a real line - Metric spaces n metric spaces – Continuous Functions on Metric Spaces: Functio ous at a point on there a line-Function continuous on a metric space.				
Percentage	of Syllabus Revised: 100%					
Course Foci	uses on:					
✓ S	kill Development	~	Entrepreneurial Development			
✓ E	mployability		Innovations			
Iı	ntellectual Property Rights		Gender Sensitization			
S	ocial Awareness/ Environment		Constitutional Rights/Human Values/Ethics			

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 493

Dean School of Arts & Science Ponnalysh Ramajayam Institute of Science & Technology ( PRIST) Deemed to be University Vallam, Thanjayur - 613 403.



Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjavur-613403 16<sup>th</sup> BOS

	NEW Course	
Faculty: BAS	Board: Mathematics	Semester: IV
Course Code	23112GEC45	Semesterrit
Title	Part-III FINANCIAL MATHEMATICS	
UNIT	Contents	
Ι	Chapter-4: The Arbitrage Theorem	
	4.1 The Concept of Arbitrage	
	4.2 Duality Theorem of Linear Programming	
	4.2.1 Dual Problems	
	4.3 The Fundamental Theorem of Finance	
II	Chapter-5: Random Walks and Brownian Motion	E)
	5.1 Intuitive Idea of a Random Walk	
	5.2 First Step Analysis	
	5.3 Intuitive Idea of a Stochastic Process	
	5.4 Stock Market Example	
	5.5 More About Stochastic Processes	
	5.6 Ito's Lemma	
III	Chapter-8: Derivatives of Black-Scholes Option Prices	
	8.1 Theta 131	
	8.2 Delta 133	
	8.3 Gamma	
	8.4 Vega	
	8.5 Rho	
13.7	8.6 Relationships Between $\Delta, \Theta and \Gamma$	
IV	Chapter-9: Hedging	
	9.1 General Principles 9.2 Delta Hedging	
	9.3 Delta Neutral Portfolios	
	9.4 Gamma Neutral Portfolios	
v	Chapter-10: Optimizing Portfolios	
v	10.1 Covariance and Correlation	
	10.2 Optimal Portfolios	
	10.2 Optimal Fontonos	
	10.4 Expected Utility	
	10.5 Portfolio Selection	
	10.6 Minimum Variance Analysis	
	roto minimum variance marysis	

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10.7 Mean Variance Analysis

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Dean Schoel of Arts & Science Ponnalysh Ramajayam Institute of Science & Technology ( PRIST) Deamed to be University Vallam, Thanjavdr - 613 403.

Percenta	age of Syllabus Revised: 100%			
Course	Focuses on:			
1	Skill Development	~	Entrepreneurial Dev	elopment
~	✓ Employability		Innovations	
	Intellectual Property Rights	C (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Gender Sensitization	1
	Social Awareness/ Environment		Constitutional Values/Ethics	Rights/Human

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403

Dean School of Arts & Science Ponnalysh Ramajayam Institute n' Science & Technology (PRIST) Deamed to br University Variam, Thangu /ur - 613 403.



Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjavur-613403

**NEW Course** 

16<sup>th</sup> BOS

Faculty: B		Mathe	17.07.07	are IV		
Course Co	ode 23112SEC48	Stilleore				
Title	COMPI	Skill Enhancement Course COMPUTING MATHEMATICS (Quantitative Aptitude)				
UNIT			ontents			
I	Problems based on Ages, Simp	lificati	on			
II	Simple and Compound interest					
III	Time and work, Work and Way	Time and work, Work and Wages				
IV	Problems on Clocks, Problems	Problems on Clocks, Problems on Calendars				
V	Trigonometry, Odd man out an	Trigonometry, Odd man out and Series				
Percentage	of Syllabus Revised: 100%					
Course Foo	cuses on:					
× .	Skill Development	$\checkmark$	Entrepreneurial Development			
✓ ]	Employability		Innovations			
	Intellectual Property Rights		Gender Sensitization			
	Social Awareness/ Environment		Constitutional Rights/ Values/Ethics	Humar		

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 493

Dean School of Arts & Science Fonnalyah Remejavam Institute of Science & Technology ( PRIST) Deemer \_\_\_\_\_ chiversity Vallam, inan, .vur - 613 403.



16<sup>th</sup> BOS

Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjavur-613403

**NEW Course** 

Faculty: B.	Ity: BAS Board: Mathematics Semes				
Course Co	23112SEC47				
Title	Part-IV: INTRODUCTION TO DATA SCIENCE				
UNIT	Contents				
I	I Statistics: Introduction-Defining the Problem- Collecting The D Summarizing The Data-Analyzing Data-Interpreting The Analyses Communicating Results- Reasons to Study Statistics- Statistics And The I Analysis Process- The Data Analysis Process- Observational Stud Experimental Studies- Types of Data And Some Simple Graphical Displ Frequency Distributions and Bar Charts For Categorical Data- Bar Charts Chart				
II	Probability: Introduction- Properties of Probability- Combinatorial Principle: Conditional Probability- Independence of Events-Baye's Theorem- Baye Theorem Applications With Simple Problems				
III	Sampling: Bias in Sampling- Sampling Techniques/Designs- Analysis C Variance				
IV	Statistical Inference: Estimation- Point Estimation- Criteria of a Goo Estimator- Methods Of Estimation				
v	Stochastic Process-Markov Chain-Transition Probabilities-Classification of States				
Percentage	of Syllabus Revised: 100%				
Course Foc	ises on:				
✓ 15	kill Development ✓ Entrepreneurial Development				
	mployability Innovations				
	tellectual Property Rights Gender Sensitization				
S	ocial Awareness/ Environment Constitutional Rights/Huma Values/Ethics				

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Dean School of Arts & Science Ponnalysh Ramajayam Institute of Science & Technology (PRIST) Deamed to se University Vallam, Than, avur - 613 403,



16<sup>th</sup> BOS

Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjavur-613403

**NEW Course** 

Faculty: B	1000	: Mathem		Semester: V		
Course Co	ode 23112 AEC51			Semester, v		
Title	ABSTRACT ALGEBRA					
UNIT		Contents				
I	Introduction to groups- Sub groups- Lagrange's Theorem-	Introduction to groups- Subgroups- cyclic groups and properties of cyclic groups- Lagrange's Theorem-A counting principle – Examples				
II	Normal subgroups and Q Examples	Normal subgroups and Quotient group- Homomorphism-Automorphism				
III	Cayley's Theorem-Permutatio	Cayley's Theorem-Permutation groups - Examples				
IV	Definition and examples of ri of rings- Ideals and quotient r	Definition and examples of ring- Some special classes of rings- homomorph of rings- Ideals and quotient rings- More ideals and quotient rings.				
v	The field of quotients of an Euclidean Ring – Examples	The field of quotients of an integral domain-Euclidean Rings - The particul				
	of Syllabus Revised: 50%					
Course For	cuses on:					
×	Skill Development	$\checkmark$	Entrepreneurial Dev	velopment		
×	Employability		Innovations			
	Intellectual Property Rights		Gender Sensitizatio	n		
	Social Awareness/ Environment		Constitutional Values/Ethics	Rights/Human		

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403

Dean School of Arts & Science Ponnaiyah Ramajayam Institute of Science + To + mingy ( PRIST) Darmon 11 no University 1.1.1.m. Thangar - 513 473.



Faculty: BAS

### PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjavur-613403

### NEW Course Board: Mathematics

Semester: III

16<sup>th</sup> BOS

Course Co	23112 AEC53			
Title	MATHEMATICAL MODELLING			
UNIT	Contents			
Ι	Mathematical Modelling: Simple situations requiring mathematical modelling, characteristics of mathematical models.			
II	Mathematical Modelling through differential equations: Linear Growth and Decay Models. Non-Linear growth and decay models, Compartment models.			
III				
IV	Introduction to difference equations			
v	V Mathematical Modelling through difference equations: Harrod Model, coby model application to Actuarial Science			
Percentage	of Syllabus Revised: 100%			
Course Foo	ises on:			
× 15	kill Development 🗸 Entrepreneurial Development			
✓ I	mployability Innovations			
	ntellectual Property Rights Gender Sensitization			
4	ocial Awareness/ Environment Constitutional Rights/Hu Values/Ethics	man		

Dean School of Arus & Science Ponnalysh Ramajayam Institute of Science & Technology (PRIST) Deemed to be University Vettam, Thanjayur - 613 403.

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403



**NEW Course** 

Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjavur-613403 16<sup>th</sup> BOS

Faculty: B.	Board: Mathematics Semester:				
Course Co	23112 AEC54				
Title	MECHANICS	MECHANICS			
UNIT		Contents			
I		Force: Newton's laws of motion – Resultant of two forces on a particle – Equilibrium of a Particle: Equilibrium of a particle – Limiting equilibrium of a particle on an inclined plane.			
II	Forces on a Rigid Body: Mon Equivalent systems of forces-1	Forces on a Rigid Body: Moment of a Force – General motion of a body – Equivalent systems of forces- Parallel Forces – Forces acting along a Triangle A specific reduction of Forces: Reduction of coplanar forces into a force and			
III	Work, Energy and Power: W	Work, Energy and Power: Work – Conservative field of force – Power Rectilinear Motion under Varying Force: Simple Harmonic Motion - along a			
IV	Projectiles: Forces on a project		projected on an inclined plane		
v	Central Orbits: General orbits -	- Central orbit	- Conic as a centered orbit		
Percentage	of Syllabus Revised: 100%				
Course Foc					
× 5	Skill Development	✓ Entre	preneurial Development		
✓ I	Employability	Innov	rations		
I	ntellectual Property Rights	Gend	er Sensitization		
S	Social Awareness/ Environment		itutional Rights/Human		

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403

School of Arts & Science Ponnetych Parajavam Institute of Science & Technology (PRIST) Deamed Low University Vetam, Thanjavur - 613 403.



16<sup>th</sup> BOS

Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjavur-613403

### M.Sc., Mathematics Syllabus Revision

Faculty: BASBoard: MathematicsSemester: ICourse Code23212 AEC13TitleORDINARY DIFFERENTIAL EQUATIONS

UNIT	EXISTING	CHANGE
I	Systems of linear diffrential equations	Linear equations with constant coefficients Second order homogeneous equations-Initial value problems-Linear dependence and independence-Wronskian and a formula for Wronskian-Non-homogeneous equation of order two
II	Existence and uniqueness of solutions	Linear equations with constant coefficients Homogeneous and non-homogeneous equation of order n –Initial value problems- Annihilator method to solve non- homogeneous equation- Algebra of constant coefficient operators.
III	Boundary value problems	Linear equation with variable coefficients Initial value problems -Existence and uniqueness theorems – Solutions to solve a non-homogeneous equation – Wronskian and linear dependence – reduction of the order of a homogeneous equation – homogeneous equation with analytic coefficients-The Legendre equation.
IV	Oscillations of second order equations	Linear equation with regular singular points Euler equation – Second order equations with regular singular points –Exceptional cases – Bessel Function

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V	Stability of linear and nonlinear system	Existence and uniqueness of solutions to first order equations: Equation with variable separated – Exact equation – method of successive approximations – the Lipschitz condition – convergence of the successive
		approximations and the existence theorem

Percenta	age of Syllabus Revised: 50%			
Course 1	Focuses on:			
$\checkmark$	Skill Development		Entrepreneurial Dev	elopment
$\checkmark$	Employability	~	Innovations	
	Intellectual Property Rights		Gender Sensitization	1
	Social Awareness/ Environment		Constitutional Values/Ethics	Rights/Humar

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Semester: III

<b>Faculty: BAS</b>	Board: Mathematics	Semeste
Course Code	23112AEC33	
Title	COMPLEX ANALYSIS	
	1	

M.Sc., Mathematics Syllabus Revision

UNIT	EXISTING	CHANGE
I	Harmonic functions — power series expansions partial fraction and factorization — entire functions.	Cauchy's Integral Formula: The Index of a point with respect to a closed curve – The Integral formula – Higher derivatives. Local Properties of analytical Functions: Removable Singularities-Taylors's Theorem – Zeros and poles – The local Mapping – The Maximum Principle.
II	The Riemann zeta function — normal families	The general form of Cauchy's Theorem : Chains and cycles- Simple Continuity - Homology - The General statement of Cauchy's Theorem - Proof of Cauchy's theorem - Locally exact differentials- Multiply connected regions - Residue theorem - The argument principle
III	The Riemann mapping theorem — conformal mapping of polygons — Chapter 6(6.1, 6.2)	Evaluation of Definite Integrals and Harmonic Functions Evaluation of definite integrals - Definition of Harmonic function and basic properties - Mean value property - Poisson formula
IV	A closer look at harmonic functions — the Dirichiet's problem Harmonic measures — Chapter 6 sec 3.4 and 5(5.1 only)	Harmonic Functions and Power Series Expansions: Schwarz theorem - The reflection principle - Weierstrass theorem – Taylor's Series – Laurent series.
V	Simple periodic functions — double periodic functions — the weierstrasstheory Chapter 7 sec	Partial Fractions and Entire Functions: Partial fractions - Infinite products – Canonical products – Gamma.Function-

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1,2,3(3.1. 3.2, 3.3)	Jensen's formula – Hadamard's Theorem

Percenta	ige of Syllabus Revised: 50%			
Course ]	Focuses on:			
$\checkmark$	Skill Development		Entrepreneurial Dev	relopment
~	Employability	~	Innovations	
	Intellectual Property Rights		Gender Sensitization	1
	Social Awareness/ Environment		Constitutional Values/Ethics	Rights/Human

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> M.Sc., Mathematics Syllabus Revision Board: Mathematics

Semester: IV

Course Code	23212AEC41
Title	FUNCTIONA

Faculty: BAS

### UNCTIONAL ANALYSIS

UNIT	EXISTING	CHANGE
I	Algebraic Systems: Groups — Rings — The structure of rings — Linear spaces - The dimension of a linear space — Linear transformations — Algebras — BanachSpaces : The definition and some examples — Continuous linear transformations — The Hahn — Banach theorem — The natural imbedding of N in N** - The open mapping theorem — The conjugate of a operator.	
Ш	Hilbert Spaces: The definition some simple properties — Orthogonal complements — Orthonormal sets — The conjugate space H* - The adjointof an operator — Self-adjoint operators — Normal and unitary operators — Projections.	<b>BANACH SPACE &amp; HILBERT</b> <b>SPACES:</b> The natural imbedding of N in N** - The open mapping theorem- The conjugate of a operator. <b>Hilbert Spaces:</b> The definition and some simple properties
111	Finite-Dimensional Spectral Theory: Matrices — Determinants and the spectrum of an operator — The spectral theorem — A survey of the situation.	HILBERT SPACES : Orthogonal complements - Orthonormal sets -The conjugate space H* - The adjoint of an operator
IV	General Preliminaries on Banach Algebras: The definition and some examples — Regular and singular elements — Topological divisors of zero — The spectrum — The formula for the	<b>OPERATORS ON HILBERT SPACES:</b> Self-adjoint operators -Normal and unitary operators - Projections

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	spectral radius — The radical and semi-simplicity	
V	Algebras: The Gelfand mapping — Applications of the formula $r(x) = \lim   x^n  ^{1/n}$ – Involutions in Banach	<b>BANACH ALGEBRAS:</b> Banach Algebra- General Preliminaries on Banach Algebras: The definition and some examples -Regular and simple elements -Topological divisors of zero -The spectrum -The formula for the spectral radius -The radical and semi- simplicity

Percenta	age of Syllabus Revised: 50%			
Course	Focuses on:			
$\checkmark$	Skill Development	5 A.	Entrepreneurial Dev	velopment
$\checkmark$	Employability	~	Innovations	
	Intellectual Property Rights		Gender Sensitization	n
	Social Awareness/ Environment		Constitutional Values/Ethics	Rights/Human

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**Faculty: BAS** 

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### NEW Course Board: Mathematics

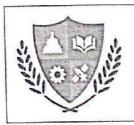
Semester: I

Course Co		23212AEC11 Semester: 1		
Title	ALGEBRAIC STRUCTURES			
UNIT	Contents			
1	Counting Principle - Class equation for finite groups and its applications - Sylow's theorems (For theorem 2.12.1, First proof only).			
II	Solvable groups - Direct products	s - Finite abelian groups- Modules		
III Linear Transformations: Canonical forms –Triangular form transformations.		nical forms –Triangular form - Nilpoten		
IV Jordan form - rational canonical form		form		
V Trace and transpose -Hermitian, unitary, normal transformations, r form.		unitary, normal transformations, real quadratic		
Percentage	of Syllabus Revised: 100%			
Course For	cuses on:			
× 1	Skill Development	Entrepreneurial Development		
✓ ]	Employability	Innovations		
	Intellectual Property Rights	Gender Sensitization		
1	Social Awareness/ Environment	Constitutional Rights/Human Values/Ethics		

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**NEW Course** 

16<sup>th</sup> BOS

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Faculty: BAS	Board: Mathematics	Semester: I
Course Code	23212AEC12	
Title	REAL ANALYSIS - I	
UNIT	Contents	
Ι	Functions of bounded variation- Introduction - Proj functions - Functions of bounded variation - Total variation of total variation - Total variation on [a, x] as a function bounded variation expressed as the difference of two is Continuous functions of bounded variation. Infinite Series : Absolute and conditional convergence -Di Abel's test - Rearrangement of series - Riemann's theorem convergent series.	n - Additive property n of x - Functions of ncreasing functions - irichlet's test and
П	The Riemann -Stieltjes Integral - Introduction - Notation the Riemann -Stieltjes integral - Linear Properties - Change of variable in a Riemann -Stieltjes integral - Rec Integral – Euler's summation formula - Monotonically i Upper and lower integrals - Additive and linearity proper integrals - Riemann's condition - Comparison theorems.	Integration by parts- duction to a Riemann increasing integrators erties of upper, lower
III	The Riemann-Stieltjes Integral- Integrators of bounde conditions for the existence of Riemann-Stieltjes integrals- for the existence of RS integrals- Mean value theorems -i of the interval – Second fundamental theorem of integra variable -Second Mean Value Theorem for Riemann integ integrals depending on a parameter- Differentiation Lebesguecriteriaon for existence of Riemann integrals.	-Necessary conditions integrals as a function al calculus-Change of ral- Riemann-Stieltjes
IV	Infinite Series and infinite Products- Double sequence Rearrangement theorem for double series - A sufficient co iterated series - Multiplication of series – Cesarosummabili Power series - Multiplication of power series - The Taylor a function - Bernstein's theorem - Abel's limit theorem - Tay	ndition for equality or ity- Infinite products. 's series generated by
V	Sequences of Functions – Pointwise convergence of seq Examples of sequences of real - valued functions - Unif continuity - Cauchy condition for uniform convergence - of infinite series of functions - Riemann -Stieltjes integ Convergence and Term-by-term Integration - Unifor differentiation - Sufficient condition for uniform converge	form convergence and Uniform convergence ration – Non-uniform rm convergence and

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	convergence.		
Percenta	age of Syllabus Revised: 100%		
	Focuses on:		
~	Skill Development	Entrepreneurial Development	
$\checkmark$	Employability	Innovations	
	Intellectual Property Rights	Gender Sensitization	
	Social Awareness/ Environment	Constitutional Rights/Human Values/Ethics	

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Faculty: B.					
Course Co					
Title	DISCRETE MATHEMATICS	DISCRETE MATHEMATICS			
UNIT		Contents			
I	RELATIONS: Cartesian Product of Two sets –		of Relation-		
	Operations Relations-Equivalen FUNCTIONS:		ol Types of		
	Function and Operators- One-to Functions-Invertible Functions-				
II	Well Formed (Statements) Form				
Ш	LATTICES AND BOOLEAN ALGEBRA         Lattices – Some Properties of Lattices – New Lattices – Modular and         Distributive Lattices- Boolean Algebra				
IV	RECURRENCE RELATIONS AND GENERATING FUNCTIONS: Recurrence an introduction – Polynomials and their Evaluations- Recurrence Relations-Solution of Finite Order Homogeneous (liner) Relations-Solution of Non- homogeneous-Relations-Generating Functions-Some Common Recurrence Relations-Primitive- Recursive Functions- Recursive and Partial Recursive				
V         AUTOMATA,LANUAGES AND COMPUTATIONS:           Introduction-Finite Automata- Definition of Finite Automaton – Re         of           Finite Automaton-Acceptability of a string by a Finite Automaton-Languages         accepted by a Finite Automaton-Non-deterministic           Automata- Acceptability         of a String by Non- Deterministic Finite           -Equivalence of FA and NFA		e Automaton- inistic Finite			
Percentage	of Syllabus Revised: 100%				
Course Foc	uses on:				
1.1.2	Skill Development	Entrepreneurial Dev	elopment		
	Employability	Innovations			
	ntellectual Property Rights	Gender Sensitization			
5	Social Awareness/ Environment	Constitutional Values/Ethics	Rights/Human		

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16<sup>th</sup> BOS

## **NEW Course**

Semester:	I

Faculty: I	BAS Board:	Mathematics	Semester: II	
Course Code 23212AEC21				
Title ADVANCED ALGEBRA				
UNIT Contents				
I	Extension fields - Transcender	ice of e.		
II	II Roots or Polynomials More about roots			
III	III Elements of Galois theory			
IV	Finite fields -Wedderburn's theorem on finite division rings			
v	V Solvability by radicals - A theorem of Frobenius- Integral Quaternions a Four - Square theorem.			
Percentage	of Syllabus Revised: 100%			
Course For	cuses on:			
✓ 1	Skill Development	Entrepreneurial Dev	velopment	
✓ ]]	Employability	Innovations		
	Intellectual Property Rights	Gender Sensitizatio	n	
	Social Awareness/ Environment	Constitutional Values/Ethics	Rights/Human	

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**Faculty: BAS** 

Course Code | 23212AEC22

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> **NEW Course Board: Mathematics**

 $16^{th}$ BOS

Semester: II

Title	REAL ANALYSIS - II				
UNI	T	Contents			
I		Measure on the Real line -Lebesgue Outer Measure - Measurable sets Regularity - Measurable Functions -Borel and Lebesgue Measurability			Measurable sets - urability
II		Integration of Functions of a Real variable- Integration of Non- negative functions - The General Integral - Riemann and Lebesgue Integrals			
III		Fourier Series and Fourier Integral - Riemann and Lebesgue Integrals Fourier Series and Fourier Integrals- Introduction - Orthogonal system of functions - The theorem on best approximation - The Fourier series of a function relative to an orthonormal system - Properties of Fourier Coefficients - The Riesz-Fischer Thorem- The convergence and representation problems in for trigonometric series - The Riemann -Lebesgue Lemma - The Dirichlet Integrals - An integral representation for the partial sums of Fourier series - Riemann's localization theorem - Sufficient conditions for convergence of a Fourier series at a particular point –Cesarosummability of Fourier series- Consequences of Fejes's theorem - The Weierstrass approximation theorem			
IV		- Directional derivative ar derivative expressed in ter function - The Jacobian matu mean - value theorem for o differentiability - A sufficier	ultivariable Differential Calculus- Introduction - The Directional derivative Directional derivative and continuity - The total derivative - The total erivative expressed in terms of partial derivatives - The matrix of linear netion - The Jacobian matrix - The chain rule - Matrix form of chain rule - The ean - value theorem for differentiable functions - A sufficient condition for fferentiability - A sufficient condition for equality of mixed partial derivatives Faylor's theorem for functions of $\mathbb{R}^n$ to $\mathbb{R}^1$		
V		Implicit Functions and ExtremumProblems :Functions with non-zero Jacobian determinants – The inverse function theorem-The Implicit function theorem-Extrema of real valued functions of severable variables-Extremum problems with side conditions.			
		Syllabus Revised: 100%			
Course F				Entropy 1 D	
× 		Development		Entrepreneurial Devel Innovations	iopment
Ŷ		loyability lectual Property Rights		Gender Sensitization	
		al Awareness/ Environment		Constitutional Values/Ethics	Rights/Human
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**NEW Course** 

16<sup>th</sup> BOS

			Semester: II			
Course Co	le 23212AEC23	23212AEC23				
Title	PARTIAL DIFFERENTIAL	PARTIAL DIFFERENTIAL EQUATIONS				
UNIT		Contents				
I	equations-Vibrating string – V Conduction of heat in solids –	Mathematical Models and Classification of second order equation : Classical equations-Vibrating string – Vibrating membrane – waves in elastic medium – Conduction of heat in solids – Gravitational potential – Second order equations in two independent variables – canonical forms – equations with constant coefficients – general solution				
II	Cauchy Problem : The Ca Homogeneous wave equation homogeneous boundary cond homogeneous wave equation					
ш	Method of separation of va problem – Existence and unio Heat conduction problem –	Method of separation of variables: Separation of variable- Vibrating strin problem – Existence and uniqueness of solution of vibrating string problem Heat conduction problem – Existence and uniqueness of solution of heat conduction problem – Laplace and beam equations				
IV	Boundary Value Problems minimum principles – Unique for a circle, a circular annu	Boundary Value Problems : Boundary value problems – Maximum a minimum principles – Uniqueness and continuity theorem – Dirichlet Proble for a circle , a circular annulus, a rectangle – Dirichlet problem involvi Poisson equation – Neumann problem for a circle and a rectangle.				
V	Green's Function: The Delta function – Green's function – Method of Gr function – Dirichlet Problem for the Laplace and Helmholtz operators – Me of images and eigen functions – Higher dimensional problem – Neu Problem.					
	of Syllabus Revised: 100%					
Course Focu	Contraction of the second s					
The subscription of the su	cill Development	Entrepreneurial D	evelopment			
the second se	nployability	✓ Innovations				
	tellectual Property Rights	Gender Sensitizat				
S	ocial Awareness/ Environment	Constitutional Values/Ethics	Rights/Humar			

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**NEW Course** 

Faculty: B	AS Board: Mathemat	ics Semester: II			
Course Co	23212GSC24				
Title	MATHEMATICAL STATISTICS				
UNIT	Conte	ents			
Ι	Tchebychev's inequality and weak law o central limit theorem for i.i.d random variation	of large numbers — Simple form of ables			
II	Binomial, Poisson, Negative binomial, g moment generating function, Cumulant ge	eometric distribution — Constants,			
III	Continuous distribution — rectangular, e. Normal Distributions.	xponential, beta, gamma distributions,			
IV	Test of Hypothesis—Null and alternative two tail tests, tests of significance based simple correlation and properties.	hypothesis(Concept only) One tail and on normal and t distribution for mean,			
v	Test of significance based on chi square a goodness of fit and independence of attrib and two — way classifications with simple	outes Analysis of variance — One way			
Percentage	of Syllabus Revised: 100%				
Course Foc	uses on:				
	kill Development 🗸 Ei	ntrepreneurial Development			
	Imployability In	novations			
		ender Sensitization			
		onstitutional Rights/Human alues/Ethics			

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## Faculty: BAS

NEW Course Board: Mathematics

Semester: II

Course Co	23212MSE25			
Title	MODELLING AND SIMULAT	MODELLING AND SIMULATION WITH EXCEL		
UNIT		Contents		
I	application, System environment, co of models, steps in a simulation stu	<b>Introduction to Simulation:</b> Simulation, Advantages, Disadvantages, Areas of application, System environment, components of a system, Model of a system, types of models, steps in a simulation study. Simulation Examples: Simulation of Queuing systems, Simulation of Inventory System, Other simulation examples.		
Ш	advance algorithm, simulation using	General Principles: Concepts in discrete - event simulation, event scheduling/ Time advance algorithm, simulation using event scheduling. Random Numbers: Properties, Generations methods, Tests for Random number- Frequency test, Runs test,		
III	Weibull, Triangular distributions, I Distributions, convolution method	Random Variate Generation: Inverse Transform Technique- Exponential, Uniform, Weibull, Triangular distributions, Direct transformation for Normal and log normal Distributions, convolution methods- Erlang distribution, Acceptance Rejection Technique Optimisation Via Simulation: Meaning, difficulty, Robust Heuristics, Bandom Search		
IV	distribution with data, parameter es models without data, Multivariate ar of Model – Model Building, Verifica	<b>ut Modelling:</b> Data collection, Identification and timation, Goodness of fit tests, Selection of input ad time series analysis. Verification and Validation ation, Calibration and Validation of Models.		
V	Nature of output data, Measures of of terminating simulation, Output	Output Analysis – Types of Simulations with Respect to Output Analysis, Stochastic Nature of output data, Measures of Performance and their estimation, Output analysis of terminating simulation, Output analysis of steady state simulations. Simulation Softwares: Selection of Simulation Software, Simulation packages, Trend in		
Percentage	of Syllabus Revised: 100%			
Course Foo	cuses on:			
	Skill Development	Entrepreneurial Development		
✓ I	Employability	Innovations		
]	Intellectual Property Rights	Gender Sensitization		
C.	Social Awareness/ Environment	Constitutional Rights/Human Values/Ethics		

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✓	Employability	Innovations	
	Intellectual Property Rights	Gender Sensitization	
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**NEW Course** 

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 $16^{th}$ BOS

Faculty: BAS		d: Mathe		Semester: III
Course Code				
Title	PROBABILITY THEORY			
UNIT	Contents			
I	Random Events and Random Variables: Random events – Probability axioms Combinatorial formulae – conditional probability – Bayes Theorem Independent events – Random Variables – Distribution Function – Joi Distribution – Marginal Distribution – Conditional Distribution – Independe random variables – Functions of random variables.			Bayes Theorem - Function – Join
П	Parameters of the Distribution : Expectation- Moments – The Chebyshe Inequality – Absolute moments – Order parameters – Moments of randor vectors – Regression of the first and second types.			
III				nction of the sum of ibution function by
IV Some Probability distributions: One point, two point, Binomial Hypergeometric – Poisson (discrete) distributions – Uniform – norma Beta – Cauchy and Laplace (continuous) distributions.				
V	Limit Theorems : Stochasti Convergence of sequence o de Moivre-Laplace Theorer large numbers – Lindberg Lemma - Kolmogorov In numbers.	c converg f distribut n – Poisso Theorem	ence – Bernaulli law on functions – Levy-C on, Chebyshev, Khinto – LapunovTheroem	Cramer Theorems – chine Weak law of – Borel-Cantelli
Harrison Marcon	Syllabus Revised: 100%			
Course Focuse ✓ Skil	s on: l Development	<ul> <li>✓</li> </ul>	Entropy oppining Deres	1
	loyability	v	Entrepreneurial Deve Innovations	lopment
Duip	lectual Property Rights	1	Gender Sensitization	
	al Awareness/ Environment	2	Constitutional Values/Ethics	Rights/Human

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**NEW Course** 

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Faculty: B		: Mathe		Semester: III		
Course Co						
Title	INDUSTRY MODULES	INDUSTRY MODULES				
UNIT		C	ontents			
I	Introduction to OR-Meaning Programming Problem). Form Problems.	Introduction to OR-Meaning and scope of O.R, Definition of O.R, LPP (Linear Programming Problem). Formulation of LPP, graphical solution of LPP-Problems				
11	rule, matrix minima VAM me	Transportation problem- Its definition, feasible solution by North-West corner rule, matrix minima VAM methods. Optimal solution through MODI & stepping stone method for balanced and unbalanced transportation problem.				
III	PERT and CPM network - cripath.	PERT and CPM network - critical and sub critical jobs -Determining the critical path. Network calculation PERT networks probability aspect of PERT- PERT				
IV	Test of Hypothesis-Null and	Test of Hypothesis-Null and alternative hypothesis(Concept only) One tai two tail tests, tests of significance based on normal and t-distribution for r				
V         Test of significance based on chi square and F-distributions for vari goodness of fit and independence of attributes Analysis of varian and two - way classifications with simple problems.			for variance, test for variance -One way			
	of Syllabus Revised: 100%		· · · · · · · · · · · · · · · · · · ·			
Course Foc	uses on:					
	Skill Development	$\checkmark$	Entrepreneurial Dev	elopment		
	Employability		Innovations			
	ntellectual Property Rights		Gender Sensitization	1		
S	Social Awareness/ Environment		Constitutional Values/Ethics	Rights/Human		

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**NEW Course** 

16<sup>th</sup> BOS

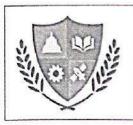
Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956 Vallam, Thanjavur-613403

Faculty: I	BAS Board: Mathematics	Semester: III		
Course Co		Otimester: III		
Title	MATHEMATICAL PYTHON			
UNIT	Contents			
Ι	Literal-Constants-Variables - Identifiers-Keywords-Bui Output Statements - Input Statements-Comments - Inder	Basics of Python Programming: History of Python-Features of Python Literal-Constants-Variables - Identifiers-Keywords-Built-in Data Types Output Statements - Input Statements-Comments - Indentation- Operators Expressions-Type conversions. Python Arrays: Defining and Processing		
Ш	Control Statements: Selection/Conditional Branching else, nested if and if-elif-else statements. Iterative Statem for loop, else suite in loop and nested loops. Jump S continue and pass statements.	ments: while loop		
III       Functions: Function Definition – Function Call – Variable Scop         Lifetime-Return Statement.       Function Arguments: Required A         Keyword Arguments, Default Arguments and Variable Length A         Recursion.       Python Strings: String operations- Immutable Strings         String Methods and Functions - String Comparison.       Modules         statement- The Python module – dir() function – Modules and Nari         Defining our own modules.		quired Arguments Length Arguments Strings - Built-in Modules: impor		
IV       Lists: Creating a list -Access values in List-Updating values in List lists -Basic list operations-List Methods. Tuples: Creating, Accessing, and Deleting Elements in a tuple – Nested tuples – Difference between tuples. Dictionaries: Creating, Accessing, Updating and Deleting Element Dictionary – Dictionary Functions and Methods - Difference between Dictionaries.		accessing, Updating the between lists and eting Elements in a between Lists and		
v	<b>Python File Handling:</b> Types of files in Python - Opening Reading and Writing files: write() and writelines() methods- read() and readlines() methods – with keyword – Splitting we - File Positions- Renaming and deleting files.	append() method -		
	of Syllabus Revised: 100%			
Course Fo				
the work of the second s	Skill Development Entrepreneurial Deve	elopment		
	Employability Innovations			
	Intellectual Property Rights Gender Sensitization Social Awareness/ Environment Constitutional	Rights/Human		
	Values/Ethics	Rights/Hulla		

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403

Dean School of Arts & Science Ponnalyah Ramajayam Institute of Science & Technology ( PRIST , Deemed to be University Vallam, Thanjavur - 613 403.



**Faculty: BAS** 

# PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

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## NEW Course Board: Mathematics

Semester: IV

Course Co		Semester: IV		
Title DIFFERENTIAL GEOMETRY				
UNIT		Contents		
binormal – curvature and to		of a space curve – Arc length – tangent – normal and torsion – contact between curves and surfaces- tangent plutes- Intrinsic equations – Fundamental Existence		
II	Intrinsic properties of a surfac	e: Definition of a surface – curves on a surface ls – Metric- Direction coefficients – families of		
III         Geodesics: Geodesics – Canonical geodesic equations – Norma geodesics- Existence Theorems – Geodesic parallels – Geodesi Gauss- Bonnet Theorem – Gaussian curvature- surface of const		l geodesic equations – Normal property of Geodesic parallels – Geodesics curvature-		
IV	Non Intrinsic properties of a su The second fundamental form- Pr	asic properties of a surface: fundamental form- Principle curvature – Lines of curvature – e - Developable associated with space curves and with curves on		
V         Differential Geometry of Surfaces : Compact surfaces whose points are umblics- Hilbe of constant curvature – Complete surface and their Theorem – Conjugate points on geodesics.		cs : e umblics- Hilbert's lemma – Compact surface surface and their characterization – Hilbert's		
Percentage	of Syllabus Revised: 100%			
Course Foc	uses on:			
✓ S	kill Development	Entrepreneurial Development		
	mpioyaomity	Innovations		
II	ntellectual Property Rights	Gender Sensitization		
S	ocial Awareness/ Environment	Constitutional Rights/Human Values/Ethics		

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-	NEW Course	
Faculty: BAS Course Code		: IV
Title	FLUID MECHANICS	
UNIT	Contents	
I	INTRODUCTION- Note to Students - Definition of a Fluid - Scope of Mechanics - Basic Equations -Methods of Analysis - System and Co Volume - Differential versus Integral Approach Methods of Descript Dimensions and Units -TO Systems of Dimensions - Systems of Units -Pref Systems of Units - Summary - Problems	ontrol ion -
11	INTRODUCTION : Note to Students /l Definition of a Fluid - Scope of Mechanics - Basic Equations - Methods of Analysis 15 System and Co Volume - Differential versus Integral Approach Methods of Description Dimensions and Units-TO Systems of Dimensions -Systems of Units - Pret Systems of Units - Summary - Problems - FUNDAMENTAL CONCEN Fluid as a Continuum - Velocity Field - One-, Two-, and Three- Dimensi Flows - Timelines, Pathlines, Streaklines, and Streamlines - Stress Fi Viscosity /26 Newtonian Fluid - Non-Newtonian Fluids - Surface Tenss Description and Classification of Fluid Motion - Viscous and Inviscid Fl Laminar and Turbulent Flows - Compressible and Incompressible Flo Internal and External Flows - Summary - References - Problems	ontrol on /8 ferred PTS - sional ield - sion - ows -
III	<ul> <li>INTRODUCTION : Note to Students - Definition of a Fluid - Scope of Fluid Mechanics - Basic Equations - Methods of Analysis - System and Context Volume - Differential versus Integral Approach Methods of Description Dimensions and Units -TO Systems of Dimensions - Systems of Unite Preferred Systems of Units - Summary - Problems -FUNDAMENTAL</li> <li>CONCEPTS- Fluid as a Continuum - Velocity Field - One-, Two-, a Three- Dimensional Flows - Timelines, Pathlines, Streaklines, a Streamlines - Stress Field - Viscosity - Newtonian Fluid -Non-Newton Fluids - Surface Tension - Description and Classification of Fluid Motio Viscous and Inviscid Flows - Laminar and Turbulent Flows - Compressional Incompressible Flows - Internal and External Flows - Summary References - Problems</li> <li>FLUID STATICS- The Basic Equation of Fluid Statics -The Statemosphere - Pressure Variation in a Static Fluid - Incompressible Line</li> </ul>	rol n - s - and and ian n - ble y -

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403 Dican School of Arts & Science Ponnalyah Ramajayam Institute Science & Technology (PRIST Deemed to be University Vellam, Thanjavur - 613 403

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	The second se	
	on a Curved Submerged Sur Motion (CD-ROM) - Summa	raulic Systems - Hydrostatic Force on Submerged on a Plane Submerged Surface - Hydrostatic Force face Buoyancy and Stability Fluids in Rigid-Body ry - References - Problems
IV	BASIC EQUATIONS IN VOLUME : Basic Laws for Law - The Angular-Moment The Second Law of Thermo Control Volume Formulat Conservation of Mass - Spec Volume - Differential Contro Constant Velocity - Moment Acceleration - Momentum Acceleration (CD-ROM) - ' Fixed Control Volume - •Eq The First Law of Thermodyr	INTEGRAL FOR M F OR A CONTRO L a System -Conservation of Mass - Newton's Second um Principle - The First Law of Thermodynamics - odynamics - Relation of System Derivatives to the ion - Derivation - Physical Interpretation - ial Cases - Momentum Equation for Inertial Control of Volume Analysis - Control Volume Moving with tum Equation for Control Volume with Rectilinear Equation for Control Volume with Rectilinear Equation for Control Volume with Arbitrary The Angular-Momentum Principle - Equation for puation for Rotating Control Volume (CD-ROM) - mamics -Rate of Work Done by a Control Volume - The Second Law of Thermodynamics - Summary -
V	MOTION : Conservation of Coordinate System - Stream Flow - Motion of a Fluid Part of a Fluid Particle in a Velo Momentum Equation - Fo	DIFFERENTIAL ANALYSIS O F FLUID Mass Rectangular Coordinate System Cylindrical n Function for Two-Dimensional Incompressible ticle (Kinematics) - Fluid Translation: Acceleration ocity Field - Fluid Rotation - Fluid Deformation - rces Acting on a Fluid Particle - Differential onian Fluid: Navier-Stokes Equations - Summary -
Percenta	age of Syllabus Revised: 100%	
	Focuses on:	
~	Skill Development	Entrepreneurial Development
~	Employability	Innovations
	Intellectual Property Rights	Gender Sensitization
	Social Awareness/ Environment	Constitutional Rights/Human Values/Ethics

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H.O.D. DEPARTMENT OF MATHEMATICS PRIST DEEMED TO BE UNIVERSITY THANJAVUR - 613 403

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**NEW Course** 

 $16^{\text{th}}$ BOS

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Faculty: I		IV			
Course C	le 23212GSC45-				
Title	RESOURCE MANAGEMENT TECHNIQUES				
UNIT	Contents				
I	Introduction to operations Research: Elementary treatment of line programming simplex Method <,=,>,= constraints.	near			
II	Application to Transportation problem- Transportation Algorithm Degeneracy in Transportation problem, unbalanced transportation probl Assignment problem - The assignment algorithm - unbalanced assignment problem.	lem			
III	critical path.	<b>PERT and CPM network :</b> critical and sub critical jobs — Determining the critical path. Network calculation PERT networks probability aspect of PERT — PERT			
IV	Sequencing Problems : Introduction – Step-wise procedure for determing optimal sequence for n jobs on 2 machines (Johnson's method) – Processir jobs on three machines – Processing n jobs on m machines – Processing of jobs on 'n ' machines.	ng r			
v	Inventory Theory: Variables in an Inventory problem Techniques of Inventory Control with known demand.				
	of Syllabus Revised: 100%				
Course Fo	ises on:				
~	kill Development 🗸 Entrepreneurial Development				
	mployability 🖌 Innovations				
	tellectual Property Rights Gender Sensitization				
	beial Awareness/ Environment Constitutional Rights/Hur Values/Ethics	man			

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## **NEW Course**

Faculty: BAS	Board: Mathematics	Semester: IV
Course Code	23212TCE-	
Title	PROFESSIONAL COMPETENCY SKILL	
UNIT	Arithmetic:	
	Profit, Loss and Discount	
	Simple Interest and Compound Interest	
	Time and Work	
	Work and wages	
I	Problem Solving:	
	Puzzle	
	Number series	
	Inequalities	
	Missing number	
	Arithmetic problems	
II	Analogy:	
	Semantic	
	Symbolic	
	Number	
	Figural	
III	Series:	
	Semantic	
	Number	
	Figural	h
IV	Arithmetic:	
	Profit, Loss and Discount	
	Simple Interest and Compound Interest	
	Time and Work	
	Work and wages	
v	Coding and Decoding:	
	Alphabetic codes	
1	Word-group	
	Meaning words	
	Symbolic coding and decoding	
the second se	yllabus Revised: 100%	
ourse Focuses	on:	
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$\checkmark$	Skill Development	Entrepreneurial Development
~	Employability	Innovations
	Intellectual Property Rights	Gender Sensitization
	Social Awareness/ Environment	Constitutional Rights/Human Values/Ethics

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Vallam, Thanjovur - 613 403

## SCHOOL OF ARTS AND SCIENCE DEPARTMENT OF MATHEMATICS

## MINULES OF THE MEETING OF THE BOARD OF STUDIES (BOS)\*

## Board: MATHEMATICS

# The Meeting of Board of Studies (IROS) was held as given below:

Name of the Body	Board of Studies		
Department	Mathemotics		
Meeting no	16		
Due and Time	26-08-2023 ; 2.30 p.m		
V coue	Department of Mathematics		
Members Attended	The details are given in the ANNEXURE-I		

	AGENDA
1	Confirmation of the previous Meeting Minutes
3	Action taken on the previous Meeting Minutes
3	Fraching & Learning Process
4	Course objectives and Corese outcomes
\$	Programme autome
fi	Students performance
7	Teachers still development
3	Student for dlock related to teaching and learning
9	Department interaction
Q	Faculty asstration
Į	Activity leads to quality improvement
2	Any other matter

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## ATTENDANCE OF THE 16 (SIXTEEN) BDARD OF STUDIES MEETING

floard : Mathematics

Date : 26.06.2833

Time :2.30 p.m.

#### Venue : Department of Mathematics

The following manipers were present for the Board of Studies meeting

No	Naraillegree/Designation	Taciune/Organization/ Foll address	Ordiner Physical	Signature
	Dr.&Sobramanian Obirrun	HDOD Begt. of Mathematica. School of Arm and Science. Porraine Ramijapan. Instants of Science and Technology (PHST). Thereaver.	7 byczał E Pf	HOLD HOLD BATCHESHED TO BE THANKARD
	Dr.S.Ramacubramanish (Esemel Morrber)	Anistant Profesor Ukps. of Mathematics, BIT Campos, Anna University, Thras - 522 054	Ptoskal	5 Ron-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2
Ъ	<u>Dr.a. Mohan</u> (Esterni Mendon)	Astistant Fictosor Dept. of Mathematics, U.D.C. Collegeof Arts and Science, Kuttas, Trichy,	1	h.h.y. 24, Y. h. 25 DI.A.MOHAN M.M. A.BOR OT H And M. Markenson Test Ing.
4.	DrS.Odayakuraar	Professor Dept. of Mathematics, School of Arts and Science. Pornaloyat: Excapiyan induct of Science and Lecturelegs (20151), Theopset.	Physical <sup>A</sup>	New Log

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5	Dr.M.Ramesh Kumar	Professor Dept. of Mathematics, School of Arts and Science, Ponnalayah Ramajayam Institute of Science and Technology (PRIST), Thunjayar	Paysical	maarch
ů,	Dr.D.R.Nirnbaharan	Associate Professor Dept. of Muthematics, School of Asts and Science, Pornstingels Rantojayam institute of Science and Technology (PMIS 1), Thanjayar	Physical	لمبر. لح
7.	Br.N.Lathi	Amociate Professor Dopu of Multaratica, School of Ans and Science, Fornalisyah Ranajayan Sasthere of Science and Technology (FRIST), Thunjasur	Physical	1 Juika
X	Dr.A.Utha	Augstani Professor Dept. of Mathematics, Salaod of Aris and Science, Poundayo's Rarat(ayam institute of Science and Technology (PE151), Thanjayar	Ploskal	Allana
Đ.	Dr.K.Scharzj	Assistant Professor Stept: of Mathematics, School of Aras and Science, Freezelayah Rannjayam institute of Science and Technology (PRIST), Teorganar	Papazat	K810-
10	Me. S.Friya	Alunei		STA

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11.	Mr.H.Swarmannagil	Stadiers Representatives	A. Swammersfil
12.	Ma. G.Agamláya	Stalent Representation	Ca Agading:
13	ן≝ר <sub>יג</sub> יקיוֹג גונגשרגז	Co-expledemender (Fart I - Language - Tariil) Assistant Preferent Dept of Tariil, School of Aris and School of Aris and School of Aris and School of Science and Technology (TRIST), Thankaver	18-12-11-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-24-14-14-14-14-14-24-14-14-14-14-14-14-14-14-14-14-14-14-14
The second secon	Yör jä Rasakusraar	Co-epi ed member (Part II -Language - English) Assistant Professor Dapa of English School of Aris and School of Aris and School of Aris and School of School and Ischool and School and Ischool and School and Ischool and School and Ischool and School and School and Ischool and School and School and Ischool and School an	P.,
dan ( seconda ) and and a seconda in the secondary ( secondary )	Dy & Litrailui Kamar	Ch-opted member (Camputer Science) Absistant Professor Popt of Editphic Science School of Aris and Science, Porming th Rapitaloyare, institute of Science and Technology (Philary, Porming of Science and	entit 25 to 1

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School of Arts & Science Ponnalysh Ramajayam Institute of Science & Technology (PRIST), Deemed to be University Vallam, Thanjavur - 613:403a

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BOS COMPUTER SCIENCE

# SCHOOL OF ARTS AND SCIENCE DEPARTMENT OF COMPUTER SCIENCE MINUTES OF THE MEETING OF THE BOARD OF STUDIES (BOS)\*

Board: Computer Science

## The Meeting of Board of Studies (BOS) was held as given below:

Name of the Body	Board of Studies
Department	Computer Science
Meeting no	13
Date and Time	28.6.2023& 3.00 PM
Venue	L Block
Members Attended	The details are given in the ANNEXURE-I

1	AGENDA
L	To confirm the minutes of BOS meeting held on 20.04.2022
2	Action taken on the previous Meeting Minutes.
3	Discussion on the development of the BCA and B.Sc. Computer Science New Curriculum under R 2023
4	Discussion on the development of the MCA and M.Sc. Computer Science New Curriculum under R 2023
5	Discussion on Four years Under Graduate Programme(FYUGP) B.Sc Computer Science Hons
6	Discussion on Value added courses
7	Discussion on Activities for the advanced learners
}	Discussion on Part I (Tamil) offered by language department for 2023-2024 batch.
1	Discussion on Part II (English) offered by department of English for 2023-2024 batch
0	Discussion on <b>Part IV</b> (AECC) Environmental Studies by department of BCA and B.Sc. Computer Science for 2023-2024 batch
	Discussion on credits for Part V Extension Activity for 2023-2024.
	Other academic activities of the department (Seminars, workshops)
	Discussion on Indian Knowledge System Syllabus
	Discussion on Disaster Management syllabus
	Any other matters

HOU Department of Computer Science School of Arts and Science Ponnalyah Ramajayam Institute of Science and Technology (PRIST) Thanjayur - 613 403.

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School of Arts & Science Ponnalyah Remulayam Institute of Science & Technology (PRIST) Deemad to be University Vallam, Thenjavur - 613 (-)



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## BOS COMPUTER SCIENCE

## MINUTES OF THE BOARD OF STUDIES MEETING

#### **Board: Computer Science**

The 13<sup>th</sup> Board of Studies Meeting of the Department of Computer Science, School of Arts and Science. Ponnaiyah Ramajayam Institute of Science and Technology was conducted as per the guidelines of the University Grants Commission on 28.6.2023 at 3.00 pm through offline mode. The following Members were present in the meeting.

**Dr.K.T.SenthilKumar**, Chairman of the Board of Studies Meeting welcomed the Members and in his introducing speech, he explained the details of Agenda and the academic matters to be discussed. The agenda of the meeting was taken up for discussion. The following points were discussed during the meeting. The resolutions made in the Meeting are given below.

The committee appreciated the formulation of syllabus for Computer Science., programme to meet out the criteria of the Education Empowerment and Social Relevance. In Addition, the Committee suggested the following corrections/modifications/ Suggestions in the Programme syllabus

- Programme outcomes (PO) and Programme Specific Outcomes (PSO) to be restructured.
- Course Outcomes (CO) to be restructured for all the Courses.
- Recent reference books to be included in each course.

HOD Department of Computer Science School of Arts and Science Ponnaiyah Ramajayam Institute of Science and Tachnology (PRIST) Thanjayur - 013 403.



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## BOS COMPUTER SCIENCE

		NDA	
1	Agendum 1: To confirm the minutes of BOS meeting he		
	<b>Discussion:</b> The minutes of the Board of Studies meeting members. The comments received have been incorporate the Academic council.		
h	Resolution: The Board resolved to accept the same.		
1	gendum 2: Action taken on the previous Meeting Minu	ites.	
	SCIENCE & Declared as DEC U/s 3 of UGC Ac	H RAMAJAYAM TECHNOLOGY (1 Med. to-be-universi (1, 1956 s and Science omputer Science	INSTITUTE OF PRIST)
S.N		Stakeholder	Action (Yes/No)
1	More number of industrial visits can be arranged	Alumni	yes
i.	Syllabus content need to be reduced. The content is vast for some of the courses.	Students	Yes
	Satisfied with the content of current syllabus. Object Oriented Programming, Programming in	Employer	yes

HOD epartment of Computer Science School of Arts and Science innaiyah Ramajayam Institute of cience and Technology (PRIST) Thanjovur - 613 403.

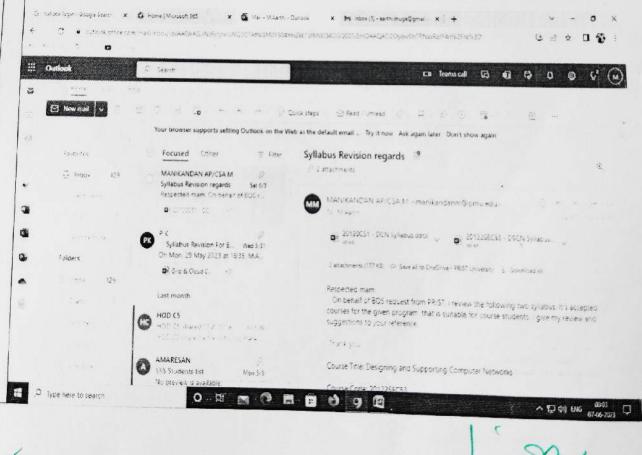
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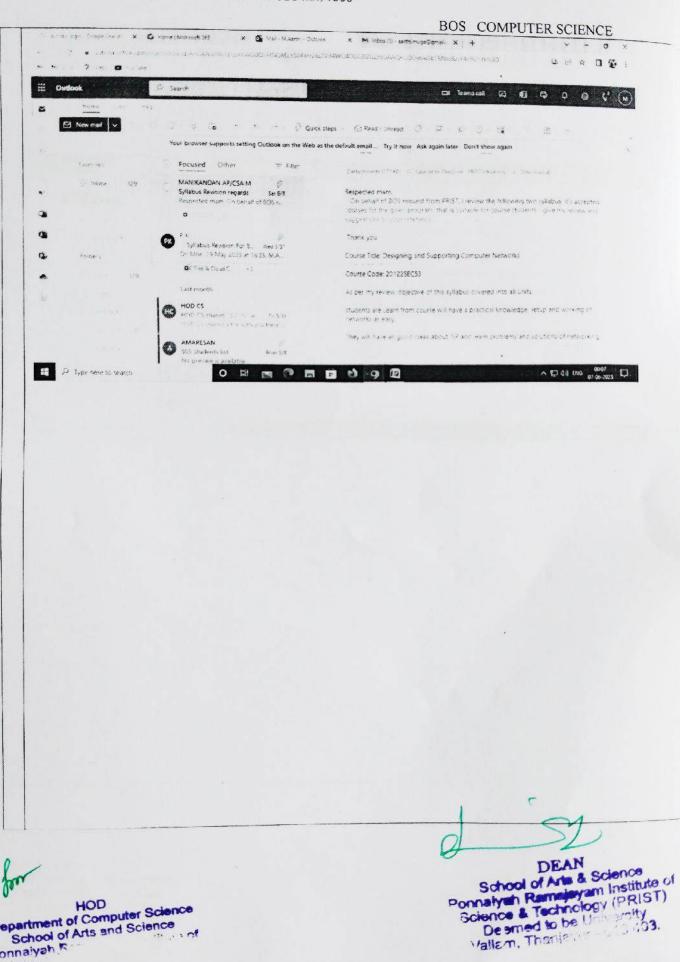
# BOS COMPUTER SCIENCE Data Structure & Algorithm Lab using C++,R Programming practical should be included in syllabus 4 Industry based curriculum to be added in curriculum and more soft skills are required



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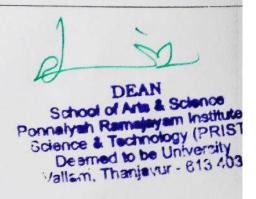


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BOS COMPUTER SCIENCE

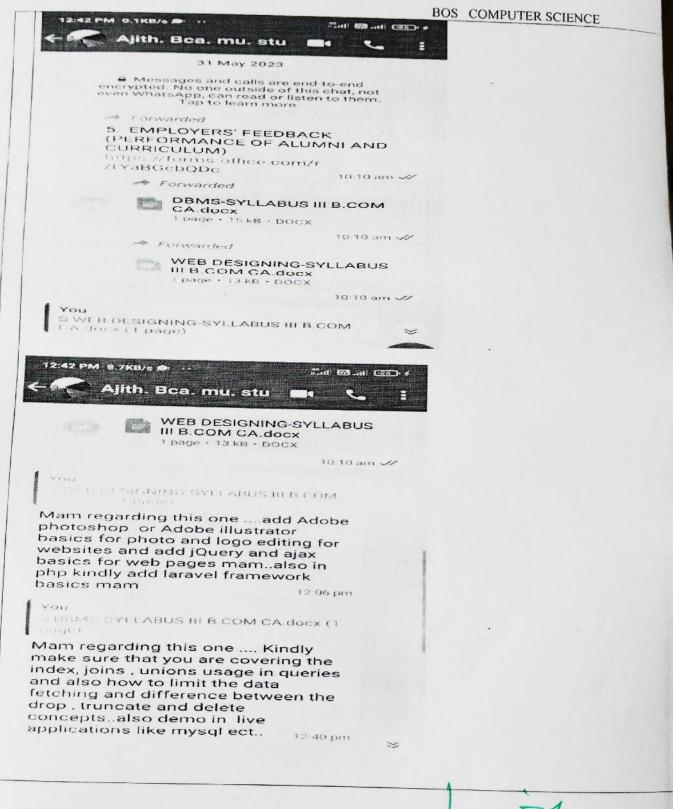
Werned       Purce trass       Charles Toles       Construction         Mark Construction       Construction       Construction       Construction         Mark Construction       Construction       Constreconstructin       Constreconstructin	<ul> <li>Try it now Ask again later. Don't show again to be communication and networking.</li> <li>20051</li> <li>20051</li> <li>2007</li> <li>2008</li> <li>200</li> <li>2008</li> <li>2008</li> <li>2009</li> <li>2009</li></ul>
Enclared	(e) Data communication and networking 20051 as yich review all works are covered and fulfill the object of course. Tel covered the lighthus topics. are learn from this course, have a clear roles about networks and communication nd proper data movement through network. "Bave an idea about network traffic problem for communication, identify the errors factor.".
Core 20120051     Core 20120051     MAN (CANDAN AP. (SAIM     Series	as 2011 review as units are covered and fulfill the object of courte, mel covered the lightbus topics, are learn from this course, have a clear idea about hetworks and communication of proper clear movement through network. Now an idea about network traffic, problem for communication, identify the errors fication. Non of thy review, this course will include TCP concept, they can undersum the
Sylables Remoningsads     Series     Sylables Remoningsads     Series       Rescarate mail:     Discorate (BOS)     Ad per my review all units are covered and fulfill the object of course.       Lam     Discorate (BOS)     Ad per my review all units are covered and fulfill the object of course.       Lam     Discorate (BOS)     Students are learn from this course, have a clear rices about networks and communit devices and proger deta movement through network.       Not failed     PK     Or area to area.       Not failed     Discorate area.     Also they have an idea about network traffic problem for communications identify to and restriction.       Not failed     Not Construct area.     A subgestion of the review. this course will include TCP concept they can underscare of each of allows communications about the networks.       Not Construct area.     PHOD CS     Mod Construct area.     By       Not Construct area.     Sylables are learn over will include TCP concept. they can underscare of each over mere.     By	Here will all units are covered and fulfill the object of courte. Itel covered the lyfiebus topics. are learn from this course, have a clear idea about networks and communication ind proper data incovement through network. Insverian idea about network traffic problem for communication identify the errors fication. If off off my review this course will include TCP concept they can undersvero the
As its construction appendix to the initial appendix topics.      Subdents are learn from this course, have a clear idea about networks and communication ideations      Subdents are learn from this course, have a clear idea about networks and communication ideations      Subdents are learn from this course, have a clear idea about networks      Subdents are learn from this course, have a clear idea about network traffic, problem for communication identify the and restification      Subdents are learn from this course, have a clear idea about network traffic, problem for communication identify the and restification      Subdents are learn from this course, have a clear idea about network traffic, problem for communication identify the and restification      Subdents are learn from this course, have a clear idea about network traffic, problem for communication identify the and restification      Subdents are learn from this course, have a clear idea about network traffic, problem for communication identify the and restification      Subdents are learn from this course, have a clear idea about network traffic, problem for communication identify the and restification      Subdents are learn from this course, will include TCP concept they can undersure     offer ends of valicus communication about the networks.      Subdents are learn from this course will include TCP concept they can undersure     offer ends of valicus communication about the networks.      Subdents are learn from the learn communication about the networks.	are learn from this course, have a clear idea about hetworks and communication nd proper data movement through network. Nave an idea about network staffic, problem for communication, identify the errors fication. R00 of thy review this course will include TCP concept, they can undersvers the
Sylabus Reveals for B. We Sat Sylabus Reveals for B. We Sat Subarts are start for the Sat Sylabus Reveals for B. We Sat Sylabus Rev	nd proper data incvement through network. Nave an idea about network traffic, problem for tommunication, identify the errors fication. 300 of thy review, this course will include TCP concept, they can undersverin the
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Last month         A subjection of my review this course will include TCP concept they can understand offerences of validous communication about the networks.           Hob cs         Offerences of validous communication about the networks.           Concept products and the entry of the	
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the start of the start and the	is of validus communication about the networks.
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Faculty feedback: Refer to Annexure 3 for the same.

or the same.

Resolution: The Board resolved to accept the same.

3 Agendum 3: Discussion on the development of the Computer Science New Curriculum under R 2023

Discussion: A draft curriculum for BCA, B.Sc. Computer Science was proposed with modification to committee and the following points were discussed.

- The members wanted to confirm the total number of credits accounting for 147.
- The chairman informed that it was done taking guidelines for programmes from the model curricula of bo the UGC and Tamil Nadu state Council for Higher Education (TANSCHE).

# New Course introduced: UG programme

- 23122DSC14-Numerical Methods
- 23122DSC15-Statistics
- 23122AEC23-Object Oriented Programming
- 23122AEC43- Programming in Java
- 23122AEC51- Operating System
- 23122AEC52- ASP.NET Programming
- 23122AEC61- Computer Network
- 23122AEC62- Data Analytics using R Programming
- 23122DSC24 -Graph Theory and its Applications
- 23122DSC34 -Discrete Mathematics
- 23122DSC44\_Statistical Methods and its Applications
- 23122DSC53-Information Security
- 23122DSC54-DBMS
- 23122DSC55-Disaster Management
- 23122DSC63-Human Computer Interaction

## **Practical Course**

- 23122AEC25L- C++ Programming Lab
- 23122AEC35L- Data Structure & Algorithm Lab using C++
- 23122AEC45L- Programming in Java Lab

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- 23122AEC56L- ASP NET Programming Lab
- 23122AEC64L- R Programming Lab

#### **Skill Enhancement Course**

- 23122SEC17-Fundamentals of Information Technology
- 23122SEC18-Foundation Course (FC)-Structured Programming Language in C
- 23122SEC26-Quantitative Aptitude
- 23122SEC27-Advanced Excel
- 23122SEC36-Introduction to HTML
- 23122SEC37-Financial Accounting
- 23122SEC47-Enterprise Resource Planning
- 23122SEC48-Multimedia Systems Audit Course
- 231ACSIKWS-Indian Knowledge System
- 231LSCUV-Universal Human Values

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BOS COMPUTER SCIENCE

## SCHOOL OF ARTS AND SCIENCE DEPARTMENT OF COMPUTER SCIENCE BCA (BACHLOR OF COMPUTER APPLICATION) REGULATION 2023 – 2024 COURSE STRUCTURE

## SEMESTER-I

Course Code	Course Title - BCA	L	T	P	(
	THEORY	- <b>I</b>			
23110AEC11/	Tamil – I/Advanced English-I/Hindi-I/ French - I	3	1	0	
23111AEC11/					
23132AEC11/					
23135AEC11					
23111AEC12	English-I	3	1	0	
23122AEC13	Python Programming	4	1	0	
23122GEC14	Numerical Methods	3	1	0	
23122GEC15	Statistics	3	1	0	
	PRACTICAL		<u> </u>	1	1
23122SEC16L	Python Programming Lab	0	0	3	3
	SKILL ENHANCEMENT COURSE		1		1
23122SEC17	Fundamentals of Information Technology	2	0	0	2
23122SEC18	Foundation Course FC-Structured Programming Language in C	2	0	0	2
ABI	LITY ENHANCEMENT COMPULSORY COURSE(A	ECC	1)		1
31AECCINC	Indian Constitution	2	0	0	2
	AUDIT COURSE		1		1
231LSCUV	Universal Human Values	-	-	-	1
	Total	22	5	3	25

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# BOS COMPUTER SCIENCE

## SEMESTER - II

Course Code	Course Title - BCA	L	T	P	To
	THEORY		1	1	
23110AEC21/	Tamil – II/Advanced English-II/Hindi-II/ French - II	3	1	0	T
23111AEC21/			1		3
23132AEC21/					
23135AEC21					
23111AEC22	English-II	3	$\frac{1}{1}$	0	3
23122AEC23	Object oriented programming concepts using C++	4	+		
23122GEC24		4		0	3
	Operations Research	4	1	.0	3
23122GEC25	Discrete Mathematics	2	1	0	3
	PRACTICAL	L	<u> </u>	1	1
23122SEC26L	C++ Programming Lab	0	0	3	3
	SKILL ENHANCEMENT COURSE	1	1	I	1
23122SEC27	Quantitative Aptitude	2	0	0	2
23122SEC28	Advanced Excel	2	0	0	2
ADI	ITV ENHANCES (DATE OF THE	1.000		0	2
Contract of the Contract of th	LITY ENHANCEMENT COMPULSORY COURSE(A	ECC	1)		
231AECCCMS	Communication Skills	2	0	0	2
	AUDIT COURSE	L	I	1	1
231SSCBE	Basic Behavioural Etiquette	-	-	-	1
	Total	22	5	3	25

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# BOS COMPUTER SCIENCE

#### SEMESTER - III

Course Code	Course Title - BCA	L	T	P	C
	THEORY				
23110AEC31/	Tamil – III/Advanced English-III/Hindi-III/ French -	3	1	0	3
23111AEC31/	III				5
23132AEC31/					
23135AEC31					
23111AEC32	English-III	3	1	0	3
23122AEC33	Data Structure & Algorithm	5	1	0	4
23122DSC34_	Discipline Specific Elective-I	5	1	0	3
	PRACTICAL			L	1
23122SEC35L	Data Structure & Algorithm Lab using C++	0	0	3	3
	SKILL ENHANCEMENT COURSE		L	I	L
23122SEC36	Introduction to HTML	3	0	0	12
23122SEC37	Financial Accounting I	2	0	0	2
ABI	LITY ENHANCEMENT COMPULSORY COURSE(A	ECC	1)		1
23122RMC38	Research Methodology	2	0	0	
	AUDIT COURSE		1		1
231ACLSOAN	Office Automation	-	1-	-	1
			-		
	Total	23	4	3	23

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#### SEMESTER - IV

Course Code	Course Title - BCA	L	T	P	C
	THEORY				
23110AEC41/	Tami – IV/Advanced English-IV/Hindi-IV/ French –	3	0	0	3
23111AEC41/	IV .				
23132AEC41/					
23135AEC41					
23111AEC42	English-IV	3	0	0	3
23122AEC43	Programming in Java	5	1	0	3
23122DSC44_	Discipline Specific Elective-II	5	1	0	3
PRACTICAL			L	L	1
23122SEC45L	Programming in Java Lab	0	0	3	
	SKILL ENHANCEMENT COURSE		1	1	
23122SEC46	ERP	3	0	0	
3122SEC47	Multimedia Systems	2	0		
ABI	LITY ENHANCEMENT COMPULSORY COURSE(A		1 20		
3122BRC48	Participation in Bounded Research	2	$\overline{)}$		
IAECCEVS	Environmental Studies		+	1	1
	AUDIT COURSE	2	1		-
11.00.01.0					
ILCSCLS	Leadership and Management Skills	-	-	-	T
	Total	25	2	3	3

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### SEMESTER - V

Course Code	Course Title - BCA	L	T	P	С
	THEORY				
23122AEC51	Operating System	5	1	0	4
23122AEC52	ASP.NET Programming	5	1	0	3
23122DSC53	Discipline Specific Elective-III	5	0	0	4
23122DSC54_	Discipline Specific Elective-IV	4	0	0	4
23122DSC55_	Discipline Specific Elective-V	4	0	0	4
	PRACTICAL		1	1	1
23122SEC56L	ASP.NET Programming, Lab	0	0	3	1:
			1		
231ACLSPSL	Professional Skills	-	-	-	
22122000007	Internship / Industrial Training		1	-	+
23122SEC57		1			
	AUDIT COURSE	1			1
23122SEC57 231AECCVED	AUDIT COURSE .	2	-		

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## BOS COMPUTER SCIENCE

#### SEMESTER - VI

Course Code	Course Title - BCA	L	T	P	C
	THEORY				
23122AEC61	Computer Network	5	1	0	4
23122AEC62	Data Analytics using R Programming	5	0	0	4
23122DSC63_	Discipline Specific Elective-VI	5	0	0	3
	PRACTICAL		1	1	
23122AEC64L	R Programming Lab	0	0	3	3
		_ L	1		
23122PRW65	8	0	0	4	
23122SEC66	Professional Competency Skill	2	0	0	2
	General awareness for competitive examination				
23122EXACT	Extension Activity	-	-	-	1
	AUDIT COURSE	1	1		
231ACSIKWS	IKS[Indian Knowledge System]	1-	-	-	2
	Tota	1 25	2	3	23
	Total Credits-Programme				
					14
	Total Credits-Audit Courses				07
	Total Credits				14

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BOS COMPUTER SCIENCE

	pecific Electives Discipline Specific Elective Courses-I
Semester	a)23122DSC34A-Grid Computing
111	
	b)23122DSC34B- Big Data Analytics
	c)23122DSC34C-Natural Language Processing
	Discipline Specific Elective Courses-II
IV	a)23122DSC44A-Image Processing
1	b)23122DSC44B- Analytics for Service Industry
	c)23122DSC44C-Computational Intelligence
	Discipline Specific Elective Courses-III
1	a)23122DSC53A-Information Security
	b)23122DSC53B- Artificial Neural Network
	e)23122DSC53C- Mobile Adhoc Network
	Discipline Specific Elective Courses-IV
	a)23122DSC54A-Database Management System
	b)23122DSC54B- Agile Project Management
	c)23122DSC54C- Cloud Computing
	Discipline Specific Elective Courses-V
	23122DSC55A-Disaster Management
	Discipline Specific Elective Courses-VI
	a)23122DSC63A-Human Computer Interaction
	b)23122DSC63B- Data Science
	c)23122DSC63C- IOT and its Applications

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BOS COMPUTER SCIENCE

## **Credit Distribution for UG Programme**

## Consolidated Semester wise Credit distribution

Category	Sem I	Sem II	Sem III	Sem IV	Sem V	Sem VI	Total Credits
AEC/Tamil	3	3	3	3	-	-	12
AEC/English	3	3	3	3	-	-	12
AEC/Core	6	6	7	6	10	15	50
GEC/SEC(skill)	10	10	7	7	14	6	54
AECC	3	3	3	5	3	2	19
Total	25	25	23	24	27	23	147

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BOS COMPUTER SCIENCE

### B.SC COMPUTER SCIENCE REGULATION 2023 – 2024 COURSE STRUCTURE

#### New Course introduced: UG programme

- 23120AEC23-Datastructure and Algorithms
- 23120AEC33-Microprocessor and Microcontroller
- 23120AEC43- Java Programming
- 23120AEC51- Computer Network
- 23120AEC52- Database Management System
- 23120AEC61- Software Metrics
- 23120AEC62- Data Analytics using R
- 23120DSC14-Numerical Methods
- 23120DSC15-Statistics
- 23120DSC24 -Graph Theory and its Applications
- 23120DSC34 -Discrete Mathematics
- 23120DSC44-Statistical Methods and its Applications
- 23120DSC53-Internet of Things
- 23120DSC54-Software Project Management
- 23120DSC55-Introduction to Data Science
- 23120DSC56-Disaster Management
- 23120DSC63-Robotics & its Applications

### **Practical Course**

- 23120AEC25L- Data Structure & Algorithms Lab
- 23120AEC35L-Microprocessor and Microcontroller Lab
- 23120AEC45L- Java Programming Lab
- 23120AEC56L- ASP NET Programming Lab
- 23120AEC64L- R Programming Lab

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#### BOS COMPUTER SCIENCE

## Skill Enhancement Course

23120SEC17-Fundamentals of Information Technology

- 23120SEC18-Foundation Course (FC)-Problem Solving Techniques
- 23120SEC26-Quantitative Aptitude
- 23120SEC27-Advanced Excel
- 23120SEC36-Introduction to HTML
- 23120SEC37-Cloud Computing
- 23120SEC46-PHP Programming
- 23120SEC47-Software Testing

#### Audit Course

- 231ACSIKWS-Indian Knowledge System
- 231LSCUV-Universal Human Values

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BOS COMPUTER SCIENCE

## SCHOOL OF ARTS AND SCIENCE DEPARTMENT OF COMPUTER SCIENCE **B.Sc. COMPUTER SCIENCE REGULATION 2023 - 2024 COURSE STRUCTURE**

**SEMESTER-I** 

Course Code	Course Title - B.Sc. Computer Science			P	C
	THEORY			<u> </u>	
23110AEC11/ 23111AEC11/ 23132AEC11/ 23135AEC11	Tamil – I/Advanced English-I/Hindi-I/ French – I	3	1	0	3
23111AEC12	English-I	3	1	10	-
23120AEC13	Python Programming	4	1	0	3
23120GEC14	Numerical Methods	3	1	0	3
23120GEC15	15 Statistics		1	0	3
	PRACTICAL		1	L	1
23120SEC16L	Python Programming Lab	0	0	3	3
	SKILL ENHANCEMENT COURSE		1	1-	1-
23120SEC17	Fundamentals of Information Technology	2	0	0	2
23120SEC18	0SEC18 Problem Solving Techniques				$\frac{1}{2}$
ABI	LITY ENHANCEMENT COMPULSORY COURSE(A	ECC	1)	0	1
231AECCINC	Indian Constitution	2		0	2
	AUDIT COURSE			1	
231LSCUV	Universal Human Values	-	-	-	1
	Total	22	5	3	25

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Course Code	Course Title - B.Sc. Computer Science	L	T	n	
	THEORY	<u> </u>		P	C
23110AEC21/ 23111AEC21/ 23132AEC21/ 23135AEC21	Tamil – II/Advanced English-II/Hindi-II/ French - II	3	1	0	3
23111AEC22	English-II	3	1	0	3
23120AEC23	Data Structure & Algorithms	4	1	0	$\frac{3}{3}$
23120GEC24	Operations Research	3	1	0	3
23120GEC25	Discrete Mathematics	3	1	0	3
	PRACTICAL		1	I	1
23120SEC26L	0	0	3	3	
	SKILL ENHANCEMENT COURSE				-
23120SEC27	0SEC27 Quantitative Aptitude		0	0	2
23120SEC28	Advanced Excel		0	0	12
ABI	LITY ENHANCEMENT COMPULSORY COURSE(A	ECC	1)		1
231AECCCMS	Communication Skills	2	0	0	
	AUDIT COURSE				_
231SSCBE	Basic Behavioural Etiquette	-	-	-	1
	Total	22	5	3	25

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Course Code	Course Title - B.Sc. Computer Science	L	T	P	C
	THEORY			-	C
23110AEC31/ 23111AEC31/ 23132AEC31/	Tamil – III/Advanced English-III/Hindi-III/ French - III	3	1	0	3
23132AEC31/ 23135AEC31					
23111AEC32	English-III	3	1	0	3
23120AEC33	Microprocessor and Microcontroller	5	1	0	4
23120DSC34_	DSC34_ Discipline Specific Elective-I				
	PRACTICAL	L	1		L
23120SEC35L	Microprocessor and Microcontroller lab	0	0	3	3
	SKILL ENHANCEMENT COURSE				<u> </u>
23120SEC36	Introduction to HTML	3	0	0	12
23120SEC37	Cloud Computing	2	0	0	12
ABI	LITY ENHANCEMENT COMPULSORY COURSE(A	ECC	1)	-	
23120RMC38	Research Methodology	2	0	0	12
	AUDIT COURSE		-	- <b>h</b>	1
31ACLSOAN	Office Automation	-	-	-	1
	Total	23	4	3	23

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#### BOS COMPUTER SCIENCE

	SEMESTER – IV				
Course Code	Code Course Title - B.Sc. Computer Science			P	C
	THEORY				
23110AEC41/ 23111AEC41/	Tamil – IV/Advanced English-IV/Hindi-IV/ French – IV	3	0	0	3
23132AEC41/ 23135AEC41					
23111AEC42	English-IV	3	0	0	3
23120AEC43	Java Programming	5	1	0	3
23120DSC44_	Discipline Specific Elective-II	5	1	0	3
	PRACTICAL		т <u> </u>		
23120SEC45L	Java Programming lab	0	0	3	3
	SKILL ENHANCEMENT COURSE				1
23120SEC46	PHP Programming	3	0	0	2
23120SEC47	Software Testing	2	0	0	2
ABI	LITY ENHANCEMENT COMPULSORY COURSE(A	ECC	1)		1
23120BRC48	Participation in Bounded Research	2	0	0	2
231AECCEVS	Environmental Studies	2	-	-	2
	AUDIT COURSE				
231LCSCLS	Leadership and Management Skills	.=>	-	-	1
	Total	25	2	3	24

#### $\mathbf{SEMESTER} - \mathbf{V}$

Course Code	Course Title - B.Sc. Computer Science	L	T	P	C	
	THEORY					
23120AEC51						
23120AEC52	Advanced Database Management System	5	1	0	3	
23120DSC53_	Discipline Specific Elective-III	5	0	0	4	
23120DSC54_	4	0	0	4		
23120DSC55_	3120DSC55_ Discipline Specific Elective-V					
	PRACTICAL	1		1	1	
23120SEC56L	0	0	3	3		
231ACLSPSL Professional Skills				-	1	
23120SEC58		-		2		
	AUDIT COURSE					
231AECCVED	Value Education	2	-	-	2	
	Total	25	2	3	27	

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#### BOS\_COMPUTER SCIENCE

#### SEMESTER - VI

Course Code	Course Title - B.Sc. Computer Science	L	T	P	C
	THEORY		- <b>k</b>	1-1	
23120AEC61	Software Engineering	5	1	0	4
23120AEC62	.NET Programming	5	1	0	4
23120DSC63_	Discipline Specific Elective-VI	5	0	0	3
	PRACTICAL			<u> </u>	
23120AEC64L	.NET Programming lab	0	0	3	3
				-	
23120PRW65	Project	8	0	0	4
23120SEC66	Professional Competency Skill	2	0	0	2
	General awareness for competitive examination	14			
23120EXACT	Extension Activity	-	-	-	1
	AUDIT COURSE		•	44	
231ACSIKWS	IKS[Indian Knowledge System]	-	-	-	2
	Total	25	2	3	23
	Total Credits-Programme				140
	Total Credits-Audit Courses		-		07
	Total Credits				147

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BOS COMPUTER SCIENCE

Semester	Discipline Specific Elective Courses-I
111	a) 23120DSC34A- Image Processing
	b)23120DSC34B- Big Data Analytics
	c)23120DSC34C-Natural Language Processing
	Discipline Specific Elective Courses-II
IV	a)23120DSC44A- Agile Project Management
	b)23120DSC44B- Analytics for Service Industry
	c)23120DSC44C-Computational Intelligence
	Discipline Specific Elective Courses-III
V	a)23120DSC53A- IOT and its Applications
	b)23120DSC53B- Artificial Neural Network
	c)23120DSC53C-Cryptography
	Discipline Specific Elective Courses-IV
	a)23120DSC54A-Introduction to Data science
	b)23120DSC54B- RDBMS with PL/SQL
	c)23120DSC54C- Cloud Computing
	Discipline Specific Elective Courses-V
	23120DSC55A-Disaster Management
	Discipline Specific Elective Courses-VI
1	a)23120DSC63A-Human Computer Interaction
	b)23120DSC63B- Virtual Reality
	c)23120DSC63C-Mobile Adhoc Network

for

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## **Credit Distribution for UG Programme**

Category	Sem I	Sem II	Sem III	Sem IV	Sem V	Sem VI	Total Credits
AEC/Tamil	3	3	3	3	-	-	12
AEC/English	3	3	3	3	-	-	12
AEC/Core	6	6	7	6	10	15	50
GEC/SEC(skill)	10	10	7	7	14	6	54
AECC	3	3	3	5	3	2	19
Total	25	25	23	24	27	23	147

## Consolidated Semester wise Credit distribution

- The members of the Board approved the syllabus for "New Courses Introduced in UG Computer Science" that was proposed to them. Refer to Annexure I for the same
- The LOCF document was presented to the BOS members. The BOS members confirmed that the syllabus-related matter has been incorporated into the LOCF document. Refer to the LOCF document for the same.
- The syllabus for the course "Indian Knowledge System" was presented and discussed with the BOS members, followed by their approval. Refer to Annexure II for the same.
- The syllabus for the course "Disaster Management" was presented and discussed with the BOS members, followed by their approval. Refer to Annexure IV for the same,
- It was proposed that advanced learners should actively participate in peer teaching and be motivated to participate in more than one online course. Activities like the departmental newsletter, student-organised seminars, and journal club discussion forum should be coordinated by them. It was also recommended to conduct a departmental-level finishing school programme for the graduating batch of students. Board members also opined to encourage students to join individual summer internship programmes in order to strengthen their skills and expertise in the field of Computer Science.
- It was resolved to make changes in Allied Physics for BSc Computer Science in the I semester and II semester syllabuses. Refer to Annexure II for the same.

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Nor HOD Department of Computer Science School of Arts and Science Ponnalyah Ramajayam Institute of Science and Technology (PRIST) Thanjavur - 613 403. Resolution: The Board resolved to accept the same. New syllabus for Computer Science approved. It will be effective from Academic year 2023-2024.

Agendum 4: Discussion on the development of the PG Computer Science New Curriculum under R 2023.

A draft curriculum for MCA and M.Sc. Computer Science was proposed with modification to committee and the following points were discussed.

- □ The members wanted to confirm the total number of credits accounting for 91.
- The chairman informed that it was done according to the Tamil Nadu state Council for Higher Education (TANSCHE) requirements and will put forth this to the Academic Council.

## New Course introduced: PG programme

## **II-MCA** [Computer Application]

## Core Paper

- 23222AEC11-Discrete Mathematics
- 23222AEC12-Linux and Shell Programming
- 23222AEC13-Python Programming
- 23222AEC21-Data Structure and Algorithms
- 23222AEC22-Big Data Analytics
- 23222DSC23- Internet of Things
- 23222DSC24-Cyber Security
- 23222AEC31-Advanced Java Programming
- 23222AEC32-Web Technology
- 23222AEC33-Advanced Machine Learning (AML)
- 23222AEC41-Data Visualization
- 23222AEC42-Mobile Computing
- 23222DSC43-Social Networks
- 23222DSC27-NME Fundamental of Human Rights
- 23222DSC37-Internship Industrial Activity
   <u>Practical Course</u>
- 23222DSC14L-Linux and Shell Programming Lab
- 23222DSC15L-Python Programming Lab
- 23222AEC25L-Data Structures and Algorithms Lab
- 23222AEC26L-Big Data Analytics Lab
- 23222AEC34L-Advanced Java Programming Lab
- 23222AEC35L-Web Technology Lab
- 23222DSC36L-Integrated Technology (AML) Lab
   <u>Skill Enhancement Course</u>

23222DSC45- Skill Enhancement Professional Competency Skill

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## SCHOOL OF ARTS AND SCIENCE DEPARTMENT OF COMPUTER SCIENCE MCA (MASTER OF COMPUTER APPLICATION) REGULATION 2023 – 2024 COURSE STRUCTURE SEMESTER-I

Course Code	Course Title – MCA	L	T	P		C	
	THEORY	•					
23222AEC11	Discrete Mathematics	5	1	0		4	
3222AEC12	Linux and shell programming	4	1	0		3	
3222AEC13	Python Programming	4	1	0	+	3	
	PRACTICAL		1	1			
3222SEC14L	Linux and shell programming Lab	0	0	3	T	3	
3222SEC15L	Python Programming Lab	0	0	3	-	3	
3222SEC16	Data Science	2	-			2	
3222RMC17	Research Methodology	2	-		-	2	
	Total	17	3		6	20	
C	SEMESTER – II				·	lesson d	
Course Code	Course Title – MCA		1	-	Т	Р	(
22222 1 2 2 2 2	THEORY						
23222AEC21	Data Structures and Algorithms			4	1	0	
23222AEC22	Big Data Analytics			4	1	0	
23222DSC23	Internet of Things			5	0	0	
23222DSC24	Cyber Security			5	0	0	4
	PRACTICAL					1	1
232228EC25L	Data Structures and Algorithms Lab			0	0	3	
23222SEC26L	Big Data Analytics Lab			0	0	3	
23222SEC27	NME Fundamentals of Human Rights			2			Ic
3222BRC28	Participation in Bounded Research			2	0	0	2
3222SEC29	Internship Industrial Activity			2	0	0	2

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#### BOS COMPUTER SCIENCE

#### SEMESTER - III

Course Code	Course Title – MCA	L	T	P	C
	THEORY				
23222AEC31	Advanced Java Programming	5	2	0	5
23222AEC32 Web Technology		5	2	0	5
23222AEC33 Advanced Machine Learning (AML)		5	2	0	4
	PRACTICAL				
23222SEC34L	Advanced Java Programming lab	0	0	3	3
23222SEC35L Web Technology Lab		0	0	3	3
23222SEC36L	NME Lab- Integrated Technology (AML) Lab	0	0	3	3
23222SEC37	Industrial visit	0	0	0	2
	Total	15	6	9	25

### SEMESTER - IV

Course Code	Course Title – MCA	L	T	P	C
	THEORY			•	
23222AEC41	3222AEC41 Data Visualization Tools		1	0	4
23222AEC42	23222AEC42 Mobile Computing		1	0	4
23222DSC43	3222DSC43 Social Networks		1	0	4
23222PRW44	Project with Viva voce	0	0	10	4
23222PRW44 23222SEC45	Project with Viva voce Skill Enhancement Professional Competency Skill	0	0	10	4
		1	<u> </u>	1	1
23222SEC45	Skill Enhancement Professional Competency Skill	1	<u> </u>	1	2

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BOS COMPUTER SCIENCE

Semester	Discipline Specific Elective Courses-I
П	a) 23222DSC23A- Internet of Things
	b) 23222DSC23B-Internet of Things Lab
	c) 23222DSC23C- Computer Vision
	Discipline Specific Elective Courses-II
11	a) 23222DSC24A- Cyber Security
	b) 23222DSC24B- Cyber Security Lab
	c) 23222DSC24C- Block chain Technologies
	Discipline Specific Elective Courses-III
IV	a) 23222DSC43A- Social Networks
	b) 23222DSC43B- Social Networks Lab
	c) 23222DSC43C- High Performance Computing

for

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## BOS COMPUTER SCIENCE

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## Credit Distribution for PG Programme Consolidated Semester wise Credit distribution MCA (MASTER OF COMPUTER APPLICATION)

Category	Sem I	Sem II	Sem III	Sem IV	Total Credits
Core	21	15	19	14	66
Elective	-	6	-	4	. 13
skill	2	2	4	4	12
Total	23	23	23	22	91

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	SCHOOL OF ARTS AND SCIENCE DEPARTMENT OF COMPUTER SCIENCE M.Sc. COMPUTER SCIENCE REGULATION 2023 – 2024 COURSE STRUCTURE SEMESTER – I			
Course Code	Course Title – M.Sc.[CS]	L	T	I
	THEORY & LAB	1	L	L
23220AEC11	Analysis & Design of Algorithms	4	2	-
23220AEC12		4	2	-
23220AEC13	Python Programming	5	2	-
23220DSC14	Critical Thinking, Design Thinking and Problem Solving	5	$\frac{2}{1}$	-
23220SEC15I		0	0	
23220RMC16	Research Methodology	2	0	-
		12	-	-
	Total SEMESTER – II	20	7	
Course Code	Total <u>SEMESTER – II</u> Course Title – M.Sc.[CS]	20 L	7 T	
Course Code	SEMESTER – II			
Course Code 23220AEC21	SEMESTER – II Course Title – M.Sc.[CS] THEORY & LAB			
	SEMESTER – II Course Title – M.Sc.[CS] THEORY & LAB Data Mining and Warehousing	L 5		
23220AEC21	SEMESTER – II Course Title – M.Sc.[CS] THEORY & LAB	L 5 5		
23220AEC21 23220AEC22	SEMESTER – II Course Title – M.Sc.[CS] THEORY & LAB Data Mining and Warehousing Advanced Operating Systems Advanced Java Programming	L 5 5 4		
23220AEC21 23220AEC22 23220AEC22	SEMESTER – II Course Title – M.Sc.[CS] THEORY & LAB Data Mining and Warehousing Advanced Operating Systems	L 5 5 4 4	<b>T</b> 1 1 1 1	
23220AEC21 23220AEC22 23220AEC23 23220DSC24	SEMESTER – II Course Title – M.Sc.[CS] THEORY & LAB Data Mining and Warehousing Advanced Operating Systems Advanced Java Programming Artificial Intelligence & Machine Learning	L 5 5 4 4 0	<b>T</b> 1 1 1 1 0	
23220AEC21 23220AEC22 23220AEC23 23220DSC24 23220SEC25L	SEMESTER – II Course Title – M.Sc.[CS] THEORY & LAB Data Mining and Warehousing Advanced Operating Systems Advanced Java Programming Artificial Intelligence & Machine Learning Advanced Java Programming Lab	L 5 5 4 4 0 0	T 1 1 1 1 0 0	
23220AEC21 23220AEC22 23220AEC23 23220DSC24 23220SEC25L 23220SEC26L	SEMESTER – II Course Title – M.Sc.[CS] THEORY & LAB Data Mining and Warehousing Advanced Operating Systems Advanced Java Programming Artificial Intelligence & Machine Learning Advanced Java Programming Lab Data Mining Lab using R	L 5 5 4 4 0	<b>T</b> 1 1 1 1 0	
23220AEC21 23220AEC22	SEMESTER – II Course Title – M.Sc.[CS] THEORY & LAB Data Mining and Warehousing Advanced Operating Systems	L 5 5		
23220AEC21 23220AEC22 23220AEC23 23220DSC24 23220SEC25L 23220SEC26L	SEMESTER – II Course Title – M.Sc.[CS] THEORY & LAB Data Mining and Warehousing Advanced Operating Systems Advanced Java Programming Artificial Intelligence & Machine Learning Advanced Java Programming Lab Data Mining Lab using R	L 5 5 4 4 0 0	T 1 1 1 1 0 0	

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## BOS COMPUTER SCIENCE

Course Code	Course Title – M.Sc.[CS]	L	T	P	C
	THEORY & LAB			L	
23220AEC31	Digital Image Processing	5	1	-	5
23220AEC32 Cloud Computing		5	1	-	-
23220AEC33 Network Security and Cryptography		5	1	-	4
23220AEC34	Data Science & Analytics	5	1	-	4
23220SEC35L	Digital Image Processing Lab using MATLAB	0	0	3	
23220SEC36L	NME: Cloud Computing Lab	0	0	3	+
23220SEC37	Industrial visit	-	-	-	
	Total	20	4	6	2

G	SEMESTER – IV				
Course Code	Course Title – M.Sc.[CS]	L	T	P	C
	THEORY & LAB		1	1	
23220SEC41L	Python Programming Lab	0	1	3	3
23220AEC42	Web Application development & hosting Practical	6	2	0	5
23220PRW43	Project with Viva voce	0	2	10	4
23220SEC44	Skill Enhancement Professional Competency Skill	2	2	0	2
23220SEC45	Internship	-	-	2	2
	Total	8	7	15	16
	Total Credits for the Programme		-		91

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	Name of the course/programme	Course/programme Code	OS COMPUTER SCIENCE			
	Diploma course on AI and ML using pytorch	23DIP01	Year of offering 2023			
	Certificate course on Block Chain technology	23CC01	2023			
	Resolution: The committee recomm	ended and approved the courses	<u>\</u>			
7	Agendum 7: Discussion on Activitie	es for the advanced learners				
	<b>Discussion:</b> Advanced learners shou be sent to higher level institutions for	id write competitive exams. They sho itinue their higher studies there.				
	Resolution: The Board resolved to a	ccept the same.				
8	Agendum 8: Discussion on Part I (		irtment for 2023-2024 hatch			
	Discussion: 23110AEC11/ 23110AE unified syllabi approved by the Board	EC21/23110AEC31/23110AEC4	1. Part I: Tamil (Now Course) The			
	Resolution: The Board unanimously approved the syllabi					
9	Agendum 9: Discussion on Part II (English) offered by department of English for 2023-2024 batch					
	Discussion: 23111AEC11/23111AE unified syllabi approved by the Board	C21/23111AEC31/23111AEC4	1. Dort II: English (Non Course) T			
	Resolution: The Board unanimous	ly approved the syllabus				
10	Agendum 10: Discussion on Part IV for 2023-2024 batch	(AECC) Environmental Studies	s by department of Computer Science			
10	Agendum 10: Discussion on Part IV for 2023-2024 batch Discussion:23   AECCEVS: Environ		s by department of Computer Science			
10	Discussion:231AECCEVS: Environ	mental Studies-I				
10	Discussion:231AECCEVS: Environ The unified syllabi approved by the E	mental Studies-I Board of Studies in Computer Sci				
10	Discussion:231AECCEVS: Environ The unified syllabi approved by the E Resolution: The Board unanimously	mental Studies-I Board of Studies in Computer Sci approved the syllabus.	ience were placed for endorsement.			
	Discussion:231AECCEVS: Environ The unified syllabi approved by the E Resolution: The Board unanimously Agendum 11: Discussion on credits f	mental Studies-I Board of Studies in Computer Sci approved the syllabus. for Part V Extension Activity fo	ience were placed for endorsement. or 2023-2024.			
	Discussion: 23   AECCEVS: Environ The unified syllabi approved by the E Resolution: The Board unanimously Agendum 11: Discussion on credits to Discussion: One credit to be awarded	mental Studies-I Board of Studies in Computer Sci approved the syllabus. for Part V Extension Activity fo	ience were placed for endorsement. or 2023-2024.			
	Discussion:231AECCEVS: Environ The unified syllabi approved by the E Resolution: The Board unanimously Agendum 11: Discussion on credits t Discussion: One credit to be awarded YRC/NCC/NSS/RRC/YOGA/SPORT	mental Studies-I Board of Studies in Computer Sci approved the syllabus. for Part V Extension Activity fo for participation in Extension ar FS/Clubs.	ience were placed for endorsement. or 2023-2024. ctivity like			
	Discussion: 231 AECCEVS: Environ The unified syllabi approved by the E Resolution: The Board unanimously Agendum 11: Discussion on credits to Discussion: One credit to be awarded YRC/NCC/NSS/RRC/YOGA/SPORT Resolution: The Board members app	mental Studies-I Board of Studies in Computer Sci approved the syllabus. for Part V Extension Activity fo for participation in Extension a FS/Clubs. roved one credit for Extension a	ience were placed for endorsement. or 2023-2024. ctivity like			
1	Discussion:231AECCEVS: Environ The unified syllabi approved by the E Resolution: The Board unanimously Agendum 11: Discussion on credits t Discussion: One credit to be awarded YRC/NCC/NSS/RRC/YOGA/SPORT	mental Studies-I Board of Studies in Computer Sci approved the syllabus. for Part V Extension Activity fo for participation in Extension a TS/Clubs. roved one credit for Extension a ies of the department (Seminars,	ience were placed for endorsement. or 2023-2024. ctivity like activity. , workshops)			
1	Discussion: 231 AECCEVS: Environ The unified syllabi approved by the E Resolution: The Board unanimously Agendum 11: Discussion on credits f Discussion: One credit to be awarded YRC/NCC/NSS/RRC/YOGA/SPORT Resolution: The Board members app Agendum 12: Other academic activit Discussion: The online seminars, wor	amental Studies-I Board of Studies in Computer Sci approved the syllabus. for Part V Extension Activity fo for participation in Extension a TS/Clubs. roved one credit for Extension a ies of the department (Seminars, rkshops, intercollegiate competit ssed.	ience were placed for endorsement. or 2023-2024. ctivity like activity. , workshops)			

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	Resolution: The Board resolved to accept the same
4	Agendum 14:Discussion on Disaster Management
	Discussion:23122DSC55_Disaster Management The unified syllabi approved by the Board of Studies in Computer Science were placed for endorsement.
	Resolution: The Board resolved to accept the same.
5	Agendum 15: Any other matters
	<ul> <li>The board of studies in Computer Science recommends the panel of experts for examination purposes as per the guidelines of the institution.</li> <li>The board also suggested to take measures to improve the creative and innovative thinking ability of the post graduate students by assigning critical research problems in projects and practical's.</li> <li>The suggestions received from the parents, students Alumni and employer viz, practical oriented curriculum and skill enhancement internship trainings were discussed.</li> <li>The board also suggested enlisting minimal skill sets required to pass the degree programme.</li> </ul>

The members had a brainstorming discussion and interaction among themselves. Ager discussion, fruitful suggestions were incorporated appropriately in the curriculum and syllabus of R-2023.

Based on the suggestion given by the members, BOS resolved to recommend the syllabus for Computer Science under Regulation 2023 to the Academic Council for further approval.

The chairman of Board of Studies (BOS) thanked all the members for their kind cooperation and the meeting came to an end.

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Date: 28.06.2023

(Dr.K.T.Senthil Kumar)

BOS Chairman/HOD Seal Jepartment of Computer Science School of Arts and Science Porinalyah Ramajayam Institute of Science and Technology (PRIST) ALE OF Thomas yr PRISTI 103.



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## MEMBERS IN THE THIRTEENTH BOARD OF STUDIES MEETING

**Board: Computer Science** 

Date: 28.6.2023

Time: 3.00 PM

Venue: "L "Block, Ground Floor

S.No.	Name/Degree/Designation	Institute/Organization/ Full address
1.	<b>Dr.K.T.Senthil Kumar</b> HOD	Chairman           Department of Computer Science, Ponnaiyah Ramajayan           Institute of Science and Technology, Thanjavur.
2.	Dr.G.Ambika Assistant Professor	Industrial Expert Assistant Professor, Bon Secours College For Women, Thanjavur,
3.	Dr.T.Thamarai Selvan Managing Director,	Academic Expert Isysway Technologies, Thanjavur
4.	Mrs.M.Aarthi Assistant Professor	Assistant Professor, Department of Computer Science, Ponnaiyah Ramajayam Institute of Science and Technology, Thanjavur
5.	Mr.D.S.ChozhaBharathi Assistant Professor,	Assistant Professor, Department of Computer Science, Ponnaiyah Ramajayam Institute of Science and Technology, Thanjavur
6.	Mr.K.Vijayabaskar Assistant Professor,	Assistant Professor, Department of Computer Science, Ponnaiyah Ramajayam Institute of Science and Technology, Thanjavur
7.	Mrs.R.Suganya Assistant Professor	Assistant Professor, Department of Computer Science. Ponnaiyah Ramajayam Institute of Science and Technology, Thanjavur
8.	Mrs.S.Sathiyapriya Assistant Professor,	Assistant Professor, Department of Computer Science, Ponnaiyah Ramajayam Institute of Science and Technology, Thanjavur
9.	Mrs.K.Priyadharshini Assistant Professor	Assistant Professor, Department of Computer Science, Ponnaiyah Ramajayam Institute of Science and Technology, Thanjavur

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10	Ms.S.Ranjith Raja	Alumni Software Engineer, Health Asyst Pvt Ltd, Bangalore
11	Ency.D. MCA Student	Student Representatives II MCA
12	Mrs.K.Veenaimuthu Assistant Professor,	Co-opted member Part I-Language-Tamil Assistant Professor, Department of Tamil, Ponnaiyah Ramajayam Institute of Science and Technology, Thanjavur
	Mr.S.Rasakumar Assistant Professor,	Co-opted memberPart II-Language-EnglishAssistant Professor, Department of English,Ponnaiyah Ramajayam Institute of Science andTechnology, Thanjavur.
14	Mrs.K.Sathya Assistant Professor,	Co-opted member(Allied)Assistant Professor, Department of Commerce, Ponnaiyah Ramajayam Institute of Science and Technology, Thanjavur.

Date: 28.6.23

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**BOS Chairman/HOD** 

HOD Department of Computer Science School of Arts and Science Ponnaiyah Ramajayam Institute of Science and Technology (PRIST) Thanjavur - 613 403.



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#### ATTENDANCE OF THE THIRTEENTH BOARD OF STUDIES MEETING

**Board: Computer Science** 

Date: 28.6.2023

Time: 3.00 PM

### Venue: "L" Block, Ground Floor

The following members were present for the Board of Studies meeting

S.No.	Name/Degree/Designation	Institute/Organization/ Full address	Online/Physical	Signature (scan, if online)
1.	Dr.K.T.Senthil Kumar HOD	<u>Chairman</u> Department of Computer Science, Ponnaiyah Ramajayam Institute of Science and Technology, Thanjavur.	Physical	for
2.	Dr.G.Ambika Assistant Professor	Industrial Expert Assistant Professor, Bon Secours College For Women, Thanjavur,	Physical	"G. Subika T. Thanka Belve
3.	<b>Dr.T.Thamarai Selvan</b> Managing Director,	Academic Expert Isysway Technologies, Thanjavur	Physical	T. Thankaselve
4.	Mrs.M.Aarthi Assistant Professor	Assistant Professor, Department of Computer Science, Ponnaiyah Ramajayam Institute of Science and Technology, Thanjavur	Physical	M. 29.
5.	Mr.D.S.ChozhaBharathi Assistant Professor,	Assistant Professor, Department of Computer Science ,Ponnaiyah Ramajayam Institute of Science and Technology, Thanjavur	Physical	D.s. churen
6.	Mr.K.Vijayabaskar Assistant Professor,	Assistant Professor, Department of Computer Science, Ponnaiyah Ramajayam Institute of Science and Technology, Thanjavur	Physical	Hura

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7.	Mrs.R.Suganya Assistant Professor	Assistant Professor, Department of Computer Science, Ponnaiyah Ramajayam Institute of Science and Technology, Thanjayur	Physical	R. Sugarja.
8.	Mrs.S.Sathiyapriya Assistant Professor,	Assistant Professor, Department of Computer Science, Ponnaiyah Ramajayam Institute of Science and Technology, Thanjavur	Physical	B.
9.	Mrs.K.Priyadharshini Assistant Professor	Assistant Professor, Department of Computer Science, Ponnaiyah Ramajayam Institute of Science and Technology, Thanjavur	Physical	K. Fringde
10.	Ms.S.Ranjith Raja	Alumni Software Engineer, Health Asyst Pvt Ltd, Bangalore	Physical	Port-3
. 11.	Ency.D. MCA Student	Student Representatives II MCA	Physical	Eng.
12.	Mrs.K.Veenaimuthu Assistant Professor,	Co-opted member Part I-Language-Tamil Assistant Professor, Department of Tamil, Ponnaiyah Ramajayam Institute of Science and Technology, Thanjavur	Physical	25-257
13.	Mr.S.Rasakumar Assistant Professor,	Co-opted memberPart II-Language-EnglishAssistant Professor,Department of English,Ponnaiyah RamajayamInstitute of Science andTechnology, Thanjavur.	Physical	PSt
14.	Mrs.K.Sathya Assistant Professor,	Co-opted member(Allied)Assistant Professor,Department of Commerce,Ponnaiyah RamajayamInstitute of Science andTechnology, Thanjavur.	Physical	K. Saithy -

Date: 28.6.23

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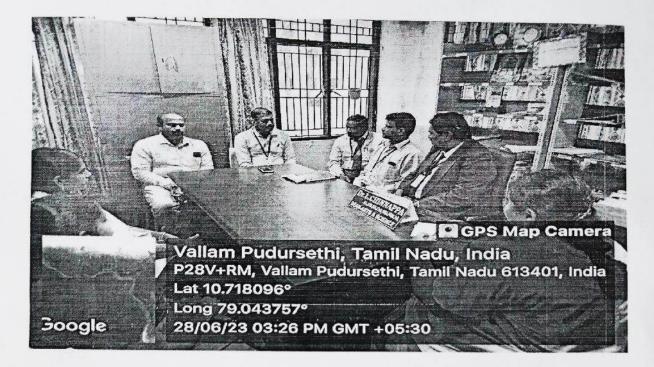
**BOS Chairman/HOD** 

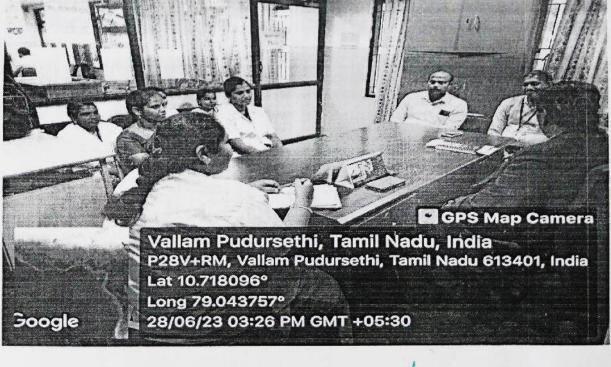
HOD Department of Computer Science School of Arts and Science 'onnalyah Ramajayam Institute of Science and Technology (PRIST) Thanjayur - 613 403,



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BOS COMPUTER SCIENCE





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## SCHOOL OF ARTS AND SCIENCE

## DEPARTMENT OF ENGLISH

## MINUTES OF THE MEETING OF THE BOARD OF STUDIES (BOS)\*

**Board: Department of English** 

The Meeting of Board of Studies (BOS) was held as given below:

Name of the Body	Board of Studies
Department	Énglish
Meeting no	16
Date and Time	16.6.23
Venue	A block
Members Attended	The details are given in the ANNEXURE-I

	AGENDA
1	Action taken on the previous Meeting Minutes.
2	Discussion made on Advanced English syllabus change
3	Discussion on the change of English –I Syllabus according to the guidance of TANSCHE 2023
4	Discussion on the development of the BA English New Curriculum under 2023
5	Discussion on the development of the MA English New Curriculum under 2023
6	Discussion on Value added courses
7	Any other matter discussions / suggestions / modifications given by Panel of examiner (Ug/Pg)

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## MINUTES OF THE BOARD OF STUDIES MEETING

#### **Board: ENGLISH**

The Chairperson of BOS welcomed all the panel members for the meeting. The items listed in the agenda were taken for discussion.

The 16<sup>th</sup> Board of Studies Meeting of the Department of English, School of Arts and Science, Ponnaiyah Ramajayam Institute of Science and Technology was conducted as per the guidelines of the University Grants Commission on 16.6.2023 at 11.00 am. The following members were attending the meeting.

Dr.L. Chinappa, Chairperson of the Board of Studies Meeting welcomed the Members in his introducing speech, he explained the details of the Agenda and the academic matters to be discussed. The agenda of the meeting was taken up for discussion. The following points were discussed during the meeting. The resolutions made in the Meeting are given below.

The committee appreciated the formulation of syllabus for B.A. & M.A. English programme to meet out the criteria of the Education Empowerment and Social Relevance. In Addition, the Committee suggested the following corrections/modifications/ Suggestions in the Programme syllabus

- Programme outcomes (PO) and Programme Specific Outcomes (PSO) to be restructured.
- > Course Outcomes (CO) to be restructured for all the Courses.
- > Recent reference books to be included in each course.

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HOD Department of English Ponnalyah Ramajayam Institute of Science & Technology (PRIST) Deemed to be University Vallam, Thanjavur - 613 402 The following are the minutes of the meeting:

Agendum 1: To confirm the minutes of BOS meeting held on 06.06.2022

Discussion: The minutes of the Board of Studies meeting held on 06.06.2022 were presented to the members. The suggestions received have been incorporated and placed for confirmation. The same was approved by the Academic council.

Resolution: The Board resolved to accept the same.

Agendum 2: Action taken on the previous Meeting Minutes.

Discussion: Action taken report of the decisions made in the previous BOS and approved by the academic council. Action taken report was presented in the BOS.

S N.O	FEEDBACK		STAKE HOLDER	ACTION TAKEN (YES/NO)
1	More Commuicat Needed	tion Related Classes	Alumini	Yes
2	Syllabus Content Need To Be Reduced. There Were Lot Of Works In Few Units; So For Cant Go Through All Works.		Students ,	Yes
3	<ul> <li>* satisfied with Current Syllabus Yet we wish to add few more communicative papers relevent to Office &amp; Technical English.</li> <li>*Soft Skills Related Papers Required</li> </ul>		Employers	Yes
4.	Language Tours	Are Needed	Alumini	Noted
iscus				change Curriculum under 2023 was
3111/	AEC11	Advanced English-I	а. С	
31117	AEC21	Advanced English-II		1.
om.	) apartment of English ah Ramajayam Ir:	1		Dean School of Arts & Science Innalyah Ramajayam Institute Cience & Technology ( PDI)

23111AEC31	Advanced English-III
23111AEC41	Advanced English-IV
Resolution: The boar	d resolved to approve the finalized curriculum and contents
Agendum 4: Discuss	ion held on semester wise syllabus of General English
1	
Discussion: The foll	owing courses were submitted to the board members:
23111AEC11	owing courses were submitted to the board members; Paper I – English- I
23111AEC11 23111AEC22	
23111AEC11	Paper I – English- I

Resolution: The board members recommended including technical English exercises as supplementary materials for all units. The courses and the contents in every unit were discussed. After thorough, the experts suggested no amends in new syllabus which is recommended by Tamilnadu Academic Council.

The board resolved to approve the finalized curriculum and contents.

Agendum 5: Discussion made on the BA English Literature syllabus & its improvement

Discussion: A current curriculum for BA English was proposed with modifications to the committee and following points were discussed.

- The members wanted to confirm the total number of credits accounting for 147.
- The chairperson informed that it was done according to the Tamil Nadu state Council for Higher Education (TANSCHE) requirements and will propose this to the Academic Council.

The following courses were submitted to the board members.

	SEMESTER I
23111CC13	Introduction To English Literature
23111CC14	Indian Writing In English
23111GEC15	Social History Of England
23111GEC16	Myth and Literature
23111SEC17	Green literature
231AECCINC	Indian Constitution

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	SEMESTER II
23111AEC23	British Literature-I
23111AEC24	American Literature-I
23111GEC25	History Of English Literature
23111 GEC26	Flim And Literature
23111SEC27	Philosophy for Literature
23111SEC28	Spoken and Presentation skills
231AECCMS	Communication Skills
Constanting of	SEMESTER III
23111AEC33	British Literature-II
23111AEC34	
23111GEC35	Biographies, Auto-Biographies & Amp; Memoirs
23111GEC36	Literary genres and terms
2511102050	ELT and computer Assisted Language Learning
Let the Court	SEMESTER IV
23111AEC43	American Literature-II
23111AEC44	World literature in translation
23111GEC45	Film Studies
23111GEC46	Translation: Basic Concepts and Practice
23111SEC47	English For Business
23111SEC48	English For Careers
23111BRC49	Participation In Bounded Research
231AECCEVS	Environmental Studies -II
231LSCLS	Leadership And Management Skills
	SEMESTER V
23111AEC51	Aspects Of Language And Linguistics
23111 AEC52	Authors In Focus
23111 AEC53	Women's Writing In English And In Translation
23111 AEC54	Indian Writing In Translation
23111DSC55A	Disaster Management
23111DSC55B	Writing For Media
23111DSC56	Mass Communication And Journalism
231AECCVED	Value Education
the second	Internship/Industrial Visit/Field Visit

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231ACLSPSL	Professional Skills
Call Sweet & States Sta	SEMESTER VI
23111AEC61	Shakespearestudies
23111AEC62	Literary Criticism
23111DSC63	Art and literary aesthetics
23111SEC65	Professional Competency Skill- General Awareness For Competitive Examination
231EXACT	Extension Activity
231ACSIKWS	Indian Knowledge System

The syllabus for the course "Indian Knowledge System" was presented and discussed with the BOS members, followed by their approval.

The syllabus for the course "Disaster Management" was presented and discussed with the BOS members, followed by their approval. It was proposed that advanced learners should actively participate in peer teaching and be motivated to participate in more than one online course.

Activities like the departmental newsletter, student-organized seminars, and journal club discussion forum should be coordinated by them. It was also recommended to conduct a departmental-level finishing school programme for the graduating batch of students. Board members also opined to encourage students to join individual summer internship programme in reputed Research Institutions.

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Resolution: The board member suggested to add a NET competitive exam paper as a core paper

The board members suggested reducing the contents in all the core papers so as to maintain uniformity. Also Dr. Arunachalam intimates that the paper needs to be added for NET competitive exam paper.

Agendum 7: Regarding communication skills paper, Syllabus for Job oriented certificate Programme

Discussion:

Alumni suggests that the introduction to communication skills and their techniques need to be introduced in Unit I n order to ease the understanding of the four skills.

The entire syllabus was framed in en-composing all the four skills [LSRW] by giving equal weight-age to all the units. The topic and content was discussed in detail and finalized. JOB oriented programme introduced.

Resolution: The board resolves to approve the syllabus.

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English Poetry	23211AEC11
English Drama	23211AEC12
English Fiction	23211AEC13
Indian Writing in English	23211GEC14
Discipline specific Elective-I	23211DSC15_
Research Methodology	23211RMC16
American Literature	23211AEC21
Shakespeare Studies	23211AEC22
Post-colonial Theory and Literature	23211AEC23
Approaches to English Language Teaching	23211GEC24
Discipline specific Elective-II	23211DSC25_
Entrepreneurship development	23211SEC26
Internship* / Tourism	23211SEC28
Participation In Bounded Research	23211BRC27
Contemporary Literary Criticism	23211AEC31
Canadian Studies	23211AEC32
Literature of the Marginalized in India	23211AEC33
Translation Studies	23211SEC34
Discipline specific Elective-III	23211DSC35_
Leadership Skills	23211SEC36
Internship / Industrial Activity	23211SEC37
Twenty First Century Millennial Literature and Culture	23211AEC41
Subaltern Studies	23211AEC42
Film and Media Studies	23211AEC43
English for Careers	23211GEC44
Project	23211PRW45
English Teaching methods, Aptitude, Attitude for competitive examination	23211SEC46

Agendum 8: Discussion made on the M.A. English Literature syllabus & its improvement

Resolution: Above New courses were introduced according to the need and welfair of the students, which contains skill and employability,

Agendum 9:Feedback received from the alumni & parent

Discussion: As per alumni suggestion separate spoken English hours suggest to the I year students.

anlan 4-21.00 Department of English niyah Ramajayam Institute of ce & Technology (PF:57) amed to be University Thaniavur - 613 403.

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Resolution: communication skills course paper & the practical hours satisfied the concept

Agendum 10: As per alumni opine : About Department library-

Discussion: Department library need to have more books and hour as well as students need a hour for library in specific

Resolution: The board considers this opine and suggests that the students make use of their leisure time and after the class session over.

# PERCENTAGE OF SYLLABUS REVISED:

## **COURSE FOCUSES ON:**

preneurial development
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#### SCHOOL OF ARTS AND SCIENCE

#### DEPARTMENT OF BIOCHEMISTRY

#### MINUTES OF THE MEETING OF THE BOARD OF STUDIES (BOS)\*

#### Board: Biochemistry

#### The Meeting of Board of Studies (BOS) was held as given below:

Name of the Body	Board of Studies			
Department	Biochemistry			
Meeting no	13 <sup>rd</sup>			
Date and Time	26.06.2023 & 2.30 P.M.			
Venue	Department of Biochemistry, Hybrid Mode : Offline & Online Online Link: https://meet.google.com/hdo-isnh-fvt			
Members Attended	The details are given in the ANNEXURE-I			

	AGENDA
1	To confirm the minutes of BOS meeting held on 26.06.2023
2	Action taken on the previous Meeting Minutes.
3	Discussion on the development of the B.Sc., Biochemistry New Curriculum 2023
4	Discussion on the development of the M.Sc., Biochemistry New Curriculum 2023
5	Discussion on Value added courses
6	Discussionon Activities for the advanced learners
7	Discussionon Part I (Tamil) offered by language department for 2023-2026 batch.
8	Discussionon PartII (English) offered by department of English for 2023-2026 batch
9	Discussion on credits for Part V Extension Activity for 2023-2024.
10	Other academic activities of the department (Seminars, workshops)
11	Discussionon Indian Knowledge SystemSyllabus
12	Discussionon Disaster Management syllabus
13	Any other matters

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#### MINUTES OF THE BOARD OF STUDIES MEETING

U/s 3 of UGC Act. 1956

PONNAIYAH RAMAJAYAM INSTITUTE OF

SCIENCE & TECHNOLOGY (PRIST) Declared as DEEMED TO BE UNIVERSITY

#### Board: Biochemistry

The 13<sup>rd</sup> Board of Studies Meeting of the Department of Biochemistry, School of Arts and Science, Ponnaiyah Ramajayam Institute of Science and Technology was conducted as per the guidelines of the University Grants Commission on 26.06.2023 at 2.30 P.M. through hybrid mode- online (Google meet) platform and offline mode. The following Members were present in the meeting.

Dr. A. Bakrudeen Ali Ahamed, Chairman of the Board of Studies Meeting welcome the Members and in her introducing speech, he explained the details of Agenda and the academic matters to be discussed. The agenda of the meeting was taken up for discussion. The following points were discussed during the meeting. The resolutions made in the Meeting are given below.

The committee appreciated the formulation of syllabus for B.Sc., Biochemistry programme to meet out the criteria of the Education Empowerment and Social Relevance. In Addition, the Committee suggested the following corrections/modifications/ Suggestions in the Programme syllabus

- Programme outcomes (PO) and Programme Specific Outcomes (PSO) to be restructured.
- > Course Outcomes (CO) to be restructured for all the Courses.
- > Recent reference books to be included in each course.

	AGENDA
1	Agendum1: To confirm the minutes of BOS meeting held on26.06.2023
	<b>Discussion:</b> The minutes of the Board of Studies meeting held on 26 <sup>th</sup> june, 2023 were communicated to the members. The comments received have been in corporate and placed for confirmation. The same was approved by the Academic council.
	Resolution: The Board resolved to accept the same.
2	Agendum2: Action taken on the previous Meeting Minutes.
	Discussion: Action taken report of the decisions made in the previous BoS and approved by the academic council. Action taken report was presented in the BOS.
	Resolution: The Board resolved to accept the same.

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3 Agendum3:Discussion on the development of the M.Sc.,Biochemistry NewCurriculum 2023

#### Discussion:

A draft curriculum for B.Sc., Biochemistry was proposed with modification to the committee and the following points was discussed.

The members of the Board proposed to Introduction of 100% revision of new courses for UG which

was helpful for the enhancement & growth of the students. These all the 8 courses enhanced the students became employability or entrepreneurship.

New courseintroduced:

	SEMESTER – I					
Course Code	Course Title	1		Т	P	C
	THEORY					
23110AEC11/ 23111AEC11/ 23132AEC11/ 23135AEC11	Tami – I/Advanced English-I/Hindi-I/ French - I	3		1	0	3
23111AEC12	English-I	3		1	0	3
23115AEC13	Nutritional Biochemistry	4		1	0	3
23114GEC14	Chemistry -1	4		1	0	3
	PRACTICAL					1-
23115SEC15L	Nutritional Biochemistry Lab	0	Γ	0	3	3
23114SEC16L	Chemistry Lab-1	0		0	3	3
	Skill Enhancement Course				-	1.
23115SEC17	Medicinal Diet	2		0	10	12
23115SEC18	Foundation Course (FC)	2		0	0	2
	Ability Enhancement Compulsory course				_	1
231AECCINC	Indian Constitution	2	1	0	0	2
	AUDIT COURSE					No.
231LSCUV	Universal Human Values	-		-	-	11
		Total 20	) [	4	6	25
	SEMESTER – II					-
Course Code	Course Title	L		Т	P	C
	THEORY				-	-
23110AEC21/ 23111AEC21/ 23132AEC21/ 23135AEC21	Tami – II/Advanced English-II/Hindi-II/ French - II	3		1	0	3
23111AEC22	English-II	3		1	0	3
23115AEC23	Cell Biology	4	1	1	0	3
23114GEC24	Chemistry –II	4		ì	0	3
	PRACTICAL					1.5
23115SEC25L	Cell Biology Lab	0	I	0	3	3
23114SEC26L	Chemistry Lab-II	0		0	3	3
	Skill Enhancement Course				L	-
23115SEC27	Lifestyle Diseases	2		0	0	12

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23115SEC28	First Aid	2	0	0	2
231 AECCCMS	Ability Enhancement Compulsory course	1			
23TAEULUMS	Communication Skills	2	0	0	2
231SSCBE	AUDIT COURSE				
LI I DI DE	Basic Behavioural Etiquette	-		-	1
	Total	20	4	6	25
· · · · · · · · · · · · · · · · · · ·	SECOND YEAR				
23110AEC31/	SEMESTER – III	1			
23132AEC31/					
23111AEC31/	Tamil - III/Hindi-III/Advanced English-III/ French - III	3	1	0	3
23135AEC31					
23111AEC32	English-III	3	1	0	3
23115AEC33	Biomolecules	4	ti	0	3
23116GEC34	Microbiology-1	4	+i-	0	3
	PRACTICAL	-			
23115SEC35L	Biomolecules Lab	0	0	3	3
23116SEC36L	Microbiology Lab-I	0	0	3	3
	Skill Enhancement Course	1 4			
23115SEC37	Basics of Forensic science	2	0	0	1
23115SEC38	Medical Laboratory technology	2	0	0	2
	Ability Enhancement Compulsory course	L			
23115RMC39	Research Methodology	2	0	10	12
	AUDIT COURSE	-	1	l •	1.~
231ACLSOAN	Office Automation	-	1.	-	1
	Total	20	4	6	24
	SEMESTER - IV				1
23110AEC41/				1	1
23111AEC41/	Tamil-IV/Advanced English-IV /Hindi-IV/ French - IV	3			1.
23132AEC41/	rain i viria ancea Englisa (viriali i virifica - i v		0	0	3
23135AEC41					
23111AEC42	English-IV	3	0	0	3
23115AEC43	Biochemical Techniques	4	1	0	3
23116GEC44	Microbiology II	4	1	0	3
	PRACTICAL				
23115SEC45L	Biochemical Techniques Lab	0	0	3	3
23116SEC46L	Microbiology Lab-II	0	0	3	3
	Skill Enhancement Course				
2211665642	A. Biomedical Instrumentation				
23115SEC47_	Or B. Tissue Culture	2	0	0	2
23115SEC48	A. Medical Coding Or				
2311330040	B. Microbial techniques	2	0	0	2
	Ability Enhancement Compulsory course		1		1
23115BRC49	Participation in Bounded Research	2	10		1.0
231AECCEVS	Environmental Studies	2 2	0	0	2
	AUDIT COURSE	2	0	0	2
231LSCLS	Leadership and Management Skills	0	0	10	1
in a fairthe fair an	Total	- State	0	0	1
	SEMESTER - V	22	2	6	27
23115AEC51	Enzymes	5	1		
23115AEC52	Intermediary Metabolism	5	1	0	4
JIIIALUJ4		3	1	0	14

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211151050'54	A THE OWNER AND THE PROPERTY AND A	Clinical Biochemistry	5	TI	10	
and the second	Water	Discipline Specific Elective -1	4	0	0	4
2411551-055	and the second sec	Skill Enhancement Course	1-	10	0	3
23115SEC56	and the second se	Unical Biochemistry Lab	0	0	1	
2311351(57		yme and Immunology Lab		0	3	3
COLOSILOV		(emship/Industrial Vicio/Ciald Vicio			3	3
111 4 / 11 11 11		ALIDIT COURSE	0	0	0	12
231ACLSPSI	and a second second second	Professional Skills	T			-
231AECCVF	D	Value Education		+		1
			2	0	0	2
and an entering of the second second		Total Third year	21	3	6	26
	and the second	SEMESTER – VI				
23115AFC61		Molecular Biology		-,		
23115AEC62		man Physiology 5		0	0	4
And a second sec		iscipline Specific Elective -11		0	0	4
23115PRW64		niect		0	0	3
23115SLC65			0	0	13	4
2211/2/ 4 (27)		ieneral awareness for competitive examination extension activity	2	0	0	2
231EXACT		dension activity				1.
			[ -	-	-	1
231ACSIKWS	S TI	AUDIT COURSE				
And a second		dian Knowledge System		-	1-	2
and the second		Utat	17	0	13	20
the second s		Tota	I Crea	lits -Pro	promine	140
· · · · · · · · · · · · · · · · · · ·		Total C	otal Credits -Programme I Credits - Audit Courses			07
and the first and a set water					Credits	147
ſ		Discipline Specific Electives			ciculis	14/
	Semester	Discipline Specific Elective Courses	s-I			
	V	a) 23115DSC54A – Immunology				
1		b) 23115DSC54B - Biochemical Pharmacology				
		e) 23115DSC54C- Disaster Management				
		D' 1 11 2 17				

**Resolution:** The Board resolved to accept the same. New syllabus for B.Sc., Biochemistryapproved. It will be effective from Academic year 2023-2024.

a) 23115DSC63A- Biotechnology
b) 23115DSC63B - Bioinformatics
c) 23115DSC63C- Bioentrepreneurship

Discipline Specific Elective Courses-II

d) 23115DSC63D- Plant Biochemistry and plant Therapeutics

Agendum4: Discussion on the development of the M.Sc., Biochemistry New Curriculumunder 2023.

VI

Head of the Department Department of Biochemistry School of Arts & Science PRIST Deemed to be University Thenjavur-613 403

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Discussion: A draft curriculum for M.Sc., Biochemistry was proposed with modification to committee and the following points were discussed.

- The members of the Board proposed to Introduction of 16 new elective courses for PG which Was helpful for the enhancement & growth of the students.
- These all the courses enhanced the students, became an employability or entrepreneurship. New

courses introduced:

Course Code	Course Title	L	T	P	C
all fair an an ann ann an Anna ann ann an ann	SEMESTER I		1		
23215AEC11	Basics of Biochemistry	5	1	0	4
23215AEC12	Biochemical and Molecular Biology Techniques	5	1	0	4
23215AEC13	and and a particular of the second particular and the second particula			0	4
23215SEC14L	Biomolecules and Biochemical Techniques Lab	0	0	4	4
23215DSC15	Discipline Specific Elective I	5	1	0	3
23215RMC16	Research Methodology	2	-	-	2
	Total	22	4	4	21
	SEMESTER II				
23215AEC21	Enzymology	4	1	0	4
23215AEC22	Cellular Metabolism	4	1	0	4
23215AEC23	Clinical Biochemistry	4	1	0	4
23215SEC24L Enzymology, Microbiology and Cell Biology Lab		0	0	4	4
23215DSC25_ Discipline Specific Elective II		4	1	0	3
23215SEC26	Nutritional Biochemistry	4	0	0	3
23215BRC27	Participation in bounded Research	2	0	0	2
23215SEC28	Internship-[Clinical Laboratory]	-	-	-	2
	Total	22	4	4	26
	SEMESTER III				
23215AEC31	Industrial Microbiology	5	1	0	4
23215AEC32	Molecular Biology	4	1	0	4
23215AEC33	Gene Editing, Cell and Gene therapy	4	1	0	4
23215SEC34L	Clinical Biochemistry Lab	0	0	4	4
23215DSC35_	Discipline Specific Elective III		1	0	3
23215SEC36			1	0	3
23215SEC37	Industrial Visit – Biotech		-		2
	Total	21	5	4	24
	SEMESTER IV			2	

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	Total Credits for the Programme	10	+	10	20
	Total	16	1	10	20
23215SEC46	Industrial Visit - Pharma or Food Processing	-	-	-	2
23215DSC45	Discipline Specific Elective v	4	1	0	3
23215DSC44	Discipline Specific Elective IV	4	1	0	3
23215PRW43	Project and viva	0	0	10	4
23215AEC42	Biochemical Toxicology	4	1	0	4
23215AEC41	Pharmaceutical Biochemistry	4	1	0	4

#### **Discipline specific Electives**

Semester	Discipline specific Elective Courses-I
J	a)20215DSC15A- Microbiology & Immunology b)20215DSC15B- Endocrinology
	Discipline specific Elective Courses-II
II	a)2015DSC25A-Energy and drug metabolism b)20215 DSC25B- Neuro Biochemistry
	Discipline specific Elective Courses-III
III	a)20215DSC34A- Biostatistics and Data Science b)20215DSC34B-Immunology
	Discipline specific Elective Courses-IV
IV	<ul> <li>a) 20215DSC44A – Biosafety, Lab Safety and IPR</li> <li>b) 20215DSC44B – Plant Biochemistry</li> </ul>
	Discipline specific Elective Courses-V
IV	a) 20215DSC45A -Developmental Biology b) 20215DSC45B -Cancer Biology

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Resolution: The Board resolved to accept the same. New syllabus for M.Sc., Biochemistry approved. It Will be effective from Academic year 2023-2024

5 Agendum 5: DiscussiononValue added courses

**Discussion:** Value added courses (Job Oriented Courses ) were discussed, the department of biochemistry proposed five courses like Diploma course on Organic farming, Certificate course on Techniques in Biochemistry, Certificate course on Integumentary & Digestive System, Certificate course on Lympho haemopoietic System and Certificate course on Vermicompost.

Resolution: The committee recommended and approved both the courses.

6 Agendum6: Discussionon Activities for the advanced learners

**Discussion:** Advanced learners should been courage to study for and write competitive exams. They should be sent to higher level institutions for internships so that they can continue their higher studies there.

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Resolution: The Board resolved to accept the same.

Agendum13: Discussionon Disaster Management

Head of the Department Department of Biochemistry School of Arts & Science PRIST Deemed to be University Themaver-613 493 DEAN

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Agendum14: Any other matters

#### Discussion:

- The board of studies in Biochemistry recommends the panel of experts for examination purposes as per the guidelines of the institution.
- The board also suggested to take measures to improve the creative and innovative thinking ability of the post graduate students by assigning critical research problems in projects and practical's.
- The suggestions received form the parents, students Alumni and employer viz, practical oriented curriculum and skill enhancement internship trainings were discussed.
- The board also suggested enlisting minimal skill sets required to pass the degree programme.

Resolution: The board resolved to consider the above mentioned recommendations.

Head of the Department Department of Biochemistry School of Arts & Science PRIST Deemed to be University Thanjavur-613 403

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The members had a brainstorming discussion and interaction among themselves. Ager discussion, fruitful suggestions were incorporated appropriately in the curriculum and syllabus of 2023.

Based on the suggestion given by the members, BOS resolved to recommend the syllabus for B.Sc., Biochemistry and M.Sc., Biochemistry under Regulation 2023 to the Academic Council for further approval.

Dr.S.Ambiga, Biochemistry thanked all the members for their kind cooperation and the meeting came to an end.

Date: 26.06.2023

# Ally.

#### Dr. A. Bakrudeeh Ali Ahmed BOSChairman/HOD Seal

Head of the Department Department of Blochander School of Arts & School of Arts & School PRIST Deemed to 54 School Thanjavur-613 499



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#### ATTENDANCE OF THE BOARD OF STUDIES MEETING

Board: Biochemistry

Date: 26.06.2023

Time: 02.30Pm

#### Venue: Department of Biochemistry

The following members were present for the Board of Studies meeting

S.No.	Name/Degree/Designation	Institute/Organization/ Full address	Online/ Physical	Signature (scan,ifonline)
1.	Dr.A.BAKRUDEENALI AHMED - HOD	Chairman Department of Biochemistry Ponnaiyah Ramajayam Institute of Science & Technology (PRIST), Deemed to be University, Thanjavur	physical	ing.
.2.	Dr. B.SYEDIBRAHIM ASSOICATEPROFESSOR,	AcademicExpert ASSOICATE PROFESSOR, SCHOOL OF LIFE SCIENCE, PONDICHERRY UNIVERSITY, PONDICHERRY 919080739522 ibrahim.bic@pondiuni.edu.in	De	B. SYED IBRANI B. SYED IBRANI SBOCIATE PROFESSO pertment of Bioloformetic School of Life Sciences School of Life Sciences Pondicherry University Puducherry - 892014
3.	Dr.R.SUKIRTHA RESEARCH DIRECTOR	IndustrialExpert RESEARCH DIRECTOR, ASWANTHDIAGNOSTICS AND RESEARCHCENTRE, NO 7, RAILAR NAGAR, MADURAI, 9047044901 adre1820@gmail.com	Online	Auron-1
4.	Dr. R.ARUNKUMAR Scientist	Scientist, Department of Biotechnology, Ponnaiyah Ramajayam Institute of Science & Technology (PRIST), DeemedtobeUniversity, Thanjayur	Physical	Papeley
5.	Dr.S.AMBIGA-	Associate Professor, Department of Biochemistry	Physical	AD)

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		PonnaiyahRamajayam InstituteofScience& Technology(PRIST), DeemedtobeUniversity, Thanjayur		
and the first state of the second state of the	6. Dr.SASIKUMAR PONNUSAMY AssociateProfessor	AssociateProfessor, DepartmentofBiochemistry PonnaiyahRamajayam InstituteofScience& Technology(PRIST), DeemedtobeUniversity, Thanjavur	Physical	Asil27
	7. Dr.N. GNANASEKARAN AssociateProfessor	AssociateProfessor, DepartmentofBiochemistry PonnaiyahRamajayam InstituteofSeience& Technology(PRIST), DeemedtobeUniversity, Thanjavur	Physical	manaf
8	. Dr. S.SATHISHKUMAR AssistantProfessor	AssistantProfessor, DepartmentofBiochemistry PonnaiyahRamajayam InstituteofScience& Technology(PRIST). DeemedtobeUniversity, Thanjayur	Physical	16 P-100
9,	Dr. A.SUNDARESAN AssistantProfessor	AssistantProfessor, DepartmentofBiochemistry PonnaiyahRamajayam InstituteofScience& Technology(PRIST), DeemedtobeUniversity, Thanjavur	Physical	Jund-1
10	Ms.T. KIRIJA	Alumna MedicalCoder, Cognizant,Chennai Tamilnadu	Online	Knija
11.	Ms.B. PAVITHRA BiochemistryStudent	StudentRepresentative I M.Sc.,Biochemistry	Physical	B-Parihm
12.	Ms.M. ANBUMATHI	StudentRepresentative Ph.DScholar,Biochemistry	Physical	Dobri].
13.	Dr.K.ARIVUKKANI HOD	Co-optedmember HOD,DepartmentofTamil, PonnaiyahRamajayam InstituteofScience& Technology(PRIST), DeemedtobeUniversity,	Physical	JEDUI

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		Thanjavur		
14.	Prof. S. RASAKUMAR AssistantProfessor	Co-optedmember AssistantProfessor, DepartmentofEnglish, PonnaiyahRamajayam InstituteofScience& Technology(PRIST), DeemedtobeUniversity, Thanjavur	Physical -	Bjoeder
15.	Dr.D. CHINNARAJA AssistantProfessor	<u>Co-optedmember</u> , AssistantProfessor, DepartmentofChemistry, PonnaiyahRamajayam InstituteofScience& Technology(PRIST), DeemedtobeUniversity, Thanjavur	Physical	Parz

A **BOS Chairman/HOD** 

Date:26.06.2023

Onlinemeetinglink: https://meet.google.com/rub-iufz-omx

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Head of the Department Department of Biochemistry School of Arts & Science PRIST Deemed to be Union Thanjayur-613 403



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Head of the Department Department of Biochemistry School of Arts & School of PRIST Deemed to be University Thanjavur-613 403

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16.05.2024

# MINUTES OF THE BOARD OF STUDIES MEETING

# Board: COMPUTER SCIENCE AND ENGINEERING

The Chairman of BOS welcomed all the panel members for the meeting. The item listed

in the agenda was taken for discussion.

The following are the minutes of the meeting

Agendum 1: Confirmation of the previous Meeting Minutes

Discussion: The Previous Meeting Minutes are discussed among all the members and the highlighted

points that we are discussed are read out in front of all members. The action taken where informed to the

members.

Resolution: The Board approved the same.

Agendum 2: Action taken on the previous Meeting Minutes

Discussion: The feedback from various stake holders such as Employers, Alumni, Academicians,

Industrial Personnel, Students, etc are also discussed.

SNO	FEEDBACK	STAKEHOLDER	ACTION TAKEN
1	New course needed	Alumni	Offered few Courses
2	Need new method of teaching	Students	In ICT class PPT, videos a was instructed to use.
3	Industry oriented subjects with Practical session	Industry Expert	Introduce a new subject
4	Focus on Add on course	Academic	Introduce VAC

Resolution: The Board approved the same .

Agendum 3: We Introduce two new programmes such as

1. B.Tech- Artificial Intelligence And Machine Learning

2. B.Tech - Cyber Security

Discussion : The Board discuss the papers offered in the programme and its effectiveness, flexibility.

Resolution: The Board approved the same .

of the Department Department of Computer Science and Engineering Ponnelyeh Remajayam Institute of Science & Technology (PRIST) insustion Deemed to be University 3 3 of the UGC Act 1844) THANJAYUR - 613 403, TAMIL NAFIU.

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# Agendum 4: Introducing new papers for the Elective papers

Discussion: We introduce 8 new papers for PG M.Tech Full Time and nine new papers form.M.Tech Part Time and seven new papers for B.Tech Part time which was helpful for enhance and growth of the students.

Resolution: The board Resolved to accept the same.

M.Tech- CSE(FULL TIME)

#### Semester - I - Elective - I

Semester no	Subject Code Subject Title		AREAN AREAN	eriods r Weel		С
			L	Т	P	1.000
I	22250E16A	Multimedia Systems and Applications	3	0	0	3
Ι	22250E16C	Software Security	3	0	0	3

#### SEMESTER - II - Elective - II

Semester no	Subject Code	Subject Title			Periods per Week		С
			L	Т	P		
11	22250E24A	Cyber Security	3	0	0	3	
11	22250E24B	Blockchain Technologies	3	0	0	3	

SEMESTER – II - Elective – III

Semester	Subject	Subject Title		eriods r Wee		C
no	Code		L	Т	P	C
П	22250E25B	Mobile Application Development	3	0	0	3

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#### SEMESTER - III - Elective - IV

Semester	Subject	Subject Title	1. 82%0	eriods r Wee	5m. 8	С
no	Code	subject time	L	Т	P	Ū
ш	22250E32C	Foundations of Data Science	3	0	0	3

#### SEMESTER - III - Elective - V

Semester no	Subject Code	Subject Title	Periods per Week			С
	cout		L	Т	P	
III	22250E33C	User Interface Design	3	0	0	3

#### SEMESTER - III - Elective - VI

Semester	Subject Code	Subject Title		eriods r Week	ι.	с
no	Code	100 King and 100 K	L	T	P	C
III	22250E34C	Full Stack Web Application Development	3	0	0	3

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#### M.Tech- CSE(PART TIME)

#### SEMESTER - II - Elective - I

Semester no	Subject Code	Subject Title		eriods r Wee		С
10	Cour		L	Т	P	
11	22250E23AP	Cyber Security	3	0	0	3
п	22250E23BP	Blockchain Technologies	3	0	0	3

#### SEMESTER - III - Elective - II

Semester 5 no	Subject Code	Subject Title		eriods r Wee		с
	Cour		L	т	Р	
111	22250E33AP	Multimedia Systems and Applications	3	0	0	3
111	22250E33CP	Software Security	3	0	0	3

#### SEMESTER - IV - Elective - III

Semesterno	Subject	Subject Title		eriods r Weel		C
	Code	-	L	Т	P	*
IV	22250E43AP	Multimedia Core Architecture	3	0	0	3
IV	22250E25BP	Mobile Application Development	3	0	0	]

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### SEMESTER - V- Elective - IV

Semester no	Subject Code	Subject Title	Perio Weel	ods pe k	r	С
	4.54) 		L	Т	Р	
V	22250E51CP	Foundations of Data Science	3	0	0	3

### SEMESTER - V - Elective - V

Semester no	Subject Code	Subject Title	Perio Weel	ods pe k	r	С
v	22250552.0-		L	T	Р	570).
	22250E52CP U	ser Interface Design	3	0	0	3

# SEMESTER - V - Elective - VI

Semester no	Subject Code	Subject Title	Perio Week	ds pe c	r	С
100			L	Т	P	-
v	22250E53CP	Full Stack Web Application Development	3	0	0	3

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Head of the Department Department of Computer Solence and Engineering Fonnalyah Ramajayam Institute of Science & Technology (PRIST) (Insulation Deemed to be University 's 3 of the UGC Act.106.') THANJAVUR - 613 403, TAMIL NADEL

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### **B.TECH- CSE (PART TIME)**

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#### SEMESTER - IV (ELECTIVE I)

Semester no	SubjectCode	Subject Title	Periods per Week		C	
		<b>3</b>	L	Т	Р	C
IV	22150E44AP	Neural Networks and Deep Learning	3	1	0	4
IV	22150E44DP	Big Data Analytics	3	1	0	4

#### **SEMESTER - V (ELECTIVE II)**

Semesterno	SubjectCode	Subject Title		eriods eek	s per	с
			L	Т	Р	
v	22150E54BP	Web Technology	3	1	0	4
v	22150E54CP	Software Testing and Automation	3	1	0	4
V	22150E54DP	Principles of Programming Languages	3	1	0	4

#### SEMESTER VI (ELECTIVE III)

Semesterno	SubjectCode	Subject Title	Periods pe Week		s per	С
			L	Т	Р	
V	22150E64BP	Cloud Computing	4	0	0	4
v	22150E64DP	Network Security	4	0	0	4

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Agendum 5: Discussion on Value Added Certificate Courses.

SNO	COUSER CODE	COUSE
1.	205150RA	Robotics and Automation.
2	205150BC	Block chain.
3	1950DM	Digital Marketing.
4	205150EH	Ethical Hacking.
5	1950DS	Data Science.

Resolution: The Board approved the above offering of value added certificate courses.

Agendum 6: Discussion on Coaching for Competitive Exams & Higher Education.

Discussion: The board member discussed and recommended the GATE, TNPSC, SSC, TRB, RAILWAY, Banking etc.

Resolution: The board approved the same.

Agendum 7: Discussion on NPTEL Courses.

Discussion: Students should be motivated to enroll for MOOCS courses, especially NPTEL courses and

made aware of transfer of credits instead of courses in the curriculum.

Resolution: The board approved the same.

Agendum 8: Discussion on Internship.

Discussion: The external experts insisted on the compulsory internship for students along with credits.

Resolution: The board approved the same.

Agendum 9 : Any other matter

Discussion: The board member discussed how to improve the overall performance.

Resolution: The board approved the same.

The chairman of Board of Studies (BOS) thanked all the members for their active participation and cordially invited them for the next meeting

Date: 16.05.2024

\*\* ad of the Department Department of Computer Science and Engineering Ponnalyah Ramajayam Institute of Selence & Technology (PRIST) (Insumien Deemed to be University 's 3 of the UGC Act 1956) THANJAVUR - 613 403, TAMIL NADJ.

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### ATTENDANCE OF THE THIRTEENTH BOARD OF STUDIES MEETING

#### **Board: COMPUTER SCIENCE AND ENGINEERING**

Date: 16.05.2024

Time: 4.00 PM

1.1

#### Venue: A- BLOCK GALLERY HALL

The following members were present for the Board of Studies meeting

S.No.	Name/Degree/Designation	Institute/Organization/ Full address	Online/ Physical	Signature (scan, if online)
, , 1.	Dr.S.Nithyanandham, Chairman	Ponnaiyah Ramajayam Institute of Science and Technology, Vallam, Thanjavur -613403	Physical	Bo -
2.	Mr.V.Prasanna Venkatesh, External Member	Senior Data Analyst,STAPLES Inc.,Framigham,USA.	Online	V.gh
3.	Dr.S.A.Sahaaya Arul Mary, External Member	Professor Grade 1, Vellore Institute of Technology, Vellore- 632014	Online	Alably
4.	Mrs.K.Jayanthi, Associate Professor	Ponnaiyah Ramajayam Institute of Science and Technology, Vallam, Thanjavur -613403	Physical	t-Fl
, 5.	Mrs.K.Suganthi, Associate Professor	Ponnaiyah Ramajayam Institute of Science and Technology, Vallam, Thanjavur -613403	Physical	mg.
5. 18. 1	Mrs.M.Jeeva, Assistant Professor	Ponnaiyah Ramajayam Institute of Science and Technology, Vallam, Thanjavur -613403	Physical	ri.J
1	Ms.M. Mohana Priya, Assistant Professor	Ponnaiyah Ramajayam Institute of Science and Technology, Vallam, Thanjavur -613403	Physical	HE
8.	Mrs.M.Vaishnavi, Assistant Professor	Ponnaiyah Ramajayam Institute of Science and Technology, Vallam, Thanjavur -613403	Physical	At
9.	Mrs.T.K.Chitra, Assistant Professor	Ponnaiyah Ramajayam Institute of Science and Technology, Technology, Vallam, Thanjavur -613403	Physical - Physical - Physic	T'e dors

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10.	Mrs.P.Menaka, Assistant Professor	Ponnaiyah Ramajayam Institute of Science and Technology, Vallam, Thanjavur -613403	Physical	P
11.	G.Prathipa, B.Tech, Alumni	Ponnaiyah Ramajayam Institute of Science and Technology, Vallam, Thanjavur -613403	Online	aRrettha
12.	Ms.S.Subiksha, Student Representatives	Ponnaiyah Ramajayam Institute of Science and Technology, Vallam, Thanjavur -613403	Physical	S. Subilyha
13.	Mr.V.Sivakumaran, Student Representatives	Ponnaiyah Ramajayam Institute of Science and Technology, Vallam, Thanjavur -613403	Physical	VSivakuman
14.	Ms.J.Niranjana, Co-opted member (Language - English)	Ponnaiyah Ramajayam Institute of Science and Technology, Vallam, Thanjavur -613403	Physical .	fr. Jung

Date: 6.05.2

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Head of the Department Department of Computer Science and Engineering Pennalyah Ramajayam Institute of, Science & Technology (PRIST) (Insulation Deemed to be University U/s 3 of the UGC Act. 19(7)) THANJAVUR - \$13 483, TAMIL NAL J.

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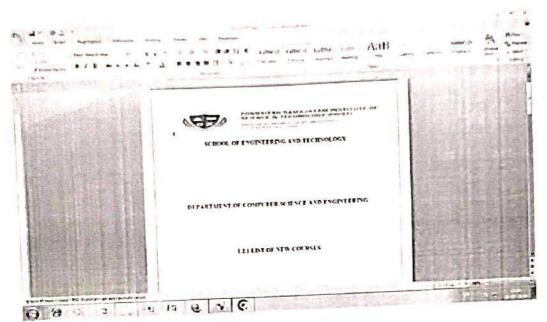
Head of the Department Benatiment of Computer Science Signature Engineering Ponnalyah Ramajayam Institute of Science & Technology (PRIST) (Insulation Deemed to be University is 3 of the UGC Act. 1950, THENLAVUR - 613 403, TAMIL NADJ.

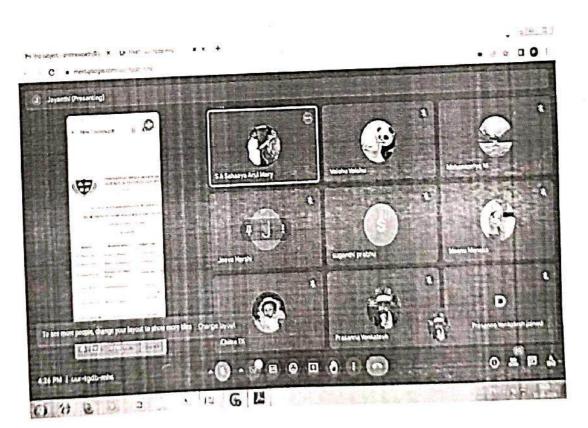
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Cepariment of Computer Science and Engineering connalyah Ramajayam Institute of Science & Technology (PRIST) (linewation Decement to be University "a 3 of the UGC Act. 1986) THANJAVUR - 013 403, TAMIL NADU. Page 13 of 13

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## **DEPARTMENT OF**

# **COMPUTER SCIENCE & ENGINEERING**

# PROGRAM HANDBOOK

# **M.Tech**

COMPUTER SCIENCE AND ENGINEERING [FULL TIME]

[REGULATION 2022] - R1

Head of the Department Bepariment of Computer Science and Engineering Pennatyah Ramajayam Institute Science & Technology (Pu-(Institution Deemed to be 1.4.4.4 U/s 3 of the UGC Act.4 THANJAVUR - 613 403, Terms infort

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## **DEPARTMENT OF**

# **COMPUTER SCIENCE & ENGINEERING**

# PROGRAM HANDBOOK

# **M.Tech**

COMPUTER SCIENCE AND ENGINEERING [FULL TIME]

[REGULATION 2022] - R1

Head of the Department Bepartment of Computer Sciences and Engineering Pennalyah Ramajayam Institute Science & Technology (P-(Institution Deemed to be 1.4.4 U/s 3 of the UGC Act.4 THANJAVUR - 613 403, Tenne 1874

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# COURSE STRUCTURE

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Vallam, Thanjavur - 013,00.

Semester. no	Subject Code	Subject Title	Г	с		
			L	Т	Р	
1	22248S11A	Higher Mathematics	4	1	0	4
1	22250H12	Modern Operating System	4	0	0	4
Ι	222501113	MachineLearningTechniques	4	0	0	4
I	22250H14	Adhoc and Sensor Network	4	0	0	4
I	22250H15	Advanced Data Structures and Algorithms	4	1	0	4
I	22250E16_	Elective - I	3	0	0	3
		Practical				
I	22250L17	Advanced Web Technologies Lab	-	-	3	3
		Total no of Credit	1	1	2	6

#### SEMESTER-I

#### **SEMESTER - II**

Semester.	Subject Code	Subject Title			riods Week	
2. Second and			L	Т	Р	
II	22250H21	Middleware Technologies	3	1	0	4
11	22250H22	Object Oriented Software Engineering	4	0	0	4
П	22250H23	Internet of Things	4	0	0	4
Π	22250E24_	Elective II	3	0	0	3
II	22250E25_	Elective – III	3	0	0	3
		Practical				
II	22250L26	.NET Technologies Lab	-		3	3
II	222TECWR	Technical Writing /Seminars	-	-	3	3
Total no of Credit					1999	24

find of the Department pertment of Computer Science and Engineering Pennalyah Ramajayam Institute of Science & Technology (PRif. / (Institution Deemed to be Univer ity U/a 3 of the UGC Act.1953) THANSAVUR - 513 453, TAMIL MADJ.

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### SEMESTER - III

		ubject Code Subject Title	Periods per Week			C
Semester.no	Subject Code		L	T	Р	
III	22250H31	Software Project Management	4	0	0	4
III	22250E32_	Elective-IV	3	0	0	3
111	22250E33_	Elective-V	3	0	0	3
m	22250E34	Elective-VI	3	0	0	3
III	22250P35	Project Work- Phase I*		-	10	10
	Т	otal no of Credit	a frantisse i correction and fr	National States and the second	2	3

#### SEMESTER - IV

Semester no.	Subject Code	Subject Title	Periods per Week			С
			L	Т	Р	
IV	22250P41	Project Work- Phase II*	-	-	15	15
	and the second	Total no of Credit				5

\* - Only review will be conducted

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### List of Electives Semester – I - Elective – I

Semester no	Subject Code	Subject Title		Perioc er We		С
no	Coue	82579255 • GARAGE HABBOTERSS	L	Т	Р	
I	22250E16A	Multimedia Systems and Applications	3	0	0	3
I	22250E16B	Web Engineering	3	0	0	3
1	22250E16C	Software Security	3	0	0	3

### **SEMESTER – II - Elective – II**

Semester no	Subject Code	Subject Title	F pe	С		
			L	T	P	
II	22250E24A	Cyber Security	3	0	0	3
П	22250E24B	Blockchain Technologies	3	0	0	3
II -	22250E24C	Information Retrieval Techniques	3	0	0	3

### **SEMESTER – II - Elective – III**

Semester no		Subject Code		Period er We	10.55	С
	Code		L	Т	Р	
II	22250E25A	Web Content Design and Management	3	0	0	3
11	22250E25B	Mobile Application Development	3	0	0	3
II	22250E25C	Language Technologies	3	0	0	3

Here of the Department Minimum of Computer Science and Engineering Puringlych Ramajeyam Institute Science & Technology (PU (Institution Boemed to be Unive 1)/s 3 of the UGC Act.1\* THANJAVUR - 613 483, TAMIL JASSU, School of Engineering and Teck Ponneivah Ramajayam Instituto of Science and Toekindograf (1971) Deamed to be University reserve Vellem, Thanjayar 013 463

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# **SEMESTER – III - Elective – IV**

Semester	Subject	Subject Title	] P	С		
no	Code		L	Т	Р	
III	22250E32A	Cloud Computing	3	0	0	3
III	22250E32B	Speech Processing and Synthesis	3	0	0	3
III	22250E32C	Foundations of Data Science	3	0	0	3

# **SEMESTER – III - Elective – V**

Semester Subject no Code		Subject Title	Periods per Week			С
			L	Т	Р	U
ш	22250E33A	Advanced Database Technology	3	0	0	3
III	22250E33B	Reconfigurable Computing	3	0	0	3
III	22250E33C	User Interface Design	3	0	0	3

# **SEMESTER – III - Elective – VI**

	Semester no	Subject Code	Subject Title		Perioo er We		С	]
				L	Т	Р		
	111 🧊	22250E34A	Software Quality Assurance	3	0	0	3	
	III	22250E34B	<b>Bio-inspired</b> Computing	3	0	0	3	-
	III	22250E34C	Full Stack Web Application Development	3	0	0	3	2
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# DEPARTMENT OF

# **COMPUTER SCIENCE & ENGINEERING**

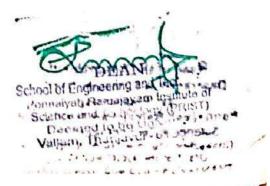
# PROGRAM HANDBOOK

# M.Tech

# COMPUTER SCIENCE AND ENGINEERING [PART TIME]

[REGULATION 2022]- R1.

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# COURSE STRUCTURE

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#### **SEMESTER - I**

Semester.	Subject Code	Subject Title		Periods er Weel	8 N	С
no		Subject The	L T	Р		
1	22248S11AP	Higher Mathematics	4	1	0	4
<u> </u>	22250H12P	Adhoc & Sensor Networks	4	0	0	4
1	22250H13P	Advanced Data Structures	4	0	0	4
		Practical				
1	22250L14P	Advanced Web Technologies Lab	-	-	3	3
	Total no of Credits					5

#### **SEMESTER - II**

Semester.	Subject Code	Subject Title	l pe	С		
no	Subject Cour	Susjeerin	L	Т	P	
11	22250H21P	Middleware Technologies	3	1	0	4
II	22250H22P	Internet of Things	4	0	0	4
п	22250E23 P	Elective I	3	0	0	3
		Practical				
II	22250L24P	.NET Technologies Lab		-	3	3
п	222TECWRP	Technical Writing /Seminars		-	3	3
Total no of Credits				17		

#### **SEMESTER - III**

Semester.no	Subject Code	Subject Code Subject Title	Periods per Week			С
	~		L	Т	Р	
ш	22250H31P	Modern Operating System	4	0	0	4
111	22250E32P	Machine Learning Techniques	4	0	0	4
ш	22250E33_P	Elective-II	3	0	0	3
	To To	otal no of Credits		1. 	-1	11

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### **SEMESTER - IV**

Semester no.	Subject Code	Subject Title		С		
-			L	T	Р	1
IV	22250H41P	Object Oriented Software Engineering	4	0	0	4
IV	22250H42P	Software Project Management	4	0	0	
IV	22250E43_P	Elective-III	3	0		
IV –	22250P44P	Project Work- Phase I	-		0	3
	1	Fotal no of Credits			2	10

### **SEMESTER - V**

Semester no.	Subject Code			с		
	A statistic second		L	Т	Р	
V	22250E51_P	Elective-IV		-		
V	22250E52 P			0	0	3
v	- Adda -	Elective-V	3	0	0	3
	22250E53_P	Elective-VI	3	0	0	3
	Total	no of Credits				

### **SEMESTER - VI**

emester no. Subject Code	Subject Code	Subject Title		s 2k	c	
	-		L	Т	Р	Ŭ
VI	22250P61P	Project Work- Phase II	0	0	15	15
	The second s	Fotal no of Credits			15	15

Heat of the Department Department of Computer Science and Engineering Ponnelych Remajayem Institute of Science & Technology (PRIC-1) (Institution Desmed to be University U/a 3 of the UGC Act, 195c) THANJAVUR - 613 403, TAMIL N/W"

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# LIST OF ELECTIVES

# **SEMESTER - II ELECTIVE - I**

Semester no		Subject Code	Subject Title	122112	Perioc er We		С	
			L	Т	Р			
II	22250E23AP	Cyber Security	3	0	0	3		
Π	22250E23BP	Block chain Technologies	3	0	0	3		
11	22250E23CP	Information Retrieval Techniques	3	0	0	3		

### SEMESTER - III ELECTIVE - II

Semester no	Subject Code	Subject Title	I pe	с		
			L	Т	Р	
III	22250E33AP	Multimedia Systems and Applications	3	0	0	3
III	22250E33BP	Web Engineering	3	0	0	3
III	22250E33CP	Software Security	3	0	0	3

SEMESTER - IV - ELECTIVE - III

Semester no	Subject Code	Subject Title	l po	С		
			L	T	Р	
IV	22250E43AP	Multicore Architectures	3	0	0	3
IV	22250E43BP	Mobile Application Development	3	0	0	3
IV	22250E43CP	Language Technologies	3	0	0	3 -

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# SEMESTER - V - ELECTIVE - IV

Semester no	Subject Code	Subject Title	p	с		
			L	Т	Р	
v	22250E51AP	Cloud Computing	3	0	0	3
v	22250E51BP	Speech Processing and Synthesis	3	0	0	3
v	22250E51CP	Foundations of Data Science	3	0	0	3

#### SEMESTER - V - ELECTIVE - V

Semester no	Subject Code	Subject Title	р	С		
			L	T	Р	
v .	22250E52AP	Advanced Database Technology	3	0	0	3
v	22250E52BP	Reconfigurable Computing	3	0	0	3
v	22250E52CP	User Interface Design	3	0	0	3

### SEMESTER - V - ELECTIVE - VI

Semester no	Subject Code	Subject Title	I po	С		
			L	T	Р	
V	22250E53AP	Software Quality Assurance	3	0	0	3
v	22250E53BP	Bio-inspired Computing	3	0	0	3
v	22250E53CP	Full Stack Web Application Development	3	0	0	3

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# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

# PROGRAM HANDBOOK

# B.TECH -COMPUTER SCIENCE & ENGINEERING (PART-TIME) [REGULATION 2022] - R1

Head of the Department Department of Computer Science and Engineering Ponnalyah Ramajayam Institute of Science & Technology (PRI: (Institution Deemed to be Unive U/s 3 of the UGC Act. 195 THANJAVUR - 613 403, TAMIL NADJ,

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# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

# PROGRAM HANDBOOK

B.TECH -COMPUTER SCIENCE & ENGINEERING (PART-TIME) [REGULATION 2022] - R1

Head of the Department Department of Computer Science and Engineering Ponnalyah Ramajayam Institute of Selence & Technology (PR+-(Institution Deemed to be Unive +-U/s 3 of the UGC Act.195 THANJAVUR - 613 403, TAMIL MADU,

School of Engineering and Ponnalyah, Ramajayam tastant Science and Technology (First) -Deemed to be Univer 14 Vallan), Thaniavyr, Dies T

# COURSE STRUCTURE

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# **SEMESTER I**

	0.12	Periods Per Week			
Subject Code	Subject Name	L	Т	Р	
22148S11P	Transforms and Partial Differential Equations	3	1	0	4
22152S12P	Digital Systems	3	1	0	4
22150H13P	Data Structures and algorithms	3	1	0	4
22150H14P	Computer Architecture and Organization	3	1	0	4
22150H15P	Problem Solving And Python Programming	3	0	0	3
Contraction of the second	Total No. of credits				19

# SEMESTER II

		Periods Per Week			C
Subject Code	Subject Name	L	Т	Р	
	Numerical Methods	3	1	0	4
22148S21P	Microprocessors and	3	1	0	4
22150H22P	Interfacing				-
22150H23P	Database Management	3	1	0	4
22150H24P	Systems Design and Analysis Of	3	1	0	4
	Algorithm	3	0	0	3
22150H25P	Programming in C Total No. of cred	its			19

# SEMESTER III

A REAL PROPERTY OF		Per	iods Per We	eek	- C
Subject Code	Subject Name	L	Т	Р	
22148S31P	Discrete Mathematics	3	1	0	4
221405511 22150H32P	Operating System	4	0	0	4
22150H33P	Artificial Intelligence	4	0	0	4
22150H34P	Computer Networks	4	0	0	4
22150L35P	Operating Systems and Networking Lab	0	0	3	2
	Total No. of credit	S			18

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School of Engineering and Tech. Ponnaiyah Ramajawam Ansthute of Science and Technology (Market) Deëmed to be University (Market) Vallam, Thanjevur-613,403.

# SEMESTER IV

		Pe	riods Per W	eek	- C
Subject Code	Subject Name	L	Т	Р	
	Software Engineering Fundamentals	3	1	0	4
22150H41P		3	1	0	4
22150H42P 22150H43P	Internet Programming C# And .Net Framework	3	1	0	4
221 E44 P	Elective-I	3	1	0	4
22150L45P	Internet Programming Lab	0	0	3	2
	Total No. of credits				18

# SEMESTER - V

		Periods Per Week			
Subject Code	Subject Name	L	Т	Р	7 .
22150H51P	Object Oriented Analysis and Design	4	0	0	4
22150H52P	Software Quality Management	3	1	0	4
22150H53P	Graphics and Multimedia	3	1	0	4
221E54_P	Elective –II	3	1	0	4
22150L55P	Software Development Lab	0	0	3	2
	Total No. of credi	its			18

# **SEMESTER - VI**

0.1:	Caliera N	Periods Per Week			
Subject Code	Subject Name	L	Т	Р	
22150H61P	Cryptography and Network Security	4	0	0	4
22150H62P	Advanced Java programming	3	1	0	4
22150H63P	Software Testing	4	0	0	4
221E64_P	Elective III	4	0	0	4
22150L65P	Java Programming Lab	0	0	3	2
and the second second	Total No. of credit	S			18

# **SEMESTER - VII**

Subject Code	Subject Name	Per	riods Per Wee		
Subject Code	Subject Name	L	T	Р	
22160S71P	Total Quality Management	3	0	0	3
22150H72P	Grid and Cloud Computing	4	0	0	4
22150H73P	Middleware Technologies	3	1	0	4
221_E74_P	Elective IV	3	0	0	3
22150P75P	Project	0	0	12	6
of the Debart	Total No. of cro	edits		- I	20
and Engineering			Shoersvend		Eduna

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# LIST OF ELECTIVES SEMESTER - IV (ELECTIVE I)

Subject Code	Subject N	Periods Per Week			
22150E44AP	Subject Name	L	T	Р	
	Neural Networks and Deep	3	1	0	4
22150E44BP	Data Warehousing and Data Mining	3	1	0	4
22150E44CP	Professional Ethics in Engineering	3	1	0	4
22150E44DP	Big Data Analytics	3	1	0	4

# SEMESTER - V (ELECTIVE II)

		Periods Per Week			
Subject Code	Subject Name	L	Т	Р	-
22150E54AP	Ad hoc and Sensor Networks	3	I	0	4
22150E54BP	Web Technology	3	1	0	4
22150E54CP	Software Testing and Automation	3	1	0	4
22150E54DP	Principles of Programming Languages	3	I	0	4

# SEMESTER - VI (ELECTIVE III)

		Periods Per Week			
Subject Code	Subject Name	L	Т	Р	L
22160E64AP	Principles of Management	4	0	0	4
22100E64BP	Cloud Computing	4	0	0	4
22150E64CP	Graph Theory And Applications	4	0	0	4
22150E64DP	Network Security	4	0	0	4

# SEMESTER - VII (ELECTIVE VI)

		Peri	Periods Per Week		
Subject Code	Subject Name	L	Т	P	C
22150E74AP	Cyber Security	3	0	0	3
22150E74BP	Information Retrieval Techniques	3	0	0	3
22150E74CP	Ethics and AI	3	0	0	3
22150E74DP	Cyber Forensics	3	0	0	

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# MINUTES OF THE BOARD OF STUDIES MEETING

### Board:ECE

The Chairman of BoS welcomed all the panel members for the meeting. The items listed in the agenda were taken for discussion.

The following are the minutes of the meeting

Agendum 1: Confirmation of the previous Meeting Minutes and Action taken on the previous Meeting Minutes.

Discussion: To confirm the previous BoS Meeting Minutes and to discuss the action taken on the previous BoS Meeting Minutes.

Resolution: The chairman confirmed the previous meeting minutes of BoS and discussed the action taken on the previous BoS Meeting Minutes.

Agendum 2: Scrutiny of stakeholders' feedback on existing curriculum and syllabi.

Discussion: To scrutinize the abstract of stakeholders feedback on existing curriculum and syllabi for B.Tech.-ECE (Full Time/Part Time) and M.Tech.-Communication Systems (Full Time/Part Time).

Resolution: The members of the Board thoroughly scrutinized the existing curriculum and syllabi and the abstract of stakeholders feedback on B.Tech. -ECE (Full Time/Part Time) and M.Tech.-Communication Systems (Full Time/Part Time) and resolved to continue with the existing syllabus.

Agendum 3: Introduction of newly added Value added courses

- 1. Certificate Course On Embedded -Raspberry Pi-Broucher
- 2. Certificate Course On Network Design
- 3. Certificate Course On Introduction To Microcontroller
- 4. Certificate Course On Introduction To R Programming
- 5. Certificate Course On Introduction To Labview

Resolution: The members of the Board scrutinized the syllabus contents of newly added Audit courses and resolved to introduce the same.

Agendum 5: Discuss the Programme Educational Objectives (PEOs), Programme Outcomes (POs) and Programme Specific Outcomes (PSOs) of BTech (FT/PT) and MTech Communication Systems (FT/PT).

Discussion: To discuss upon the Programme Educational Objectives (PEOs), Programme

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School of Engineering and Tect. Ponnaiyah Ramajayam Institute of Science and Technology (PRIST) Deemed to be University Vallam, Thanjavur-613,403

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Discussion: To discuss upon the Programme Educational Objectives (PEOs), Programme Outcomes (POs) and Programme Specific Outcomes (PSOs) of BTech (FT/PT) and MTech Communication Systems (FT/PT).

Resolution: The members of the Board scrutinized the Programme Educational Objectives (PEOs), Programme Outcomes (POs) and Programme Specific Outcomes (PSOs) and resolved to continue with the sameforBTech (FT/PT) and MTech Communication Systems (FT/PT).

Agendum 6: The board member has suggested adding electives in R-2021, R-2022

Discussion: The member of the board scrutinized the syllabus content of newly added elective courses and resolved to introduce same.

R	Resolution: The new courses are						
	S.NO	COURSE CODE	COURSE NAME				
[	1.	21152E54D	Wireless Broad Band Network				
	2.	21152E64D	RF ID System Design & testing				
	3.	21160S72D	Medical Imaging Systems				
	4.	22152E54FP	Therapeutic Equipment				
	5.	22152E74FP	Brain Computer Interface And Application				
	6.	22271E33D	Rocketry And Space Mechanics				
	7.	22271E34D	Positioning And Navigation Systems				
	8.	22271E51DP	Validation And Testing Technology				
	9.	22271E52DP	Ocean Acoustics				

Agendum 7:Recommend the panel of Examiners for B.Tech(FT/PT) and for M.Tech-Communication Systems(FT/PT)

Discussion: To recommend the panel of Examiners for B.Tech(FT/PT) and for M.Tech-Communication Systems(FT/PT).

Resolution: The members of the board also scrutinized the panel of examiners and recommended to continue with the same panel of examiners for the B.TECH – ECE (FT/PT) & M.TECH – Communication Systems (FT/PT).

The chairman of Board of Studies (BOS) thanked all the members for their active participation and cordially invited them for the next meeting

Date: 16 6 23

Head Of the Department Department Of Electronics and Communication Engineering Publicity of An Indexian Institute of Science & Lowenclows (PRIST) Institution Desmiss to be Chiver ity 1153 of the USC AD to Chive ity THANJAVUR - 613 405, former fourth

Signature (BOS Chairman Name)

BOS Chairman/HOD Seal

DEAN School of Engineering and Tect. Ponnaiyah Ramajayam Inatitute of Science and Technology (PRIST) Deemed to be University Vallam, Thanjavur-615 ---3.



Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956



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School of Engineering and Tect, Ponnaiyah Ramajayam Institute of Science and Technology (PRiST) Deemed to be University Vallam, Thanjavur-613 413.



Declared as DEEMED-TO-BE-UNIVERSITY U/s 3 of UGC Act, 1956

#### The following members were present:

S.No.	Name of the Member	Designation	Signature
1.	Dr. S. Devi	Professor	SD
2.	Dr. Smitha Elsa Peter	Professor	fautha
3.	Dr. N. Parvatham	Associate Professor	V. Jane
4.	Dr. C.Rajinikanth	Associate Professor	Char
5.	S.Lillypet	Associate Professor	gam,
6.	P.Geetha	Assistant Professor	(fetter-
7.	A.Amudha	Assistant Professor	Amusha
8.	S. Maheswaran	Assistant Professor	A.A.h
9.	A. Aarthi	Assistant Professor	A.A.
10.	T Divya Manohari	Assistant Professor	Bulloon rot
11.	E. Priyadharshini	Assistant Professor	II-
12.	R. Savitha	Assistant Professor	R. Onth:
13.	S.Saraswathy	Assistant Professor	8. Downey
14.	R.Saraswathi	Assistant Professor	Hazeb
15.	D.Harikrishnan	Assistant Professor	XXX
16.	M.Soundharya	Assistant Professor	and had

DEAN C

School of Engineering and Tect. Ponnaiyah Ramajayam Institute of Science and Technology (PRIST) Deemed to be University Vallam, Thanjayur-613 - 3.

# B.TECH (FULL TIME) - ECE - R-2021

# **I - VIII SEMESTERS CURRICULUM**

#### SEMESTER I

SI. No.	COURSE CODE	COURSE TITLE	L	Т	P	C
		THEORY			1	ing the state
1.	21147IP	Induction Programme	-	-		0
2.	21147S11	Professional English - I	3	0	. 0	3
3.	21148S12	Matrices and Calculus	3	1	0	4
4.	21149S13	Engineering Physics	3	0	0	3
5.	21149S14	Engineering Chemistry	3	0	0	3
6.	21150S15	Problem Solving and Python Programming	3	0	0	3
		PRACTICALS				
7.	21150L16	Problem Solving and Python Programming Laboratory	0	0	4	2
8.	21149L17	Physics and Chemistry Laboratory	0	0	4	2
9.	21147L18	Communication Lab - I	0	0	2	1
1		TOTAL	15	1	10	21

SEMESTER II

SI. No.	COURSE CODE	<b>COURSE TITLE</b>	L	Т	Р	C
		THEORY				
1.	21147S21	Professional English – II (COMMON TO CIVIL, CSE, EEE, ECE, MECH)	3	0	0	3
2.	21148S22	Statistics and Numerical Methods (COMMON TO CIVIL, CSE, EEE, ECE, MECH)	3	1	0	4
3.	21149S23B	Physics for Electronics Engineering	3	0	0	3
4.	21154S24	Engineering Graphics(COMMON TO CIVIL, CSE, EEE, ECE, MECH)	2	0	4	4
5.	21153S25B	Electrical and Instrumentation Engineering	3	0	0	3
6.	21153S26A	Circuit Analysis	3	1	. 0	4
0.	2110002011	PRACTICALS	1		- 13	-
7.	21154L27	Engineering Practices Laboratory(COMMON TO ALL)	0	0	4	2
8.	21153L28A	Circuits Analysis Laboratory	0	0	4	2
60	21133L23A	Communication Lab – II	0	0	4	2
9.	2114/622	TOTAL	17	2	16	27

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Hond Of the Department Department Of Encironics and Composition Chainswifty Ponnels of Chainswifty (Institute of Science (Institute of Chainswifty (Institution Chains and Chainswifty (Institution Chains and Chainswifty (Institution Chains and Chainswifty (Institution Chains and Chains) (Institution Chainswift) (Institution Chains and Chains) (Institution Chains and Chainswifty (Institution Chains and Chains) DEAN

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14 1 23	4.	CSE	21150OE73	Dev-Ops	3	0	0	3
	5.	ECE **	21152OE73	Robotics Process Automation	3	0	0	3

\*\* Applicable for other Departments

SI. No	DEPT	COURSE CODE	COURSE TITLE	L	Т	Р	C
1.	Eng	211470E74	English for Competitive Examinations	3	0	0	3
2.	Civil	211550E74A	Remote Sensing Concepts	3	0	0	3
3.	Civil	21155OE74B	Drinking Water Supply and Treatment	ż	0	0	3
4.	EEE	211530E74A	Renewable Energy Technologies	3	0	0	3
5.	EEE	211530E74B	Electric and Hybrid Vehicle	3	0	0	3
6.	Mech	211540E74A	Industrial Management	3	0	0	3
7.	Mech	21154OE74B	Introduction to NonDestructive Testing	3	0	0	3
8.	ECE **	211520E74A	Biomedical Instrumentation	3	0	0	3
9.	ECE **	21152OE74B	Fundamentals of Electronic Devices and Circuits	3	0	0	3

\*\* Applicable for other Departments

### **OPEN ELECTIVE – IV (SEMESTER VII)**

	SI. No	DEPT	COURSE CODE	COURSE TITLE	L	Т	Р	С	
	1.	Civil	211550E75A	Geographical Information System	3	0.	0	3	
	2.	Civil	211550E75B	Basics of Integrated Water Resources Management	3	0	0	3	
Blatert	3.	EEE	211530E75A	Sensors	3	0	0	3	
0	+4. 1	The FEE Is T	+ 21153OE75B	Electrical, Electronic and Magnetic materials	3	0	0	J <sup>3</sup>	h
Ponnetval Several (Institution L Several (Institution L	i () Ei instimn	Engineer (van: Insl 	חווט אוויזה סל זיב") אוישראוע	R-2021	Sc	tence	inginse ih Ran and Te	iajayar chnoto	I In Institute of ogy (PRIST) 2 iversity -613 403

5.	Mech	211540E75A	Additive Manufacturing	3	0	0	3
6.	Mech	21154OE75B	Industrial Safety	3	0	0	3
7.	ECE **	211520E75A	Wearable Devices	3	0	0	3
8.	ECE **	21152OE75B	Medical Informatics	3	0	0	3

\*\* Applicable for other Departments

#### LIST OF MANDATORY COURSES

SI. No	COURSE CODE	COURSE TITLE	L	Т	Р	C
1.	21147MC51A	Introduction to Women and Gender Studies	3	0	0	3
2.	21147MC51B	Disaster Management	3	0	0	3
3.	21147MC51C	Film Appreciation	3	0	0	3
4.	21147MC51D	Elements of Literature	3	0	0	3

#### MANDATORY COURSE - I (SEMESTER V)

#### MANDATORY COURSE - II (SEMESTER VI)

SI. No	COURSE CODE	<b>COURSE TITLE</b>	L	Т	Р	C
1.	21147MC61A	Well Being with Traditional Practices (Yoga, Ayurveda and Siddha)	3	0	0	3
2.	21147MC61B	History of Science and Technology in India	3	0	. 0	3
3.	21147MC61C	Political and Economic Thought for a Humane Society	3	0	0	3
4.	21147MC61D	State, Nation Building and Politics in India	3	0	0	3
5.	21147MC61E	Safety in Engineering industry	3	0	0	3

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SEMESTER III

Sl. No	COURSE CODE	COURSE TITLE	L	Т	Р	C
		THEORY				
1.	21148S31B	Random Processes and Linear Algebra	3	1	0	4
2.	21152\$32	Control Systems	3	0	0	3
3.	21152\$33	C Programming and Data Structures	3	0	0	3
4.	21152C34	*Digital Systems Design*	3	0	2	4
5.	2[152C35	Signals and Systems	3	1	0	4
6.	21152C36	Electronic Devices and Circuits	3	0	0	3
		PRACTICALS				
7.	21152L37	C Programming and Data Structures Lab	0	0	4	2
8.	21152L38	Electronic Devices and Circuits Lab	0	0	4	2
9.	21152L39	Professional Development	0	0	2	1
		TOTAL	18	2	12	26

Sl. No	COURSE CODE	COURSE TITLE	L	Т	Р	С
		THEORY			A17	
1.	21152C41	Electromagnetic Fields	3	0	0	3
2.	21152C42	Linear Integrated Circuits	3	0	0	3
3.	21152C43	Communication Systems	3	0	0	3
4.	21152C44	*Digital Signal Processing*	3	0	2	4
5.	21152C45	*Networks and Security*	3	0	2	4
6.	21149S46	Environmental Sciences and Sustainability	2	0	0	2
		PRACTICALS				
7.	21152L47	Linear Integrated Circuits Laboratory	0	0	4	2
8.	21152L48	Communication Systems Laboratory	0	0	4	2
		TOTAL	17	0	12	23

#### SEMESTER V

		SEMESTER								
	SI. No	COURSE CODE	COURSE TITLE	L	Т	P	C			
			THEORY				-			
	1.	21152C51	*Wireless Communication *	3	0	2	4			
	2.	21152C52	VLSI and Chip Design	3	0	0	3			
	3.	21152C53	Transmission Lines and RF Systems	3	0	0	3			
18	4.	21152E54_	Elective - I	3	0	0	3			
	5.	21152E55_	Elective – II	3	1 0	0	3			
	6.	21152E56_	Elective - III	3	0	0	3			
	7.	21147MC51	Mandatory Course - I	3	0	0	0			
			PRACTICALS			v	U			
	8.	20152L58	VLSI Laboratory	0	0	4	2			
2			TOTAL	21	0	4	21			
Qa	Asta A	hipertment.				0	41			
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#### SEMESTER VI

SI. No	COURSE CODE	COURSE TITLE	L	Т	P	С
<b>THEO</b>	RY	0				
1.	21152861	*Embedded Systems and IOT Design*	3	0	2	4
2.	21152S62	Learning*	3		2	4
3.	211 OE63	Open Elective - I	3	0	0	3
4.	21152E64	Elective – IV	3	0	0	3
5.	21152E65	Elective – V	3	0	0	3
6.	21152E66_	Elective – VI	3	0	0	3
7.	21147MC61_	Mandatory Course - II	3	0	0	0
		TOTAL	21	0	4	20

#### SEMESTER VII

Sl. No	CODE		L	Т	P	C
THEOI	RY					1
1.	211_S71	Human Values and Ethics	2	0	0	2
2.	2. 21160S72_ Elective - VII		3	0	0	3
3.	211_OE73	Open Elective – II	3	0	0	3
4.	211_OE74_	Open Elective – III	3	0	0	3
5.	211_OE75_	Open Elective – IV	3	0	0	3
PRACT	<b>FICALS</b>					200 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 20
6.	21152INT76	Summer Internship	0	0	0	2
	·	TOTAL	14	0	0	16

#### SEMESTER VIII

Sl. No	COURSE CODE	COURSE TITLE		Т	P	С
PRACTI	CALS					
l. –	21152P81	Project Work	0	0	20	10
		TOTAL	0	0	20	10
		TOTAL NO.	OF C	CREE	ITS:	164

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School of Engineering and Tech Ponnalyah Ramajayam Institute of Science and Technology (PRIST) Deemed to be University Valiain, Thanjavur-613,403.

# LIST OF ELECTIVES

SI. No	COURSE	COURSE TITLE	L	Т	Р	C
1.	21152E54A	Optical Communication Networks	3	0	0	3
2.	21152E54B	4G /5G Communication Networks	3	0	0	3
3.	21152E54C	Avionics Systems	3	0	0	3
4.	21152E54D	Wireless Broad Band Network	3	0	0	3

# ELECTIVE - I (SEMESTER V)

# ELECTIVE - II (SEMESTER V)

SI. No	COURSE CODE	COURSE TITLE		Т	P	С
1.	21152E55A	Software Defined Networks	3	0	0	3
2.	21152E55B	Image Processing	3	0	0	3
3.	21152E55C	Speech Processing	3	0	0	3

#### ELECTIVE - III (SEMESTER V)

SI. No	COURSE CODE	COURSE TITLE		Т	Р	C	
1.	21152E56A	DSP Architecture and Programming	3	0	0	3	
2.	21152E56B	Wireless Sensor Network Design	3	0	0	3	
3.	21152E56C	Computer Vision	3	0	0	3	

#### **ELECTIVE - IV (SEMESTER VI)**

SI. No	COURSE CODE	COURSE TITLE	L	Т	Р	С
1. 21152E64A		Software Defined Radio		0	0	3.
2.	21152E64B	Satellite Communication	3	0	0	3
3.	21152E64C	Massive MIMO Networks	3	0	0	3
4.	21152E64D	RF ID System Design & testing	3	0	0	3

# **ELECTIVE - V (SEMESTER VI)**

	SI. No	COURSE CODE	COURSE TITLE	L	T	Р	С	
	1.	21152E65A	Advanced Wireless Communication Techniques	3	0	0	3	
Report	2.	21152E65B	Wearable Devices	3	0	0	3	
D. Sances on En		1211 52E65C	Fundamentals of Nanoelectronics	3	0	0	D	the state
Control Sector Science (Inelligation United (Inelligation United (Inelligation United (Inelligation United) (THANJAVUR - 613 4	د ۲ اد د. ۲۰۱۰ - ۲۰۱۰ ۱۰ - ۲۰۱۰ - ۲۰۱۰ ۲۰۱۰ - ۲۰۱۰ - ۲۰۱۰	a***** 01 •.•e => 			Pon Sci	naiyah ence al	Ramaj nd Tech	g and Tack. ayam Institute of mology (PRIST be University
					Va	allam,	Thanja	avdr-61 1

# ELECTIVE - VI (SEMESTER VI)

SI. No	COURSE CODE	COURSE TITLE	L	Т	Р	C
1.	21152E66A	Remote Sensing	3	0	0	3
2.	21152E66B	Human Assist Devices	3	0	0	3
3.	21152E66C	MEMS Design	3	0	0	3

# ELECTIVE - VII (SEMESTER VII)

Т

SI. No	COURSE CODE	COURSE TITLE	L	Т	Р	C
1.	21160S72A Principles of Management		3	0	0	3
2.	21160S72B	Total Quality Management	3	0	0	3
3.	21160S72C	manugement	3	0	0	3
4	21160S72D	Medical Imaging Systems	3	0	0	3

# LIST OF OPEN ELECTIVES

# OPEN ELECTIVE - I (SEMESTER VI)

SI. No	DEPT	COURSE CODE	COURSE TITLE	L	T	Р	С
1.	Civil	21155OE63	Climate Change and its Impact	3	0	0	3
2.	EEE	21153OE63	Renewable Energy System	3	0	0	3
3.	Mech	21154OE63	Introduction to Industrial Engineering	3	0	0	3
4.	CSE	21150OE63	Graph Theory	3	0	0	3
5.	ECE **	21152OE63	Deep Learning	3	0	0	3

\*\* Applicable for other Departments

### **OPEN ELECTIVE - II (SEMESTER VII)**

	Sl. No	DEPT	COURSE CODE	COURSE TITLE	L	Т	Р	С	
Blosen	N8 T.	Civil	21155OE73	ICT in Agriculture	3	0	0	3	
Aportor	12D:	HEEE"	21153OE73	Introduction to Control Engineering	3	0	0	3	
Urphicae Coremon Coremon	sign	Mech	2W54OE73	Aviation Management	3	0	L	3	18
Science Science Institution Lu Ule 3 of		ma liti	J # 1 7 11	R-2021	School Ponr	of Eng naiyah	jineerit Pama	ng and	Tect. Institute of iy (PRIST)

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#### 21152E54D

#### WIRELESSBROADBANDNETWORKS

#### **COURSEOBJECTIVES**

- Tostudythevariousnetworklayerandtransportlayerprotocolsforwirelessnetworks
- Tostudythearchitectureandinterferencemitigationtechniquesin3Gstandards .
- Tolearnabout4GtechnologiesandLTE-Ainmobilecellularnetwork.
- Tolearnaboutthelayerlevelfunctionalitiesininterconnectingnetworks.
- Tostudytheemergingtechniquesin5Gnetwork.

#### UNITI WIRELESSPROTOCOLS

Mobile network layer- Fundamentals of Mobile IP, data forwarding procedures in mobile IP, IPv4, IPv6, IP mobility management, IP addressing - DHCP, Mobile transport layer-Traditional TCP, congestion control, slow start, fast recovery/fast retransmission, classical TCP improvements- Indirect TCP, snooping TCP, Mobile TCP.

#### UNITII **3GEVOLUTION**

IMT-2000 - W-CDMA, CDMA 2000 - radio & network components, network structure, packet-data transport process flow, Channel Allocation, core network, interference-mitigation techniques, UMTS-services, air interface, network architecture of 3GPP, UTRAN - architecture, High Speed Packet Data-HSDPA, HSUPA.

#### UNITIII **4GEVOLUTION**

Introduction to LTE-A - Requirements and Challenges, network architectures - EPC, E- UTRAN architecture - mobility management, resource management, services, channel -logical andtransport channel mapping, downlink/uplink data transfer, MAC control element, PDU packet formats, scheduling services, random access procedure.

#### UNITIV LAYER-LEVELFUNCTIONS

Characteristics of wireless channels - downlink physical layer, uplink physical layer, MAC scheme - frame structure, resource structure, mapping, synchronization, reference signals and channel estimation, SC-FDMA, interferencecancellation-CoMP, Carrieraggregation, Services -multimedia broadcast/multicast, location-based services.

#### UNITY **5GEVOLUTION**

5G Roadmap - Pillars of 5G - 5G Architecture, The 5G internet - IoT and context awareness - Networking reconfiguration and virtualization support - Mobility QoS control - emerging approachfor resource over provisioning, Small cells for 5G mobile networks- capacity limits and achievable gains with densification -Mobile data demand, Demand Vs Capacity, Small cell challenges, conclusion and future directions.

# TOTAL:45PERIODS

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School of Engineering and Tech.

#### **COURSEOUTCOMES:**

Uponcompletionofthecourse, the student will be able to

CO1:Designandimplementthevariousprotocolsinwirelessnetworks.

CO2: Analyze the architecture of 3 Gnetwork standards.

CO3: AnalyzethedifferenceofLTE-Anetworkdesignfrom4Gstandard.

04. Destautheinternonnectingnetworkfunctionalitiesbylayerlevelfunctions. errCOS: Explorethoungrantgeneration(5G) networkarchitecture.

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#### REFERENCES

- 1. VijayK.Garg,"WirelessNetworkEvolution-2G&3G".PrenticeHall,2008.
- 2. ClintSmith, P.E, DannelCollins, "3GWirelessNetworks" TataMcGraw-Hill, 2ndEdition, 2011.
- SassanAhmadi, "LTE-Advanced– Apractical systems approach to understanding the 3GPP LTE Releases 10 and 11 radio access technologies", Elsevier, 2014.
- 4. JonathanRodriguez, "Fundamentalsof5GMobilenetworks", John Wiley, 2015. CO's-PO's&PSO'sMAPPING

CO	PO1	PO 2	PO 3	• PO 4	PO 5	PO 6	PO 7	PO 8	<b>PO</b> 9	PO 10	PO 11	PO 12	PS O1	PS O2	PSO 3
1	3	2	2	3	3	1	-	-	-	-	2	3	3	1	1
2	3	3	2	1	3	2	-		-	240	-		3	2	2
3	3	3	3	3	2	1	-	-	-	-	-	3	3	2	2
4	2	3	3	3	2	2	-	-	-	-	-	3	2	1	2
5	2	-	3	3	2	2				1.72	-	3	2	2	1
CO	2.6	2.75	2.6	2.6	2.4	1.6	-		-	-	2	3	2.6	1.6	1.6

1-low,2-medium,3-high,'-'-nocorrelation

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#### **RFID SYSTEM DESIGN AND TESTING**

# **COURSEOBJECTIVES:**

21152E64D

- TodiscussthefundamentalsofnearfieldandfarfieldRFIDcommunications
- ToarticulatethestandardsandprotocolsusedinRFIDsystems
- TodescribetheoperatingprinciplesofRFIDtagandreader
- TointroducethesecurityaspectsandsystemarchitectureofRFIDsystems
- ToillustratetheindustrialandscientificapplicationsofRFIDsystems

#### UNITI INTRODUCTION

RFIDPrinciples:Near-fieldbasedRFID-PropertiesofMagneticfield -Far-fieldbasedRFID- Properties of Backscatter RF Systems - Modulation techniques - Frequency based property comparison of RFID Systems

#### UNITII RFIDSTANDARDSANDPROTOCOLS

RFIDIndustrystandards:EPCglobal–ISO15693VicinitycardsandRFID–ISO14443Proximity andRFID–TheNFCforum–Reading collocatedRFIDtags:QueryTreeprotocol –Query Slot protocol

#### UNITIII OPERATINGPRINCIPLES

RFID Tag components: RFID tag types – the1-Bit Transponder and ChiplessTags –RFID readers and middleware component – Communication fundamentals: Coupling, Data encoding, multi-path effect – Tag, Reader and sensor communication.

### UNITIV DATAINTEGRITYANDSECURITY

The checksum procedure – Multiaccess procedures – Attacks on RFID Systems – Protection by Cryptographic measures

#### UNITV RFIDENABLEDSENSORSANDAPPLICATIONS

RFID enabled Sensors: Antenna design challenges – IC design – Integration of sensors and RFID – Power consumption and Link budget.

Applications:Contactlesssmartcards –Accesscontrol-Electronic passport-Industrial Automation – Medical applications – Challenges and opportunities.

#### **COURSEOUTCOMES:**

Attheendofthiscourse, the students will be able to:

CO1:ClassifyRFIDsystemsbasedonfrequency, architecture and performance

CO2:DefinestandardsforRFIDtechnology

CO3:IllustratetheoperationofvariouscomponentsofRFIDsystems

CO4:DescribetheprivacyandsecurityissuesinRFIDSystems

CO5:DiscusstheconstructionandapplicationsofRFIDenabledsensor

#### TEXTBOOKS

. RoyWant, RFIDExplained, Springer2022.

2. Amin Bidathinang, Manos M. Tentzeris, RFIDEnabled Sensor Designand Applications, Artech House,

REFERENCES dineading

onnaly 1. KläusFinkenzeller, RFIDHandbook, 3rdEdition, Wiley, 2010

Scien 2. SycdAhson; MollammadIlyas, RFIDHandbook, CRCPress, 2008 (Incline 3. ParisKitsos, SecurityinRFIDandSensorNetworks, CRCPress, 2016.

DEAN

School of Engineering and Tech. Ponnaivah Ramajayam Institute of Schoology (PRIST)

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# CO's-PO's&PSO'sMAPPING

CON

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	POS	POQ	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	2	2	3	1	-	Made of the	Productionade	Hereit with the first	3	2	3	2
2	3	2	3	2	2	2	1	-	1.	1	-	3	3	2	2
3	3	3	3 ·	2	3	2	1	-	-	1	-	3	2	3	2
4	3	3	3	2	2	2	1	-	-	1	-	2	3	2	2
5	3	3	2	2	2	2	2		-	1	1.5.1	3	2	2	2
СО	3	3	3	2	3	3	1	-		1	-	2	3	3	2

1-low,2-medium,3-high,'-'-nocorrelation

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School of Engineering and Teck, Ponneiyah Ramajayam Institute of Science and Technology (PRIST) Deemed to be University Vallam, Thanjavur-613,403.

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Meed Of the Department: Department Of Electronics and Communication Engineering Pounalyan Ramajayam Institute of Science & Technology (PRIST) Institution Operate to be University 11/6 3 of the UGC Act.1856) THANJAVUR - \$13 403, TAMIL NADU.

### 21160S72D

### MEDICAL IMAGING SYSTEMS

# COURSEOBJECTIVES:

- TounderstandthegenerationofX-rayanditsusesinMedicalimaging
- TodescribetheprincipleofComputedTomography.
- Toknowthetechniquesusedforvisualizingvarioussectionsofthebody.
- TolearntheprinciplesofdifferentradiodiagnosticequipmentinImaging.
- Todiscusstheradiationtherapytechniquesandradiationsafety

#### UNITI

#### X RAYS

Nature of X-rays- X-Rayabsorption – Tissue contrast. X- RayEquipment (Block Diagram) – X-Ray Tube, the collimator, Bucky Grid, power supply, Digital Radiography - discrete digital detectors, storage phosphor and film scanning, X-ray Image Intensifier tubes – Fluoroscopy – Digital Fluoroscopy. Angiography, cine Angiography. Digital subtraction Angiography. Mammography.

#### UNITII

# COMPUTEDTOMOGRAPHY

Principles of tomography, CT Generations, X- Ray sources- collimation- X- Ray detectors –Viewing systems –spiralCT scanning –UltrafastCT scanners. Imagereconstructiontechniques– back projection and iterative method.

# UNITIII MAGNETICRESONANCEIMAGING

Fundamentals of magnetic resonance- properties of electromagnetic waves : speed , amplitude, phase, orientation and waves in matter - Interaction of Nuclei with static magnetic field and Radio frequency waverotation and precession – Induction of magnetic resonance signals – bulk magnetization – Relaxation processes T1 and T2. Block Diagram approach of MRI system – system magnet (Permanent, Electromagnet and Superconductors), generations of gradient magneticfields, RadioFrequencycoils (sending andreceiving), shim coils, Electronic components, fMRI.

#### UNITIV

#### NUCLEARIMAGING

Radioisotopes- alpha, beta, and gamma radiations. Radio Pharmaceuticals. Radiation detectors – gas filled, ionization chambers, proportional counter, GM counter and scintillation Detectors, Gamma camera – Principle of operation, collimator, photomultiplier tube, X-Y positioning circuit, pulse height analyzer. Principles of SPECT and PET

#### UNITV

#### RADIATIONTHERAPYANDRADIATIONSAFETY

Radiationtherapy-linearaccelerator, TelegammaMachine.SRS-SRT-RecentTechniquesin radiation therapy – 3D CRT – IMRT – IGRT and Cyber knife – radiation measuring instruments Dosimeter, film badges, Thermo Luminescent dosimeters – electronic dosimeter – Radiation protection in medicine – radiation protection principles

#### TOTAL45PERIODS

**COURSEOUTCOMES:** 

#### Attheendofthecoursethestudentwillbeableto:

- CO1: DescribetheworkingprincipleoftheX-raymachineanditsapplication.
- CO2: Illustratetheprinciplecomputedtomography
- CO3: Interpretthetechniqueusedforvisualizingvarioussectionsofthebodyusing Magnetic

COA: Demonstratetheapplicationsofradionuclideimaging.

CO5; Analyzedifferentimagingtechniquesandchooseappropriateimagingequipment for be

Scholiggnosic and outline'fheimethods of radiation safety.

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CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	2	2	2	-	93.5%.5%54549 -	-	-	-	3	2	3	2
2	3	3	3	2	2	1	-	-	-	-	-	2	2	3	2
3	3	3	2	2	2	2	-	-	-	-	-	2	2	2	1
4	3	3	3	2	2	1	-	-	-	-	2_	2	2	2	1
5	3	3	3	3	2	2	-	-	-	1_		1	2	2	1
CO	3	3	2.8	2.2	2	1.6	-	-	-	-		2	2	2.4	1.4

# CO's-PO's&PSO'Smapping

1-low,2-medium,3-high,'-'-nocorrelation

#### **TEXTBOOKS:**

- 1. IsaacBankman, I.N.Bankman, HandbookOfMedicalImaging: Processing and Analysis (Biomedical Engineering), Academic Press, 2000
- 2. Jacob Beutel (Editor), M. Sonka (Editor), Handbook of Medical Imaging, Volume 2. Medical Image Processing and Analysis, SPIE Press 2000
- 3. KhinWeeLai,DyahEkashantiOctorinaDewi"MedicalImagingTechnology",Springer Singapore, 2015

#### REFERENCEBOOKS

- 1. KhandpurR.S, "Handbook of Biomedical Instrumentation", Tata McGraw Hill, New Delhi, 2003.
- Dougherty, Geoff (Ed.), "<u>Medical Image Processing Techniques</u> andApplications", Springer-Verlag New York, 2011

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Hand Of the Department Department Of Electronics and Communication Engineering Ponnatyan Ramainyam Institute of Science & Technology (PRIST) (In-titution Deemed to be University 115 3 of the UGC Act.1958) THAMMAYUR - 613 403, TAMIL, NADU.

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# **B.TECH (PART TIME) – ECE – R-2022**

# **SEMESTER I – VII CURRICULUM**

# **SEMESTER-I**

S.NO	SUB	SUBJECT NAME		<b>Periods Per Week</b>				
5.10	CODE	SUBJECT NAME	L	Т	Р	С		
1	22148S11P	Transforms and Partial Differential	3	1	0	4		
	221403111	Equations	3	L	U	4		
2	22152C12P	Electromagnetic Fields	3	1	0	4		
3	22152C13P	Digital Electronics	3	1	0	4		
4	22152C14P	Electronic Circuits - I	3	0	0	3		
5	22152C15P	Signals and Systems	4	0	0	4		
	TOTAL CREDITS 19							

# **SEMESTER-II**

S.NO	SUB CODE	SUBJECT NAME	Perio	C		
5.10	SUD CODE	SUDJECT NAME	L	Т	P	C
1	22148S21BP	Probability and Random Processes	3	1	0	4
2	22152C22P	Communication Theory	3	0	0	3
3	22152C23P	Linear Integrated Circuits	3	1	0	4
4	22152C24P	Electronic Circuits – II	3	1	0	4
5	22152C25P	Transmission Lines and Waveguides	4	0	0	4
			ТОТА	L CRE	DITS	19

### **SEMESTER-III**

S.NO	SUB CODE	SUBJECT NAME	Perio	С		
5.10	SUD CODE	SUBJECT NAME	L	Т	P	C
1.	22148S31BP	Numerical Methods	3	1	0	4
2.	22152C32P	Microprocessor and Microcontrollers	3	1	0	4
3.	22152C33P	Digital Signal Processing	3	1	0	4
4.	22152C34P	Digital Communication	3	1	0	4
5.	22152L35P	Microprocessor and Microcontrollers Lab	0	0	3	2
			TOTAL CREDITS			

#### **SEMESTER-IV**

S.NO	SUB CODE	SUBJECT NAME	Perio	С		
5.110	SUB CODE	SUBJECT MAME	L	Т	P	C
1	22152C41P	Medical Electronics	3	1	0	4
2	22152C42P	Antenna and Wave Propagation	3	1	0	4
3	22152C43P	Computer Networks	4	0	0	4
4	22152E44_P	Elective-I	4	0	0	4
5	22152L45P	Networks and Communication Lab	0	0	3	2
			TOTAL CREDITS			18

## **SEMESTER-V**

S NO	SUB CODE	SUBJECT NAME		<b>Periods Per Week</b>			
<b>5.NU</b>	SUB CODE	SUDJECT NAME	L	Т	P	C	
1	22152C51P	Optical Communication and Networks	4	0	0	4	
2	22152C52P	Microwave Engineering	4	0	0	4	
3	21160C53P	Principles of Management	3	1	0	4	
4	22152E54_P	Elective II	4	0	0	4	
5	22152L55P	Optical Communication and Microwave Lab	0	0	3	2	
TOTAL CREDITS							

### **SEMESTER-VI**

S.NO	SUB CODE	SUBJECT NAME	Perio	Veek	С	
5.110	SUB CODE	SUBJECT NAME	L	Т	Р	C
1	22152C61P	Wireless Communication	4	0	0	4
2	22152C62P	VLSI Design	3	1	0	4
3	22152C63P	Embedded and Real Time Systems	3	1	0	4
4	22152E64_P	Elective III	4	0	0	4
5	22152L65P	VLSI and Embedded Systems Lab	0	0	3	2
			ТОТА	DITS	18	

### **SEMESTER-VII**

S.NO	SUB CODE	SUBJECT NAME	Perio	Periods Per Week				
5.110	SUB CODE	SUBJECT NAME	L	Т	P	С		
1	21160S71P	Total Quality Management	3	0	0	3		
2	22152C72P	Wireless Networks	3	1	0	4		
3	22152C73P	Telecommunication Switching and Networks	4	0	0	4		
4	22152E74_P	Elective IV	3	0	0	3		
5	22152P75P	Project Work	0	0	12	6		
			TOTAL CREDITS					

# LIST OF ELECTIVES

# ELECTIVE-I (SEMESTER-IV)

S.No	Sub Code	Cash Nama	Perio	C		
5.NO	Sub Code	Sub Name	L	Т	Р	C
1	22152E44AP	High Speed Networks	4	0	0	4
2	22152E44BP	Advanced Digital Signal Processing	4	0	0	4
3	22152E44CP	Speech Processing	4	0	0	4
4	22152E44DP	Fuzzy Logic and Neural Networks	4	0	0	4
5	22152E44EP	Advanced Electronic System Design	4	0	0	4

# ELECTIVE-II (SEMESTER-V)

S.No	Sub Code	Sub Name	Pe	С		
			L	Т	Р	
1.	22152E54AP	Environmental Science and Engineering	4	0	0	4
2.	22152E54BP	Optoelectronic Devices	4	0	0	4
3.	22152E54CP	Radar and Navigational Aids	4	0	0	4
4.	22152E54DP	Digital Image Processing	4	0	0	4
5.	22152E54EP	Engineering Acoustics	4	0	0	4
6.	22152E54FP	Therapeutic Equipment	4	0	0	4

### **ELECTIVE-III (SEMESTER-VI)**

S.No	Sub Codo	Sub Code Sub Name	Periods Per Wee			С
5.110	Sub Code	Sub Ivanie	L	Т	Р	C
1	22152E64AP	Professional Ethics in Engineering	4	0	0	4
2	22152E64BP	Satellite Communication	4	0	0	4
3	22152E64CP	Robotics and Automation	4	0	0	4
4	22152E64DP	Remote sensing	4	0	0	4
5.	22152E64EP	Network Security	4	0	0	4

# **ELECTIVE-IV (SEMESTER-VII)**

C No	Sub Cada	Such Norma	Periods Per Week		C	
S.No	Sub Code	Sub Name	L	Т	Р	C
1	22152E74AP	Power Electronics	3	0	0	3
2	22152E74BP	Advanced Microprocessors and Microcontrollers	3	0	0	3
3	22152E74CP	Electromagnetic Interference and Compatibility	3	0	0	3
4	22152E74DP	Solid State Electronic Drives	3	0	0	3
5	22152E74EP	Computer Hardware and Interfacing	3	0	0	3
6	22152E74FP	Brain Computer Interface And Application	3	0	0	3

# **B.TECH (PART TIME) – ECE – R-2022**

		Core C	Courses		Ele			
Sem.		heory ourses		ctical urses	-	irses	Total	
	Nos.	Credits	Nos.	Credits	Nos. Credits		Credits	
Ι	05	19	-	-	-	-	19	
II	05	19	-	-	-	-	19	
III	04	16	01	02	-	-	18	
IV	03	12	01	02	01	04	18	
V	03	12	01	02	01	04	18	
VI	03	12	01	02	01	04	18	
VII	03	11	01	06	01 03		20	
	Total Credits							

# **COURSE STRUCTURE AND CREDITS DISTRIBUTION**

**B.TECH (PT) - ECE** 

#### **22152E54FP-THERAPEUTIC EQUIPMENT**

#### **COURSEOBJECTIVES:**

- Tolearntheprinciplesofcardiacassistdevices.
- Tounderstandtheneedanduseofextracorporealdevices, and the use of lasers in medicine.
- Toenablethestudentstogainknowledgeontheworkingoftherapeuticclinicalequipment.

#### UNITI CARDIACANDRESPIRATORYTHERAPYEQUIPMENT

Cardiac Pacemaker: Internal and External Pacemaker– Programmable pacemakers. Cardiac Defibrillators: AC and DC Defibrillator- Internal and External Defibrillators - Protection Circuit, Defibrillator analyzers. Cardiac ablation catheter.

Types of Ventilators – Pressure, Volume, and Time controlled. Basic principles ofelectromechanical, pneumatic and electronic ventilators, Patient Cycle Ventilators, Ventilatortesting. Humidifiers, Nebulizers, Inhalators.

#### UNITII BIOMECHANICALTHERAPEUTICEQUIPMENT

Electrodiagnosis, Therapeutic radiation, Electrotherapy, Electrodes, Stimulators for Nerve and Muscle, Functional Electrical Stimulation. peripheral nerve stimulator, ultrasonic stimulators, Stimulators for pain and relief - Inferential Therapy Unit, TENS. GAIT Assessment and Therapy. Continuous Passive Motion unit, Cervical / Lumber Traction Machine -Traction Table.

#### UNITIII BODYCAREEQUIPMENT

Skin Treatment: Ultrasonic spot remove, vacuum therapy unit, Skin tightening, Wrinkle Reduction, Facial and Rejuvenation. Laser hair therapy machine. Body Slimmer/Shaper – Deep Heat Therapy, Massager, Fitness – Treadmill, Bike.

#### UNITIV DENTALCAREEQUIPMENT

Dental Chair - Dental Hand pieces and Accessories: Evolution of rotary equipment, Low-speed handpiece, High-speed handpiece, Hand piece maintenance. Vacuum and Pneumatic techniques: Vacuum tecniques, Oral evacuation systems, Vacuum pump, Pneumatic techniques, Dental compressor. Decontamination Unit and constant fumigation unit. Dental Radiography: Dental X-ray Machine. 9

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#### UNITV HEAT&PHOTONTHERAPYEQUIPMENT

High frequency heat therapy, Principle, Short wave diathermy, Microwave diathermy, Ultrasonic therapy, Lithotripsy. Therapeutic UV and IR Lamps. Basic principles of Biomedical LASERS: Applications of lasers in medicine, CO2laser, He-Ne laser, Nd-YAG and Ruby laser.

#### **COURSEOUTCOMES:**

On successful completion of this course, the student will be able to

**CO1:**Suggestsuitabletherapeuticdevicesforailmentsrelatedtocardiology,pulmonolo gy, neurology, etc

CO2:Comprehendtheprinciplesofbodycareequipment

- CO3: Understand the operation of dental care equipment.
- ${\bf CO4:} Analyze the different types of the rapies for suitable applications.$

**CO5:**Appreciate the application of lasers in biomedical applications.

#### **TOTAL:45PERIODS**

#### TEXTBOOKS

- Khandpur.R.S., "HandbookofBiomedicalInstrumentation". Se condEdition. Tata McGrawHill Pub. Co., Ltd. 2003.
- John.G.Webster."MedicalInstrumentation, ApplicationandDesign".Fou rthEdition.Wiley &s ons, Inc., NewYork. 2009.

#### REFERENCES

- LeslieCromwell,Fred.J.Weibell&Erich.A.Pfeiffer."BiomedicalInst rumentationand Measurements". Second Edition. Prentice Hall Inc.2000.
- JohnLow&AnnReed."ElectrotherapyExplained,PrinciplesandPractice".Se condEdition. Butterworth Heinemann Ltd. 2000.

# 22152E74FP-BRAINCOMPUTERINTERFACEANDAPPLICATIONS COURSEOBJECTIVES:

Thestudentshouldbemadeto:

- Tounderstandthebasicconceptsofbraincomputerinterface
- Tostudythevarioussignalacquisitionmethods
- TostudythesignalprocessingmethodsusedinBCI

UNITIINTRODUCTIONTOBCIFundamentalsof BCI –Structureof BCI system–Classification of BCI –Invasive,Non-invasive and Partially invasive BCI – EEG signal acquisition -Signal Preprocessing – Artifacts removal.	9
UNITIIELECTROPHYSIOLOGICALSOURCESSensorimotor activity – Mu rhythm, Movement Related Potentials – Slow CorticalPotentials-P300 - Visual Evoked Potential - Activity of Neural Cells - MultipleNeuromechanisms.	9
UNITIIIFEATUREEXTRACTIONMETHODSTime/Space Methods – Fourier Transform, PSD –Wavelets – Parametric Methods– AR,MA,ARMA models – PCA – Linear and Non-Linear Features.	9
UNITIV FEATURETRANSLATIONMETHODS LinearDiscriminantAnalysis–SupportVectorMachines-Regression– VectorQuantization– Gaussian Mixture Modeling – Hidden Markov Modeling – Neural Networks.	9
UNITVAPPLICATIONSOF BCIFunctionalrestorationusingNeuroprosthesis-FunctionalElectricalStimulation,VisualFeedback and control - External devicecontrol, Case study: Brain actuated control of mobile Robot.	9

#### **COURSEOUTCOMES**:

Onsuccessfulcompletionofthiscourse,thestudentwillbeableto CO1:DescribeBCIsystemanditspotentialapplications. CO2:Analyzeeventrelatedpotentialsandsensorymotorrhythms. CO3: Compute features suitable for BCI. CO4: Design classifier for a BCI system. CO5:ImplementBCIforvariousapplications.

#### **TOTAL:45PERIODS**

TEXTBOOKS BernhardGraimann,BrendanAllison,GertPfurtscheller,"BrainComputerInterfaces: Revolutionizing Human-Computer Interaction", Springer, 2010.

### REFERENCES

- 1. R.Spehlmann, "EEGPrimer", ElsevierBiomedicalPress, 1981.
- 2. ArnonKohen, "BiomedicalSignalProcessing", VollandII, CRCPr essInc, BocaRato, Florida, 1986.
- 3. BishopC.M., "NeuralNetworksforPatternRecognition", Oxford, ClarendonPress, 1995.

# M.TECH. COMMUNICATION SYSTEMS - FULL TIME-R-2022

# SEMESTER I – IV CURRICULUM

### **SEMESTER I**

S.N	SUB CODE	SUBJECT	L	Т	Р	С			
	Theory								
1	22248S11B	Applied Mathematics for Electronics Engineering	3	1	0	4			
2	22271C12	Advanced Digital Signal Processing	3	1	0	4			
3	22271C13	Advanced Digital Communication Techniques	3	1	0	4			
4	22271C14	Optical Networks	4	0	0	4			
5	22271C15	Advanced Radiation Systems	4	0	0	4			
6	22271E16_	Elective-I	3	0	0	3			
		Practical							
7	22271L17	Communication Systems Lab – I	0	0	3	3			
	<b>Total</b> 20 3 3 26								
	SEMESTER II								
S.N	SUB CODE	SUBJECT	L	Т	Р	С			

S.N	SUB CODE	SUBJECT	L	Т	Р	С			
	Theory								
1	22271C21	Mobile Communication Networks	4	0	0	4			
2	22271C22	Advanced Microwave Systems	4	0	0	4			
3	22271C23	Electromagnetic Interference and Compatibility	4	0	0	4			
4	22271E24_	Elective-II	3	0	0	3			
5	22271E25_	Elective-III	3	0	0	3			
		Practical							
6	22271L26	Communication Systems Lab – II	0	0	3	3			
7	222TECWR	Technical Writing /Seminars	0	0	3	3			
		18	0	6	24				

## SEMESTER III

S.N	SUB CODE	SUBJECT		L	Т	Р	С	
	Theory							
1	22271C31	Wireless Sensor Networks		4	0	0	4	
2	22271E32_	Elective – IV		3	0	0	3	
3	22271E33_	Elective – V		3	0	0	3	
4	22271E34_	Elective – VI		3	0	0	3	
	Project							
5	22271P35	Project Phase – I		0	0	10	10	
			Total	13	0	10	23	

M.TECH (FT) - COMM SYS

		SEMEST	ER IV				
S.N	SUB CODE	SUBJECT		L	Т	Р	С
1	22271P41	Project Phase – II		0	0	15	15
	<b>Total</b> 0 0 15						
	TOTAL NO. OF CREDITS						

# LIST OF ELECTIVES

### Elective-I (SEMESTER – I)

S.N	SUB CODE	SUBJECT	L	Т	Р	С
1.	22271E16A	Internetworking and Multimedia	3	0	0	3
2.	22271E16B	Digital Image Processing	3	0	0	3
3.	22271E16C	LASER Communication	3	0	0	3

# **Elective-II (SEMESTER – II)**

S.N	SUB CODE	SUBJECT	L	Т	Р	С
1.	22271E24A	High Speed Switching Architecture	3	0	0	3
2.	22271E24B	DSP Processor Architecture and Programming	3	0	0	3
3.	22271E24C	Digital Speech Processing	3	0	0	3

## **Elective-III (SEMESTER – II)**

S.N	SUB CODE	SUBJECT	L	Т	Р	С
1.	22271E25A	Digital Communication Receivers	3	0	0	3
2.	22271E25B	Soft Computing Techniques	3	0	0	3
3.	22271E25C	Communication Network Security	3	0	0	3

#### **Elective-IV (SEMESTER – III)**

S.N	SUB CODE	SUBJECT	L	Т	Р	С
1.	22271E32A	Software Defined Radio	3	0	0	3
2.	22271E32B	Satellite Communication	3	0	0	3
3.	22271E32C	CDMA Systems	3	0	0	3

### **Elective-V (SEMESTER – III)**

S.N	SUB CODE	SUBJECT	L	Т	Р	С
1.	22271E33A	Wavelets and Multi Resolution Processing	3	0	0	3
2.	22271E33B	High Performance Communication Networks	3	0	0	3
3.	22271E33C	Advanced Microprocessors and Microcontrollers	3	0	0	3
4	22271E33D	Rocketry And Space Mechanics	3	0	0	3

### **Elective-VI (SEMESTER – III)**

S.N	SUB CODE	SUBJECT	L	Т	Р	С
1.	22271E34A	Space Time Wireless Communication	3	0	0	3

M.TECH (FT) - COMM SYS

2.	22271E34B	Medical Imaging	3	0	0	3
3.	22271E34C	Mobile ADHOC Networks	3	0	0	3
4.	22271E34D	Positioning And Navigation Systems	3	0	0	3

# M.TECH. COMMUNICATION SYSTEMS - FULL TIME-R-2022

# **Course Structure and Credit Distribution**

Sem.	Core Courses						Elective		Foundation		
	Theory Courses		Practical Courses		Courses on *RSD		Courses		Courses		Total Credits
	Nos.	Credits	Nos.	Credits	Nos.	Credits	Nos.	Credits	Nos.	Credits	
Ι	04	16	01	03	-	-	01	03	01	04	26
II	03	12	02	06	-	-	02	06	-	-	24
III	01	04	01	10	-	-	03	09	-	-	23
IV	-	-	01	15	-	-	-	-	-	-	15
Total Credits										88	

M.TECH (FT) - COMM SYS

#### 22271E33D

#### ROCKETRYANDSPACEMECHANICS

#### **COURSEOBJECTIVES:**

- Thiscoursepresentsthefundamentalaspectsofrocketmotio nalong withdetailed estimation of rocket trajectories.
- Thiscoursealsoimpartsknowledgeonoptimizationofmultistagerockets.
- Thiscourseprovidesthebasicsofspacemechanicsrequiredforanaeronauticalstu dent
- Thiscoursehelpsstudentstoprovidewiththebasicsoforbittransferof satellites.
- Thiscoursewillhelpstudentstogainknowledgeonvariouscontrolmethodsofrocke ts.

#### UNITI ORBITALMECHANICS

Description of solar system – Kepler's Laws of planetary motion – Newton's Law of Universal gravitation – Two body and Three-body problems – Jacobi's Integral, Librations points – Estimation of orbital and escape velocities.

#### UNITII SATELLITEDYNAMICS

Geosynchronous and geostationary satellites- factors determining life time of satellites – satellite perturbations – orbit transfer and examples – Hohmann orbits – calculation of orbit parameters– Determination of satellite rectangular coordinates from orbital elements.

#### UNITIII ROCKETMOTION

Principle of operation of rocket motor – thrust equation – one dimensional and two dimensional rocket motions in free space and homogeneousgravitational fields – Description of vertical, inclined and gravity turn trajectories – determinations of range and altitude – simple approximations to burnout velocity.

#### UNITIV ROCKETAERODYNAMICS

Description of various loads experienced by a rocket passing through atmosphere – drag estimation –wave drag, skin friction drag, form drag and base pressure drag – Boat-tailing in missiles – performance at various altitudes – rocket stability – rocket dispersion – launching problems.

#### UNITV STAGINGANDCONTROLOFROCKETVEHICLES

Need for multi staging of rocket vehicles – multistage vehicle optimization – stage separation dynamics and separation techniques- aerodynamic and jet control methods of rocket vehicles – SITVC.

#### **COURSEOUTCOMES:**

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Uponcompletionofthiscourse, students will be able

**CO1**:Toknowledgeonthefundamentallawsoforbitalmechanicswithparticulare mphasison interplanetary trajectories.

**CO2**: To calculateorbital parameters and perform conceptual trajectory designs for geocentric or interplanetary missions.

**CO3**:Tofamiliarizethemselveswithtrajectorycalculationsforplanarmotionofrockets. **CO4**:Todetermineforcesandmomentsactingonairframeofamissile.

**CO5**:Toacquireknowledgeontheneedforstagingandstageseparationdynamic sof rocket vehicles.

# TEXTBOOKS

- 1. Cornelisse, JW, "Rocket Propulsion and Space Dynamics", J.W. Freeman & Co., Ltd., London, 1982.
- 2. Parker, ER, "Materialsfor Missiles and Spacecraft", McGraw-HillBookCo., Inc., 1982. **REFERENCES**
- 1. Suresh.BN&Sivan.K,"IntegratedDesignforSpaceTransportation System",Springer India, 2015.
- 2. Sutton,GP,"RocketPropulsionElements",JohnWiley&SonsInc.,NewYork,8<sup>th</sup>Edition , 2010.
- 3. VandeKamp, "Elements of Astromechanics", Pitman Publishing Co., Ltd., London, 1980

# 22271E34D POSITIONINGANDNAVIGATIONSYSTEMS COURSEOBJECTIVES

- Toexplainthefundamentalsofnavigationsystems.
- Tounderstandtheinertialnavigationsystems
- Toacquireknowledgeonradionavigation.
- Tohaveanoverviewofglobalpositioning systems
- Tolearnthehybridnavigationsystems.

#### UNITI NAVIGATIONCONCEPTS

Fundamentals of navigation systems and Position Fixing – Categories of navigation - Geometric concepts of Navigation –The Earth in inertial space - Different Coordinate Systems – Coordinate Transformation - Euler angle formulations - Direction cosine matrices formulation - Quaternion formulation.

#### UNITII INERTIALNAVIGATIONSYSTEMS

Inertial sensors - Gyroscopes -Types - Mechanical - Electromechanical-Optical Gyro -Ring Laser gyro- Fiber optic gyro-Accelerometers – Pendulous type – Force Balance type – MEMs - Basic Principles of Inertial Navigation – Types - Platform and Strap down - Mechanization INS system - Rate Corrections - Acceleration errors –Schuler Tuning.

## UNITIII RADIONAVIGATION&AIRTRAFFICMANAGEMENT

Different types of radio navigation- ADF, VOR, DME, TACAN, VORTAC -Doppler – Hyperbolic Navigations – Air Traffic Management – RADAR Surveillance- Airborne Collision Avoidance Systems

#### UNITIV GLOBALPOSITIONINGSYSTEM

Overview of GPS: Basic concept, system architecture, , GPS Signals Signal structure, anti-spoofing (AS), selective availability, GPS for position and velocity determination, GPS aided Geo-augmented navigation (GAGAN) architecture -GPS error sources-clock error, ionospheric error, tropospheric error, multipath, ionospheric error estimation using dual frequency GPS receiver

UNITVHYBRIDNAVIGATION&RELATIVENAVIGATIONSYSTEMSHybrid Navigation - Introduction to Kalman filtering - Case Studies -Integration of GPS and INS using Kalman Filter - Relative Navigation -fundamentals - Equations of Relative Motion for circular orbits(Clohessy\_Wiltshire Equations) - Sensors for Rendezvous Navigation -Relative positioning - Point positioning and differential positioning -Differential GPS (DGPS) and Space based Augmentation system (SBAS)-Concepts -Relative GPS-Formation Flying - Figure of Merit (FOM)

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# COURSEOUTCOME:

Upon completion of the course, students will be able to

**CO1** :Understand the advanced concepts of Positioning andNavigation systems and exposure on various Navigation systems

**CO2** :Know about Gyroscopes and accelerometers and Inertial Navigation systems and its types and Mechanisation

**CO3** : Explain the differentRadio Navigation aids and itsusage for civil and military aircrafts and satellites

**CO4** :Explain the Satellite Navigation – GPS and its usage in aircraft and spacecraft applications **CO5**:Deploy these skills effectively in the analysis and understanding of hybrid navigation systems andRelative navigation in a spacecraft.

# TEXTBOOKS:

- 1. MyronKyton,WalfredFried,'AvionicsNavigationSystems', JohnWiley&Sons,2 edition,1997.
- 2. Nagaraja, N.S. "ElementsofElectronicNavigation", TataMcGraw-HillPub.Co., NewDelhi, 2nd edition, 1975.

# **REFERENCES**:

- 1. GeorgeMSiouris, 'AerospaceAvionicsSystem; AModernSynthesis', Acade micPressInc., 1993.
- 2. AlbertHelfrick, 'PracticalAircraftElectronicSystems', PrenticeHallEducatio n,Career& Technology, 1995.
- 3. AlbertD.Helfrick, 'ModernAviationElectronics', SecondEdition, PrenticeHal ICareer& Technology, 1994.
- 4. Paul. D. Groves. 'Principles of GNSS, Inertial, and Multisensor Integrated Navigation Systems', Artech House, 2013.
- 5. MaxwellNoton,"Spacecraftnavigationandguidance",Springer(London,NewYork), 1998

# M.TECH (PART TIME) - COMMUNICATION SYSTEMS - R-2022

# SEMESTER I – VI CURRICULUM

# **SEMESTER I**

S.N	SUB CODE	SUBJECT	L	Т	P	С			
	Theory								
1	22248S11BP	Applied Mathematics for Electronics Engineering	3	1	0	4			
2	22271C12P	Advanced Digital Signal Processing	3	1	0	4			
3	22271C13P	Advanced Digital Communication Techniques	3	1	0	4			
		Practical							
4	22271L14P	Communication Systems Lab - I	0	0	3	3			
					Total	15			

# **SEMESTER II**

S.N	SUB CODE	SUBJECT	L	Τ	Р	С			
	Theory								
1	22271C21P	Mobile Communication Networks	4	0	0	4			
2	22271C22P	Advanced Microwave Systems	4	0	0	4			
3	22271E23_P	Elective-I	3	0	0	3			
		Practical							
4	22271L24P	Communication Systems Lab - II	0	0	3	3			
5	222TECWRP	Technical Writing /Seminars	0	0	3	3			
					Total	17			

# **SEMESTER III**

S.N	SUB CODE	SUBJECT	L	Τ	P	С			
	Theory								
1	22271C31P	Electromagnetic Interference and Compatibility	4	0	0	4			
2	22271C32P	Advanced Radiation Systems	4	0	0	4			
3	22271E33_P	Elective – II	3	0	0	3			
				1	Total	11			

## **SEMESTER IV**

S.N	SUB CODE	SUBJECT	L	Т	Р	С
		Theory				
1	22271C41P	Wireless Sensor Networks	4	0	0	4
2	22271C42P	Optical Networks	4	0	0	4
3	22271E43_P	Elective-III	3	0	0	3

		Project				
4	22271P44P	Project Work Phase – I	0	0	10	10
					Total	21

# SEMESTER V

S.N	SUB CODE	SUBJECT	L	Т	P	С			
	Theory								
1	22271E51_P	Elective-IV	3	0	0	3			
2	22271E52_P	Elective-V	3	0	0	3			
3	22271E53_P	Elective-VI	3	0	0	3			
					Total	9			

# SEMESTER VI

S.N	SUB CODE	SUBJECT		L	Т	Р	С
1	22271P61P	Project Work Phase – II		0	0	15	15
Total							15
	TOTAL NO. OF CREDITS						88

# LIST OF ELECTIVES

# Elective-I (SEMESTER-II)

S.N	SUB CODE	SUBJECT	L	Т	Р	С
1.	22271E23AP	High Speed Switching Architecture	3	0	0	3
2.	22271E23BP	DSP Processor Architecture and Programming	3	0	0	3
3.	22271E23CP	Digital Speech Processing	3	0	0	3

# **Elective-II (SEMESTER-III)**

S.N	SUB CODE	SUBJECT	L	Т	Р	С
1.	22271E33AP	Internetworking and Multimedia	3	0	0	3
2.	22271E33BP	Digital Image Processing	3	0	0	3
3.	22271E33CP	LASER Communication	3	0	0	3

# **Elective-III (SEMESTER-IV)**

S.N	SUB CODE	SUBJECT	L	Т	Р	С
1.	22271E43AP	Digital Communication Receivers	3	0	0	3
2.	22271E43BP	Soft Computing Techniques	3	0	0	3
3.	22271E43CP	Communication Network Security	3	0	0	3

# **Elective-IV (SEMESTER-V)**

S.N	SUB CODE	SUBJECT	L	Т	Р	С
1.	22271E51AP	Software Defined Radio	3	0	0	3
2.	22271E51BP	Satellite Communication	3	0	0	3
3.	22271E51CP	CDMA Systems	3	0	0	3
4.	22271E51DP	Validation And Testing Technology	3	0	0	3

# Elective-V (SEMESTER-V)

S.N	SUB CODE	SUBJECT	L	Т	Р	С
1.	22271E52AP	Wavelets and Multi Resolution Processing	3	0	0	3
2.	22271E52BP	High Performance Communication Networks	3	0	0	3
3.	22271E52CP	Advanced Microprocessors and Microcontrollers	3	0	0	3
4.	22271E52DP	Ocean Acoustics	3	0	0	3

# **Elective-VI (SEMESTER-V)**

S.N	SUB CODE	SUBJECT		Т	Р	С
1.	22271E53AP	Space Time Wireless Communication		0	0	3
2.	22271E53BP	Medical Imaging		0	0	3
3.	22271E53CP	Mobile ADHOC networks	3	0	0	3

# M.TECH (PART TIME) - COMMUNICATION SYSTEMS - R-2019

Sem.	Core Courses Theory Practical Courses Courses		octical	Elective Courses		Foundation Courses		Total Credits	
	Nos.	Credits	Nos.	Credit s	Nos.	Credi ts	Nos.	Credits	Creans
Ι	02	08	01	03	-	-	01	04	15
II	02	08	02	06	01	03	-	-	17
III	02	08	_	-	01	03	-	-	11
IV	02	08	01	10	01	03	-	-	21
V	-	-	-	-	03	09	-	-	09
VI	-	-	01	15	-	-	-	-	15
					•		Total	Credits	88

# **Course Structure and Credit Distribution**

\*RSD-Research Skill Development Courses

# VALIDATION AND TESTING TECHNOLOGY

# **COURSEOBJECTIVES:**

22271E51DP

- GettingfamiliarwithvariousICtechnology.
- LearnMOStheoryandtesting
- LearnCMOScircuittheoryandtesting
- GettingexpertiseonCMOScharacterization.
- Explorecircuitanddeviceleveltestingmethods

## UNITI TECHNOLOGYINTRODUCTION:

Introduction to IC Technology – MOS, PMOS, NMOS, CMOS & BiCMOS Technologies. VLSI Fabrication, Oxidation, Lithography, Diffusion, Ion Implantation, Metallization, Integrated Resistors and Capacitors.

## UNITII MOSTHEORYANALYSIS-I

Basic Electrical Properties of MOS Circuits: Ids-Vds Relationships, MOS Transistor Threshold Voltage Vth, gm, gds, Figure of Merit ωo, Short Channel and Narrow Channel Width Effects.

## UNITIII MOSTHEORYANALYSIS-II

Pass Transistor, Transmission Gate, NMOS Inverter, Various Pull-ups, CMOS Inverter Analysis and Design, Bi-CMOS Inverters, Latch up in CMOS Circuits.

## UNITIV CMOSCIRCUITCHARACTERISATIONANDPERFORMANCEESTIMATION 6

Sheet Resistance RS, conductivity and its Concept to MOS, Area Capacitance Units, Calculations - Delays, Driving Large Capacitive Loads, Delay Estimation, Logical Effort and Transistor Sizing, Power Dissipation, Reliability.

## UNITV BASICOFSILICONVALIDATION

Need for Testing, Testing at Various Levels, Objectives of Testing - VLSI Test process and Test Equipment -Types of Testing: Functionality Tests, Silicon Debug, Manufacturing Tests, Defect during manufacturing -Fault Modelling, Observability and Controllability, Fault Coverage, Fault Sampling - ATE, Test economics.

#### **30PERIODS**

#### COURSEOUTCOMES: Uponsuccessfulcompletionofthecoursethestudentwillbeableto

**CO1:** Complete overview to CMOS fabrication process.

CO2:UnderstandthefundamentalconceptofMOSFETandtesting. CO3:ExplaintheconceptofMOStheoryandanalysis. CO4:TogivethestudentanunderstandingofCMOSperformancetestingandestimation. CO5:ExplainthebasicsofTestingandFault Modeling TOTAL:60PERIODS TEXTBOOKS:

- **1.** KamranEhraghian, DauglasA.PucknellandSholehEshraghiam, "Essentialsof VLSI Circuits and Systems" PHI, EEE, 2005 Edition.
- **2.** NeilH.E.WesteandDavid.HarrisAyanBanerjee,,"CMOSVLSIDesign" -Pearson Education, 1999.

## REFERENCES

- 1. M.L.BushnellandV.D.Agrawal, "EssentialsofElectronicTestingforDigital, Memoryand Mixed-Signal VLSI Circuits", Kluwer Academic Publishers, 2004
- 2. N.K.JhaandS.G.Gupta, "TestingofDigitalSystems", CambridgeUniversityPress, 2003
- 3. EtienneSicard, SoniaDelmasBendhia, "BasicsofCMOSCellDesign", TMH, EEE, 2005

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#### 22271E52DP

#### **OCEANACOUSTICS**

#### **COURSEOBJECTIVES:**

- Toenablethestudenttounderstandtheimportanceofoceanacousticsformarine applications.
- Tounderstandthephysicsof soundpropagationandthefactorsaffecting soundsignalinthe ocean
- Tostudythetypesandcharacteristicsofacoustictransducersandarrays
- Tounderstandthesourcesofambientnoisepresentintheseaandimpactsofsoundon marine diversity
- Toexpose the student in the basics of underwater a coustic signal processing and image processing

#### UNITI FUNDAMENTALSOFUNDERWATERACOUSTICS

Ocean Acoustic environment; Measuring sound levels and relevant units; Sound propagation in the ocean – sound velocityprofiles in the deep water and shallow water; Sound attenuation in the sea – absorption, scattering, transmission loss, reverberation, Snell's law, target strength;SONAR systems- active, passive SONAR equations and system parameters.

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#### UNITII UNDERWATERACOUSTICTRANSDUCERSANDDEVICES

Principles of transduction and SONAR transducer design; Electromechanical Analog circuits, coupling coefficient, efficiency, Directivity characteristics of receivers, frequency response characteristics of transducers, Transducer measurement techniques; Physical geometry of arrays - linear, planar, cylindrical, spherical, beam patterns, array gain.

#### UNITIII AMBIENTNOISEINTHEOCEAN

Sources of noise, Natural and Physical sounds - Seismic, Wind, Wave, Rain and Turbulence; Biological sounds - Dolphin, Whales, Fishes; Man made Noises- Shipping Machinery noises, Pile driving, Wind Mlls; Variability of Ambient noises; Frequency Bands, Noise levels of all above; Impacts of Sound on Marine Animals.

#### UNITIV PROCESSINGOFUNDERWATERACOUSTICSIGNALSANDIMAGES 6

Representations of the signals – Fourier representations, Spatial filtering; Matched filters and Autocorrelations, Temporal resolution; Signal to Noise Ratio, Estimation of Auto Covariance, Cross Covariance; Power spectra of different Underwater Signals, Classification of signals; Concept and Types of beamforming techniques; Image segmentation, Filtering, Equalization and Restoration

#### UNITV UNDERWATERACOUSTICINSTRUMENTSANDITSAPPLICATION 6

Principles of Sonar systems, Echosounder – single beam, multi beam; Side scan sonars – Imaging, Underwater acoustic camera; Sub bottom profilers –Sediment classification; Acoustic modem – Tsunami systems; Acoustic Positioning system- Transponders, USBL, SSBL systems, HiPAP; Underwater telephone; Underwater noise recorders; Underwater Beacons.

#### **30PERIODS**

#### **COURSEOUTCOMES:**

Onsuccessful completion of this course, the student will be able to

CO1: Understand the basics of underwater sound and its propagation in oceanCO2:Tosimulate/designanyunderwaterSONARsystemsforoceanapplicationCO3:To

identify differentkinds of noises present in the ocean and its impacts on

- themarinebiodiversity
- **CO4**:Abilitytogetexposureinanalyzingandapplyingsuitabletechniquesfor underwater acoustic signals and images

CO5:TorecognizedifferenttypesofSONARsystemsusedpractically

#### TEXTBOOKS

- 1. RobertJUrick,—Principlesofunderwatersound, ThirdEdition, PeninsulaPublishing, 2013
- 2. HermanMedwinandClarenceS.Clay,—Fundamentalofacousticaloceanography,First Edition, Academic Press,1998.

## REFERENCES

- 1. L.M.BrekhovskikhandYu.P.Lysanov,—Fundamentalsofoceanacoustics,ThirdEdition, Springer,2003
- 2. JohnGProakisandManolakis,—DigitalSignalProcessingPrinciplesAlgorithmsand Applications, Fourth Edition, Pearson, 2006.

RafaelC.Gonzalez,RichardE.Woods,StevenEddins,—DigitalImageProcessingusing MATLAB, Third Edition, Gatesmark Publishing,2020



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BOS

#### MINUTES OF THE BOARD OF STUDIES MEETING

#### Board:Civil

The Chairman of BOS welcomed all the panel members for the meeting. The item listed in the agenda were taken for discussion.

The following are the minutes of the meeting

Agendum 1: Confirmation of the previous Meeting Minutes

Discussion:Discussion:To confirm the previous BoS Meeting Minutes and to discuss the action taken on the previous BoS Meeting Minutes.

Resolution: Board approved the same

Agendum 2: Action taken on the previous Meeting Minutes

Discussion: Changes in 21R of B.Tech. FT, 19R of B.Tech. PT and M.Tech. FT and PT has been discussed.

Resolution: Carried out the advised changes in 21R of B.Tech. FT, 19R of B.Tech. PT and M.Tech. FT and PT

Agendum 3: Scrutiny of stakeholders' feedback on existing curriculum and syllabus.

Discussion: To scrutinize the abstract of stakeholders feedback on existing curriculum and syllabus for B.Tech.-Civil (Full Time/Part Time) and M.Tech.-Structural Engineering (Full Time/Part Time).

Resolution: The members of the Board thoroughly scrutinized the existing curriculum and syllabus and the abstract of stakeholders feedback on B.Tech. -Civil (Full Time/Part Time) and M.Tech.-Structural Engineering (Full Time/Part Time) and resolved to continue with the existing syllabus.

Agendum 4:Discuss the Programme Educational Objectives (PEOs), Programme Outcomes (POs) and Programme Specific Outcomes (PSOs) of B.Tech. (FT/PT) and M.Tech. (FT/PT).

Discussion: To discuss upon the Programme Educational Objectives (PEOs), Programme Outcomes (POs) and Programme Specific Outcomes (PSOs) of B.Tech. (FT/PT) and M.Tech. (FT/PT).

Resolution: The members of the Board scrutinized the Programme Educational Objectives (PEOs), Programme Outcomes (POs) and Programme Specific Outcomes (PSOs) and resolved to continue with the sameforBTech (FT/PT) and M.Tech.(FT/PT).

Agendum 5:Introduction of newly added Value added courses

Discussion: To introduce newly added value added courses as follows

Head of the Department Department of Civil Engineering Ponnaiyah Ramajayam Institute of Science & Technology (Prist) (Institution Deemed to be University U/s 3 of the UGC Act 1956) THANJAVUR - 613 403, TAMILNAD Page 2 of 9

DEAN

School of Engineering and Teck. Ponnaiyah Ramajayam Institute of Science and Technology (PRIST) Deemed to be University Vallam, Thanjayur-613,403.



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BOS

i) BIM Courses

ii) QA Course for Civil Engineers

Resolution: The members of the Board scrutinized the syllabus contents of newly added value added courses and resolved to introduce the same.

Agendum 6:Introduction of the syllabus of Audit courses

Discussion: To introduce the syllabus content of Audit courses

Resolution: The members of the Board scrutinized the syllabus contents of newly added Audit courses and resolved to introduce the same.

Agendum 7:Discussed about the skills, cracking interviews and professional development of students towards the corporate futures

Discussion: Arrangement for professional development classes for the students of final year.

Resolution: Schedule of classes for the Professional development has been done.

Agendum 8:Discussed about the Department Academic plan

Discussion: To conduct Symposium, Conference, Industrial visit, IPT/ Internship, Seminars, Socio Technical Projects, Workshops, FDP, Conduct of theory and Practical classes, Remedial classes. Internship, Placement Training, Coaching for Competitive Exams, Semester preparatory Courses, Bridge Courses, Add on courses, Elective courses, phase I projects for M.Tech, Conduct classes for B.Tech (PT) and M.Tech (PT)

Resolution: Planned the Symposium, Conference, Industrial visit, IPT/ Internship, Seminars, Technical Projects, Workshops, FDP, Conduct of theory and Practical classes, Remedial classes. Internship, Placement Training, Coaching for Competitive Exams, Semester preparatory Courses, Bridge Courses, Add on courses, Elective courses, for the students.

The chairman of Board of Studies (BOS) thanked all the members for their active participation and cordially invited them for the next meeting

Date:24.06.2023

Head of the Department Department of Civil Engineer, Ponnaiyah Ramajayam Institute Science & Technology (Prist) (Institution Deemed to be University U/s 3 of the UGC Act 1956) THANJAVUR - 613 403, TradictidaDi Signature (BOS Chairman Name)

BOS Chairman/HOD Seal

School of Engineering and Tech. Ponnaiyah Ramajayam Institute of Science and Technology (PRIST) Deemed to be University Vallam, Thanjavur-613,403.

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BOS

## **Syllabus Revision**

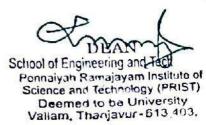
**Board:**Civil

Semester IV: Course Code/Name:

Unit	Existing	Changes
Ι	UNIT I FUNDAMENTALS OF CONVENTIONAL SURVEYING 9 Definition – Classifications – Basic principles – Equipment and accessories for ranging and chaining – Methods of ranging – Well conditioned triangles – Chain traversing – Compass – Basic principles – Types – Bearing – System and conversions – Sources of errors and Local attraction – Magnetic declination – Dip – compass traversing – Plane table and its accessories – Merits and demerits – Radiation – Intersection – Resection – Plane table traversing.	NIL
II	UNIT II LEVELLING Level line – Horizontal line – Datum – Benchmarks – Levels and staves – Temporary and permanent adjustments – Methods of leveling – Fly leveling – Check leveling – Procedure in leveling – Booking – Reduction – Curvature and refraction – Reciprocal leveling – Precise leveling - Contouring. UNIT III THEODOLITE SURVEYING Horizontal and vertical angle measurements – Temporary and permanent adjustments – Heights and distances – Tacheometric surveying – Stadia Tacheometry – Tangential Tacheometry – Trigonometric leveling – Single Plane method – Double Plane method	NIL Horizontal and vertical angle measurements – Temporary and permanent adjustments – Heights and distances – Tacheometric surveying – Stadia Tacheometry – Tangential Tacheometry – Trigonometric leveling – Single Plane method – Double Plane method- Tacheometry problems
]	UNIT IV CONTROL SURVEYING AND ADJUSTMENT Horizontal and vertical control – Methods – Triangulation – Traversing – Gale's table – Trilateration – Concepts of measurements and errors – Error propagation and Linearization – Adjustment methods - Least square methods – Angles, lengths and levelling network.	NIL

R. Dey' Head of the Department Department of Civil Engineering Ponnalyah Ramajayam Institute of Science & Technology (Prist) (Institution Deemed to be University U/s 3 of the UGC Act 1956) THANJAVUR - 613 403, TAM

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# UNIT V MODERN SURVEYING

Total Station: Digital Theodolite, EDM, Electronic field book – Advantages – Parts and accessories – Working principle – Observables – Errors - COGO functions – Field procedure and applications.GPS: Advantages – System components – Signal structure – Selective availability and antispoofing receiver components and antenna – Planning and data acquisition – Data processing – Errors inGPS – Field procedure and applications. UNIT V MODERN SURVEYING Total Station: Digital Theodolite, EDM, Electronic field book – Advantages – Parts and accessories – Working principle – Observables – Errors -COGO functions – Field procedure and applications.GPS: Advantages – System components – Signal structure – Selective availability and antispoofing receiver components and antenna – Planning and data acquisition – Data processing – Errors inGPS – Field procedure and applications-Introduction to GIS

# PERCENTAGE OF SYLLAUS REVISED:10% COURSES FOCUSES ON:

1	Skill development	$\checkmark$	Entrepreneurial development
<b>v</b>	Employability		Professional Ethics
	Gender Sensitization		Human Values
	Social Awareness/Environment		Environment and Sustainability
	Intellectual Property Rights		

Head of the Department Department of Civil Engineenny Ponnaiyah Ramajayam Institute of Science & Technology (Prist) (Institution Deemed to be University U/s 3 of the UGC Act 1956) THANJAVUR - 613 403, TAMILNADU.

DEAN

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BOS

# ATTENDANCE OF THE BOARD OF STUDIES MEETING

**Board: CIVIL** 

Date: 15-05-2024 Time: 10.30 am

# Venue: Gallery Hall, 'A' Block

The following members were present for the Board of Studies meeting

S.No.	Name/Degree/Designation	Institute/Organization/ Fulladdress	Online/ Physical	Signature
1	Dr.Ashutosh Das/ Professor/Civil	Prist University	Physical	Ashy
2	Mr.P.Vadivel/M.tech/ Divisional Engineer	Highways department, Trichy	Physical	P. Valinh
3	Mrs.V.Ramya/ M.tech/Assistant Professor	Government college of Engineering, Thanjavur	Physical	V. Rany
4	Dr.IraiKarkuzhali	Prist University	Physical	Dreikent
5	Dr.P.Paramaguru	Prist University	Physical	Reven
6	Dr.R.Siva Samundy	Prist University	Physical	Refins
7	D.Amal Colins	Prist University	Physical	Ant
8	S.Ramakrishnan	Prist University	Physical	R
9	D.Jeyakumar	Prist University	Physical	D. Jonat.
10	A.Belciya Mary	Prist University	Physical	A.Belux
11	K.Shanthi	Prist University	Physical	A. gring
12	R.Devi	Prist University	Physical	Sauthur
13	P.Venkateswaran	Prist University	Physical	P. Kilur
14	S.Ravishankar	Prist University	Physical	S. Rauis
15	M.Karpagam		Physical	M. Koern
16	T.Vidhudhalai		Physical	P
17	S.Vennila	Prist University	Physical	Sign

R. Deerj.

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Head of the Department Department of Civil Engineering Ponnaiyah Ramajayam Institute of Science & Technology (Prist) (Institution Deemed to be University U/s 3 of the UGC Act 1956) THANJAVUR - 613 403, TAMILNADU. Page 6 of 9

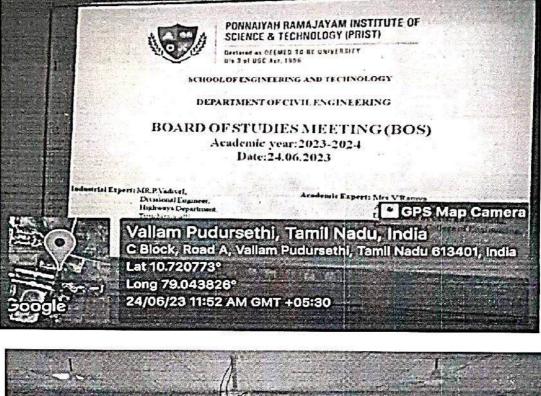
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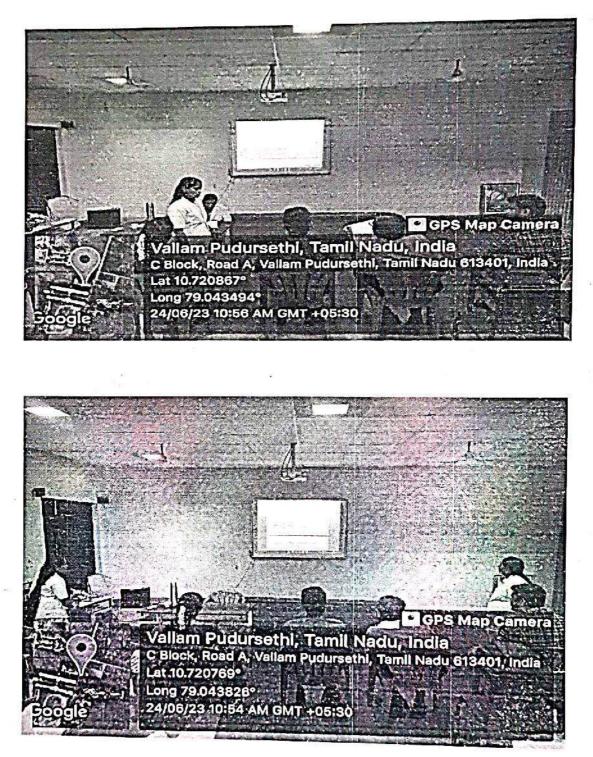
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Seen Head of the Department Department of Civil Engineering Ponnaiyah Ramajayam Institute of Science & Technology (Prist)

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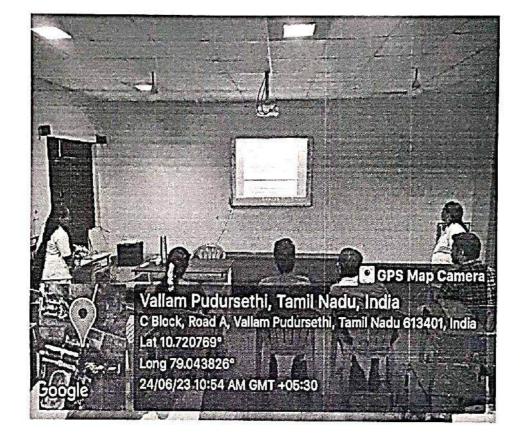


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#### PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE & TECHNOLOGY (PRIST)

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Head of the Department Department of Civil Engineering Pennaiyah Ramajayam Instit Science & Technology (P (Institution Deemed to be Un U/s 3 of the UGC Act 10 THANJAVUR - 613 403, TA

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# SCHOOL OF ENGINEERING AND TECHNOLOGY

# DEPARTMENT OF MECHANICAL ENGINEERING

# MINUTES OF THE MEETING OF THE BOARD OF STUDIES (BOS)\*

## **Board: Mechanical Engineering**

# The Meeting of Board of Studies (BOS) was held as given below:

Name of the Body	Board of Studies			
Department	Mechanical Engineering			
Meeting no	16			
Date and Time	22.06.2023 & 10.00 A.M			
Venue	Seminar Hall (C BLOCK)			
Members Attended	The details are given in the ANNEXURE-I			

	AGENDA	
1	Confirmation of the previous Meeting Minutes.	
2	Action taken on the previous Meeting Minutes.	
3	Discussion on syllabi for B.TechFull time / Part time.	
4	Discussion on syllabi for M.TechFull time / Part time.	
5	Discussion on Value Added Certificate Courses.	
6	Discussion on Coaching for Competitive Exams & Higher Education.	and the second
7	Discussion on NPTEL Course.	
8	Discussion on Indian Knowledge System (IKS) Course.	
9	Discussion on Extension Activity for 2023-2024 Academic Year.	
10	Discussion on Internship.	
11	Discussion on Mandatory Course.	
12	Any other matter.	



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# MINUTES OF THE BOARD OF STUDIES MEETING

#### **Board: Mechanical**

The Chairman of BOS welcomed all the panel members for the meeting. The item listed in the agenda was taken for discussion.

The following are the minutes of the meeting

Agendum 1 : Confirmation of the previous Meeting Minutes.

Discussion : The previous Meeting Minutes circulated, among all the member, where read out and

highlight discussed. The action taken where informed to the members.

Resolution : The Board approved the same.

Agendum 2 : Action taken on the previous Meeting Minutes.

Discussion : The feedback from various stake holders such as Employers, Alumni, Academicians,

Industrial Personnel, Students, etc., are also discussed.

Resolution : The Board unanimously approved.

Agendum 3 : Discussion on syllabi for B.Tech. -Full time / Part time.

(details enclosure in annexure-II)

Discussion : B.Tech. - Full time (4 years)

B.Tech. - Part time (3.5 years)

No Change in Curriculum and syllabi.

Resolution : The Board approved the syllabus.

Agendum 4 : Discussion on syllabi for M.Tech. -Full time / Part time.

(details enclosure annexure-III)

Discussion : M.Tech. - Full time (2 years)

M.Tech. - Part time (3 years)

No Change in Curriculum and syllabi.

Resolution : The Board approved the syllabus.

Agendum 5 : Discussion on Value Added Certificate Courses.

**Discussion :** Courses must be developed in a range of subjects across natural sciences, social sciences, humanities, engineering, medicine, agriculture, community knowledge systems, fine and performing arts, vocational skills etc, which have IKS content.

Feedback from board member on the following five value added certificate courses was discussed.



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1. Piping technology

2. Quality assurance, six sigma and lean manufacturing

3. Marine construction and welding

4. Automation in agriculture

5. Geometric dimensioning and tolerancing

Resolution : The Board approved the offering of value added certificate courses.

Agendum 6 : Discussion on Coaching for Competitive Exams & Higher Education.

Discussion : The board member discussed and recommended the TNPSC,SSC & GATE -2024 etc..

Resolution : The Board approved the same.

Agendum 7 : Discussion on NPTEL Course.

Discussion : Students will be motivated to enroll for NPTEL course .

Resolution : The Board approved the same.

Agendum 8 : Discussion on Indian Knowledge System (IKS) Course.

Discussion : A field visit to nearby IKS related prominent places such as Temples, Gurukuls,

Historical sites, Arts & Crafts communities, Ayurvedic Healing Centers, Astronomical

Observatories (Jantar Mantar)would enable teachers to appreciate the various manifestations of IKS

should be organized. It was desired for Field visit to Historical temple once in a year.

Resolution : The Board unanimously approved.

Agendum 9 : Discussion on Extension Activity for 2023-2024 Academic Year.

**Discussion :** Students encouraged to participate in NSS/RC/Yoga/Sports and certificate to be awarded for each extension activity.

Resolution : The Board approved the same.

Agendum 10 : Discussion on Internship.

Discussion : The professors in renowned university like IIT,NIT adopted research internship. This

popularized among students and encourages to participate in such Research Internship. Resolution : The Board approved the same.

Agendum 11 : Discussion on Mandatory Course. (details enclosure annexure-II)

Discussion : The board member discussed the Mandatory Course I & II as online course also.

Resolution : The Board approved the same.



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Agendum 12 : Any other matter

Discussion : The board member discussed about the nomination of examiner for evaluation of

practical and theory university examination.

Resolution : The Board approved Panel of Examiners.

The chairman of Board of Studies (BOS) thanked all the members for their active participation.

Date: 22.06.2023

Signature

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BOS Chairman/HOD Seal

HOD

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# ATTENDANCE OF THE SIXTEENTH BOARD OF STUDIES MEETING

Board : Mechanical Engineering

Date: 22.06.2023

Time: 10.00 A.M

Venue : Seminar Hall (C BLOCK)

The following members were present for the Board of Studies meeting

	Name/Degree/Designation	Institute/Organization/ Full address	Online/ Physical	Signature (scan, if online)
	Dr S Dhanuskodi / Chairman	PRIST Deemed to be University, Thanjavur	Physical	aj7.
	Dr. C.Sathiya Narayanan / Head of the Department - Production Engineering	NIT, TRICHY	physical	c. stz. N.C.
3.	Er.S.Marimuthu / Deputy Manger	Stock verification Wing,BHEL Trichy	Phyrical	Smit
4.	Dr V YALINI / Professor	PRIST Deemed to be University, Thanjavur	physical	my da
	R TAMIZH SELVAN / Associate Professor	PRIST Deemed to be University, Thanjavur	Physical	Sunny
	P VIJAYAKUMAR / Associate Professor	PRIST Deemed to be University, Thanjavur	Physical	Cop
1000	M SUDHAKAR / Assistant Professor	PRIST Deemed to be University, Thanjavur	Physical	M.Sr.
8.	K PURUSHOTHAMAN / Assistant Professor	PRIST Deemed to be University, Thanjavur	phyrical	Ber
9.	Vivek / Managing Director- Alumni	Addvisewise Education Consultancy ,Thanjavur	D	Vink
10.	E DIVIJ SHANOON / Student Representatives	PRIST Deemed to be University, Thanjavur	physical	E. Divij Shanoon
11.	K.A.BALAMURUGAN / Student Representatives	PRIST Deemed to be University, Thanjavur	Physical	Baleny
12.	M.VARADHARAJAN / Co-opted member (Language - English)	PRIST Deemed to be University, Thanjavur	physical	a Juera
13.	SMITA ELSE PETER / Co-opted member (Allied)	PRIST Deemed to be University, Thanjavur	physice	- Junthe

Date : 22.06.2023

.....) BOS Chairman/HOD Seal HOD

Department of Mechanical Engineering Ponnaiyah Ramajayam Institute of Science & Technology (PRIST) (Institution Deemec to be University /s 3 of the UGC Act.1956) THANJAVUR - 613 405, TAMIL NADU,

