PRIST
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UNIVERSITY
NAAC ACCREDITED
THANJAVUR – 613 403 - TAMIL NADU

DEPARTMENT OF COMPUTER SCIENCE
BCA Computer Science

S.No	Programme Name	PO and CO
1.	B.Sc. Computer Science	Yes
2.	M.Sc. Computer Science	Yes
3.	M.Phil. Computer Science	Yes
4.	BCA	Yes
5.	MCA	Yes

PROGRAMME OUTCOMES	
PO1	Understand dynamic memory allocation and pointers.
PO2	Trace the flow of information from one node to another node in the network.
PO3	Understand the format and use of objects.
PO4	Able to Measure the product and process performance using various metrics
PO5	Design Secure applications.
PO6	Apply the various optimization techniques.
PROGRAM SPECIFIC OUTCOME	
PSO1	Understand the impact of the professional solutions in societal and environmental Contexts, and demonstrate the knowledge of, and need for sustainable development.
PSO2	Apply problem-solving skills and the knowledge of computer science to solve real world problems.
PSO3	Use software development tools, software systems, and modern computing platforms

PSO4	Communicate computer science concepts, designs, and solutions effectively and professionally
PROGRAM EDUCATIONAL OBJECTIVES	
PEO1	To study about I/O management, storage management
PEO2	To know the methods of connecting them to the peripheral devices.
PEO3	To learn Software design and Implementation
PEO4	To learn the basic principles of database and database design
PEO5	To understand computational development of graphics with mathematics

Sem	Course code	Course title	CO's	PO1	PO2	PO3	PO4	PO5	PO6
I	20110AEC11	Tamil- I	Learn the changes occurred in literature since classical period.	3	1	3	1	3	0
			Obtaining More information about one's culture and tradition	2	0	3	2	1	0

			Encourage creative writing and developing self-confidence.	1	2	3	3	3	1
	20132AEC11	**Hindi-I**	Enables other state students to continue their learning phase without any disruptions.	2	1	3	2	1	0
			Through this language they can learn spirituality.	2	0	3	1	2	0
			Students can learn social discrimination	2	3	1	2	1	1
			Students can learn grammar techniques	2	1	2	1	3	0
	20111AEC11	**Advanced English-I**	Academic skills in preparation for tertiary study.	1	2	1	1	2	3
			Presentation and participation skills.	3	2	1	1	2	2
			Learning strategies and research skills	1	2	3	1	2	1
			Academic essay and report writing skills	2	0	1	3	1	1
	20135AEC11	**French-I**	Focus on all four modalities of the language: speaking, listening, reading and writing	3	2	1	1	2	2

			As well as knowledge of Francophone cultures and the skills of collaboration and critical thinking	1	2	3	1	2	1
			Students can compare and contrast cultural practices as they relate to French and American culture.	2	0	1	3	1	1
	20111AEC12	**English-I**	Focus on all four modalities of the language: speaking, listening, reading and writing	2	3	2	2	3	1
			As well as knowledge of Francophone cultures and the skills of collaboration and critical thinking	1	2	3	1	2	1
			Students can compare and contrast cultural practices as they relate to French and American culture.	2	1	2	1	3	0
			Improves their proficiency in English language.	1	2	1	1	2	3
			Develops functional communicative aspect of language through a series of real life tasks	3	2	1	1	2	2

	20122SEC13	**Programming in C with C++**	To understand the principles of Python and acquire skills in programming in python To develop the emerging applications of relevant field using Python	1	2	3	1	2	1
			Interpret the fundamental Python syntax and semantics and be fluent in the use of Python control flow statements.	2	0	1	3	1	1
	20112AEC15B	**CLASSICAL ALGIBRA**	Understand the theory of, and be able to solve problems in Caylee Hamilton Theorem, and finding the Eigen values & Eigen vectors	2	3	2	2	3	1
			Able to manipulate relation between root and coefficients, symmetric functions of the roots in terms of the coefficients and transformation of equation	3	0	3	3	2	3
			be able to calculate summation related to Binomial,	2	1	2	3	1	3

			be able to calculate summation related to Binomial, Exponential and Logarithmic series	3	2	1	1	1	0
	20112AEC16B	**Numerical And Statistical Methods**	Apply numerical methods to find the solution of algebraic equations using different meth od and numerical	2	0	1	1	2	0
			Apply various interpolation methods and finite difference concepts.	2	3	1	1	3	1
			Work out numerical differentiation and integration whenever and wherever routine methods are not applicable.	2	1	1	3	1	0
			Solve a differential equation using an appropriate numerical method	1	2	2	2	3	0
	20122SEC14L	**Programming in C with C++ Lab**	To implement the python programming features in practical applications	2	3	1	1	3	1

			To implement Python programs with conditionals and loops	2	1	1	3	1	0
			Represent compound data using Python lists, tuples, dictionaries, turtles, Files and modules	1	2	2	2	3	0
			Use functions for structuring Python programs.	3	2	1	2	1	1
	20120SEC01A	**Skill Based Elective -I**	To make the students understand about the Democratic Rule and Parliamentarian administration.	2	1	3	1	3	1
			To appreciate the salient features of the Indian Constitution	2	1	1	3	1	0
	20111SEC01L	**Communicative English Lab-I**	Know about universal human values and understand the importance of values in individual, social circles, career path, and national life.	1	2	1	2	3	0
			From case studies of lives of great and successful people who followed and practiced	3	2	3	2	1	3

			human values and achieved self-actualization.						
			Realize their potential as human beings and conduct themselves properly in the ways of the world.	2	3	1	1	1	2
	201INDCONS	**Indian Constitution**	Democratic values and citizenship Training are gained.	1	2	1	2	3	0
			Awareness on Fundamental Rights are established	3	2	3	2	1	3
			Learn the functions of union and State Governments	1	2	1	2	3	0
			Learn the power and functions of the Judiciary	3	2	3	2	1	3

II	**20110AEC21**	**Tamil- II**	Know what devotion really is. Know the fruitfulness obtained through devotion	2	1	3	2	1	1
			Perceive the progress achieved in the society through devotion	2	0	1	2	3	0
			Obtaining More information about one's culture and tradition	2	1	2	3	1	1
			Encourage creative writing and developing self-confidence.	2	1	2	3	1	0
			Aiming at enriching human excellence	2	1	1	3	2	3
	20132AEC21	**Hindi-II**	Enables other state students to continue their learning phase without any disruptions	1	2	2	2	3	1
			Through this language the can learn spirituality Students can learn grammar techniques. Enables them to enhance their language skills. Enables them to develop creative writing.	2	2	3	2	2	1

			Students can learn social discrimination.D18	1	1	1	3	1	2
	20111AEC21	**Advanced English-II**	Communicate effectively in most daily practical and social situations at both concrete and abstract levels	2	0	2	3	1	1
			Participate in formal and informal conversations involving problem solving and decision making	2	1	3	1	1	0
			Speak on familiar concrete topics at a descriptive level and present a detailed analysis or comparison	2	0	1	3	1	1
			Demonstrate an increased ability to respond appropriately to the formality level of a social interaction	2	1	2	2	3	1
	20135AEC21	**French-II**	Focus on all four modalities of the language: speaking, listening, reading and writing.	2	1	1	1	2	3
			As well as knowledge of Francophone cultures and the skills of collaboration and	3	2	1	1	2	1

			critical thinking.						
			Students can compare and contrast cultural practices as they relate to French and American culture	3	2	1	1	2	1
	20111AEC22	**English-II**	Read and appreciate literature	2	3	1	1	1	0
			Know more about Mahatma Gandhi, Mother Teresa, and Martin Luther King.	2	1	2	3	1	0
			Describe Daffodils, beauty of Byron‘s Maid, Painful account of apple- pickers	2	1	3	2	3	0
			Understand the basic Grammar, and Spoken English. Ability to write composition, letter and vocabulary	2	1	2	2	2	3
			Gain vocabulary through reading. Acquire fluency in English language.	3	1	3	2	2	2

	20122SEC23	**Data Structure and Algorithms**	To understand the core principles of the Java Language	3	2	3	3	2	3
			To study about Graphics programming using java Language	2	2	3	2	3	3
	20112AEC25B	**Discrete Mathematics**	Students completing this course will be able to express a logic sentence in terms of predicates, quantifiers, and logical connectives	3	2	3	2	3	3
	20112AEC26B	**Operations Research**	Identify and develop operational research models from the verbal description of the real system	3	2	2	2	3	3
			Use mathematical software to solve the proposed models.	2	3	1	2	1	3
			Develop a report that describes the model And the solving technique, analyses the results and propose recommendations in language	2	1	3	1	2	0

			Understand variety of problems such as assignment, transportation, travelling salesman etc.	1	1	2	2	3	0
	20122SEC24L	**Data Structure and Algorithms Lab**	Implement the concept of data structures through ADT including List, Stack, and Queues.	2	1	1	2	2	3
			create a full set of UI widgets and other components, including windows, menus, buttons, checkboxes, text fields, scrollbars and scrolling lists, using Abstract Windowing Toolkit (AWT) & Swings	3	0	2	3	2	
			apply event handling on AWT and Swing components	1	2	2	2	1	3
			Learn to access database through Java programs, using Java Data Base Connectivity (JDBC)	2	0	3	2	2	2

	20120SEC02A	**Skill Based Elective-II**	Indicate the names and functions of the Excel interface components. Enter and edit data.	1	2	1	2	3	0
	20122RLC27	**Research Led Seminar**	Learning to communicate through the digital media .By the end of this program participants should have a clear understanding of what good	2	2	1	2	2	1
			Understand the importance of empathetic listening	2	1	3	2	2	2
			Explore communication beyond language.	3	1	2	1	1	0

			Communication skills are and what they can do to improve their abilities. Understand role of communication in teaching-learning process	1	2	3	1	1	0
	20111SEC02L	**Communicative English Lab-II**	Improves comprehension and retention. Develop speaking and writing skills	1	2	1	2	3	0
			Builds confidence in handling English language. Develops ideas with coherence and cohesion.	3	2	3	2	1	3
	IIII 20110AEC31	**Tamil-III**	Achieve one's goal by following the ancestral path. Obtaining More information about one's culture and tradition;	2	0	3	2	2	0

			They will expose themselves into many question and answer session in research stations through which they can mould themselves for their better subject knowledge.	2	3	1	2	1	1
	20132AEC31	**Hindi-III**	Enables other state students to continue their learning phase without any disruptions.	2	1	2	3	2	0
			Through this language they can learn spirituality.	1	2	1	2	3	0
			Students can learn social discrimination.D18.	2	1	3	2	2	0
	20111AEC31	**Advanced English-III**	Follow main ideas, key words, and important details in an authentic 2-3 page text on a familiar and partially predictable topic.	2	3	1	3	2	0
			Read in English for information, to learn the language and to develop reading skills.	2	0	1	3	1	0

			Write coherent paragraphs on familiar topics with clear main ideas and some supporting details. Develop a sense of audience.	3	1	2	3	2	1
	20135AEC31	**French-III**	Focus on all four modalities of the language: speaking, listening, reading and writing.	2	3	1	1	2	2
			As well as knowledge of Francophone cultures and the skills of collaboration and critical thinking.	1	2	3	2	1	1
			Students can compare and contrast cultural practices as they relate to French and American culture.	2	1	3	2	1	2
			Students can demonstrate critical thinking and Collaborative problem-solving through advanced task-based language activities.	2	1	2	1	2	3
	20111AEC32	**English-III**	Gain vocabulary through reading. Acquire fluency in English language	1	2	1	2	3	0

			Understand the basic Grammar, and Spoken English. Ability to write composition, letter and vocabulary	3	2	3	2	1	3
			Describe Daffodils, beauty of Byron‘s Maid, painful account of apple- pickers	2	3	1	1	1	2
			Understand the basic Grammar, and Spoken English. Ability to write composition, letter and vocabulary	1	2	1	2	3	0
	20122SEC33	**Internet and Java Programming**	Students list the visual programming concepts. Explain basic concepts and definitions. Express constants and arithmetic operations.	2	1	1	2	2	1

			· The students can learn in selection of suitable farm equipment for tillage to harvest based on field and crop conditions.	2	1	3	3	2	2
			· The students can able to estimate the cost of farm equipment operation, coverage and power requirements	2	3	3	2	2	1
			· Students prepare various projects by helping visual programming.	3	1	3	3	2	2
	20122SEC34L	**Internet and Java Programming Lab**	Cognitive abilities and skills relating to solution of problems in Physics and Physics Related Disciplines	2	1	3	3	2	3
			Practical skills relating to the conduct of laboratory and industrial work in General skills relating to non-subject specific competencies, communication, ICT knowledge, interpersonal, organization skills and ethical standards.	3	3	1	2	1	3
	20161SEC35	**Financial Accounting**	To understand arithmetic operations	2	2	3	1	2	3

			Develop the skill of recording financial transactions and preparation of reports in accordance with GAAP						
			To understand string and matrix operations	2	2	1	3		3
	20113AEC36C	**Applied physics Lab-I**	An ability to apply knowledge of mathematics, science, and engineering. Graduates should transform knowledge of mathematics, Physics, chemistry, Engineering Mechanics, probability and statistics, and engineering drawing in solving a wide range of civil engineering problems.	3	1	3	1	3	0
			An ability to design, implement, evaluate a system and conduct experiments, as well as to analyze and interpret data. Graduates should show that they can make decisions regarding type, and number of data points to be collected, duration of the experiment	2	0	3	2	1	0
			data points to be collected, duration of the	1	2	3	3	3	1

			experiment to obtain intended results, and demonstrate an understanding of accuracy and precision of data						
			An ability to design, implement and evaluate a system, or process to meet desired needs Graduates should be able to identify the project goal;	2	1	3	2	1	0
III	**20122RMC37**	**Research Methodology**	Students who complete this course will be able to understand and comprehend the basics in research methodology and applying them in research/ project work.	2	0	3	1	2	1
			This course will help them to select an appropriate research design.	1	2	1	2	3	0
			The course will also enable them to collect the data, edit it properly and analyses it accordingly. Thus, it will facilitate students' prosperity in higher education.	2	3	1	1	3	0

			With the help of this course, students will be able to take up and implement a research project/ study.	1	1	1	3	1	0
	20120SEC03A	**Skill Based Elective –III**	Recognize when to use each of the Microsoft Office programs to create professional and academic documents.	2	1	3	2	3	0
			Use Microsoft Office programs to create personal, academic and business documents following current professional and/or industry standards.	3	2	3	2	1	3
	20111SEC03L	**Communicative English Lab-III**	Learns to analyze unfamiliar words by understanding the structure of the English language.	1	2	1	2	3	0
IV	**20110AEC41**	**Tamil-IV**	Realize how the ancient people changed their life style according to the ages	3	1	2	1	2	0

			Learn how to change one's lifestyle according to the needs of the future	2	3	1	2	1	1
			Obtaining More information about one's culture and tradition; Encourage creative writing and developing self-confidence.	1	2	3	1	2	1
	20132AEC41	**Hindi-IV**	Enables other state students to continue their learning phase without any disruptions.	2	1	2	1	3	0
			Through this language they can learn spirituality.	1	2	1	1	2	3
			Students can learn social discrimination.D18.	3	2	1	1	2	2
	20111AEC41	**Advanced English-IV**	Make oral presentations effectively for academic purposes by using appropriate discourse markers, transitions and	1	2	3	1	2	1

			conjunctions.						
			Respond to spoken discourse in their content courses and academic presentations.	2	0	1	3	1	1
			Follow oral instructions, identify details, and evaluate the speakers' viewpoints and attitudes	2	3	2	2	3	1
	20135AEC41	**French-IV**	Focus on all four modalities of the language: speaking, listening, reading and writing. As well as knowledge of Francophone cultures and the skills of collaboration and critical	3	0	3	3	2	3
			Students can compare and contrast cultural practices as they relate to French and American culture.	2	1	2	3	1	3
	20111AEC42	**English-IV**	Know about genius of Shakespeare, Martin Luther King, Mahatma Gandhi, and Mother Teresa.	3	2	1	1	1	0

			Describe Daffodils, beauty of Byron‘s Maid, Painful account of apple- pickers.	2	0	1	1	2	0
			Understand the basic Grammar, and Spoken English. Ability to write composition, letter and vocabulary	2	1	1	3	3	0
	20122SEC43	**Visual Programming**	Learners will be able to design web applications using ASP.NET	1	1	3	2	3	1
			Learners will be able to use ASP.NET controls in web applications	2	0	3	2	1	0
	20122SEC44L	**Visual Programming Lab**	Write Visual Basic programs using object-oriented programming techniques including classes, objects, methods, instance variables, composition, and inheritance, and polymorphism	1	2	1	2	3	0

			Create one and two dimensional arrays for sorting, calculating and displaying of data.	1	2	1	2	3	0
	20113AEC45C	**Allied Physics –II Digital Electronics**	Effectively use and critically evaluate current technical/scientific research literature, online information, as well as information related to scientific issues in the mass media	2	1	3	1	2	0
			Integrate and relate scientific knowledge learned from classroom with real life situations.	2	3	1	1	3	1
			Students acquire knowledge about the plant and host relationship and their management	2	1	1	3	1	0
			They get knowledge about the integrated management of plant diseases and pest.	1	2	2	2	3	0
	20120SEC04A	**Skill Based Elective-IV**	Apply systems concepts and methodologies to analyze and understand interactions between social and environmental processes.	3	2	1	1	1	3

			Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world.	2	1	3	1	1	0
			Demonstrate proficiency in quantitative methods, qualitative analysis, critical thinking, and written and oral communication needed to conduct high- level work as interdisciplinary scholars and/or practitioners.	1	1	1	3	1	2
			Analyze the ecosystem and able to understand the different types of pollutions in country. Learn about environmental pollution.	1	3	2	2	3	0
	20111SEC04L	**Communicative English Lab-IV**	Learners will be able to design web applications using ASP.NET	1	2	3	3	2	3
			Learners will be able to create database driven ASP.NET web applications and web services	3	2	1	1	1	0

			demonstrate advanced knowledge of programming for network communications						
	201ENVTSTU	**Environmental Studies**	Effectively use and critically evaluate current technical/scientific research literature, online information, as well as information related to scientific issues in the mass media	3	1	2	1	1	1
			Integrate and relate scientific knowledge learned from classroom with real life situations.	2	1	3	1	1	0
V	**20122SEC51**	**Relational Database Management Systems**	Help students to develop essential skills to influence and motivate others	2	0	1	1	3	0
			Nurture a creative and entrepreneurial mindset	2	0	1	1	1	3
			Make students understand the personal values and apply ethical principles in professional	2	1	3	1	2	0
	20122SEC52	**NET Programming**	Identify the components required to build different types of networks.	3	1	1	2	2	1

			Another node. Identify the components required to build different types of networks	3	2	2	3	3	2
			· Learning all farm activities field management and to gain maximum knowledge about crops of a particular season	2	3	2	1	1	3
	20122SEC53	**Designing and supporting Computer Networks**	Design various Scheduling algorithms.	1	2	2	3		3
			Compare and contrast various memory management schemes.	1		2	1	3	3
			Design and Implement a prototype file systems.	3	2	1	1	1	1
	20122SEC54L	**Oracle Lab**	Design and implement programs on 8086 microprocessor.	1	1	1	3	1	0

			Design and implement 8051 microcontroller based systems	1	2	1	2	3	0
	20122SEC55L	**.NET Programming Lab**	Identify the architecture, infrastructure and delivery models of cloud computing	1	1	3	1	2	1
			Address the core issues of cloud computing such as security, privacy and interoperability	2	1	1	3	2	0
			· The students will be able to undertake commercial cultivation of flower crop, medicinal and aromatic plants.	2	1	3	2	1	0
			· Students will gain knowledge to establish different type's garden in various locations.	3	3	1	2	2	0
	20122DSC56A	**Computer Organization and Architecture**	Understand Distributed systems design and implementation	1	2	3	3	3	1
			Use Middleware to Build Distributed Applications	2	0	2	2	3	3

	20122DSC56B	**E-learning**	Make basic use of Enterprise software, and its role in integrating business functions	2	1	1	2	1	2
			Analyze the strategic options for ERP identification and adoption.	2	1	3	2	1	2
			Design the ERP implementation strategies.	3	2	1	2	1	1
			Create reengineered business processes for successful ERP implementation.	2	1	3	1	3	0
	20122BRC57	**Participation in Bounded Research**	Design and implement programs on 8085 microprocessor.	2	1	1	3	1	0
			Design and implement 8051 microcontroller based systems	1	2	1	2	3	1

			· The student will learn the types of Intellectual Property and legislations covering IPR in India: Patents, Copyrights, Trademark, Industrial design, Geographical indications, Integrated circuits, and Trade secrets.	3	2	3	2	1	1
	20120SEC05A	**Skill Based Elective-V**	Execute the Unix Shell programming on the given system configuration.	2	3	1	1	1	0
			Studying the concepts and applications of remote sensing and image processing in agriculture	2	1	3	2	1	1
			Understanding the concepts of nanotechnology	2	0	1	2	3	0
			Students know about the economic and environmental feasibility of the precision farming technology.	2	1	2	3	1	3
	20111SEC05L	**Communicative English Lab-V**	Prepare their resume in an appropriate template without grammatical and other errors and	2	1	2	3	1	1

			Actively participate in group discussions towards gainful employment	2	1	1	3		1
			Enlist the common errors generally made by candidates in an interview	1	2	2	2	3	0
	VI 20122SEC61	**Advanced Web Technology**	Create web-based distributed applications using ASP.NET, SQL Server and ADO.NET	2	2	3	2	2	0
			Utilize DirectX libraries inthe.NET environment to implement 2D and 3D Animations and game-related graphic displays and audio.	1	1	1	3		0
			Understand the key protocols which support The internet.	1	1	3	2	2	0
	20122SEC62	**Operating System**	Demonstrate the basic elements of a relational database management system.	3	1	2	2	1	0

			Design entity relationship and convert entity relationship diagrams into RDBMS and formulate	2	2	3		3	1
			summarizationforms and determine data mining functionalities	1	1	1	3	1	1
			· Students learn to use the natural farm resources produced within the farm	2	0	1	2	3	2
	20122DSC65A	**Software Project Management**	Assess raw input data, and process it to provide suitable input for a range of data mining algorithms.	3	0	3	1	1	0
			Students will be equipped with management concepts and management of common resources.	3	1	1	1	1	0
			Evaluate and select appropriate data-mining algorithms and apply, and interpret and	2	1	3	1	2	0

	20122DSC65B	**Object Oriented Analysis and Design**	Contrast and compare major elements of the .NET Framework and explain how C# fits into the .NET platform.	2	1	2	3		2
			Analyze the basic structure of a C# application and be able to document, debug, compile, and run a simple application.	2	1	3	3	2	1
			Create methods (functions and subroutines) that can return values and take parameters.	2	0	2	3	1	1
			Use common statements to implement flow control, looping, and exception handling.	2	1	3	1	1	0
	20110OEC	**Tamil Ilakkiya Varalaru**	Summarization forms and determine data mining functionalities.	2	0	1	3	1	1
			· They have been familiarized with methods of food preservation and the fundamentals of human Nutrition.	2	1	2	2	3	1

			Brief knowledge about SQL Fundamentals	2	1	1	1	2	3
	20111OEC	**Journalism**	Develop mathematical thinking and problem solving skills associated with research and writing proofs.	3	2	1	1	2	1
			Get exposure to a wide variety of mathematical concepts used in computer science discipline like probability.	3	2	1	1	2	1
			Understand the mathematical fundamentals that are prerequisites for a variety of courses like Data Mining, Network protocols, analysis of Web traffic, Computer security, Bioinformatics and Machine Learning.	2	3	1	1	1	0
	20112OEC	**Development of Mathematical Skills**	To understand and analyses Information security threats & countermeasures	2	1	2	3	1	0
			To understand penetration and security testing issues	2	1	3	2	3	0

			To understand issues relating to ethical hacking	2	1	2	2	2	3
	20113OEC	**Instrumentation**	To understand and analyses Information security threats & countermeasures	3	1	3	2	2	2
			To understand penetration and security testing issues	3	1	3	1	3	0
			To understand issues relating to ethical hacking	2	0	3	2	1	0
			Develop and maintain problem-solving skills. Use mathematical ideas to model real-world problems	1	2	3	3	3	1
	20114OEC	**Food and Adulteration**	know and demonstrate understanding of the concepts from the five branches of mathematics (Operations Research, Set Theory, statistics, Matrices and Business mathematics)	2	1	3	2	1	0

			use appropriate mathematical concepts and skills to solve problems in both familiar and unfamiliar situations including those in real-life contexts	2	0	3	1	2	-1
	20116OEC	**Wildlife Conservation**	To use the techniques and skills for electrical projects.	2	1	3	1	2	0
			Design a system, component or process to meet desired needs in electrical engineering.	2	3	1	1	3	0
			Measurement of R,L,C ,Voltage, Current, Power factor , Power, Energy	1	1	1	3	1	0
			· Ability to measure strain, displacement, Velocity, Angular Velocity, temperature, Pressure, Vacuum, and Flow.	2	1	3	2	3	0

	20120OEC	**E-Learning**	Ability to apply principles of food engineering in industry	3	2	3	2	1	3
			Related to food industry and ability to find an appropriate solution for the same.	3	1	2	1	2	0
	20161OEC	**Banking Service**	Maintenance of rare species in protected areas such as national parks, sentries etc.,	2	3	1	2	1	1
			Maintenance of rare species in protected areas such as national parks, sentries etc.,	1	2	3	1	2	1
			Protection of wild life through legislation such as banning hunting etc.,	2	1	2	1	3	0
			Imposing specific restrictions on export of endangered plants and animals or their products	1	2	1	1	2	3
	20120SEC06A	**Skill Based Elective –VI**	Acquire knowledge about functionalities of world wide web	3	2	1	1	2	2

			Explore markup languages features and create interactive web pages using them	1	2	3	1	2	1
			Able to design front end web page and connect to the back end databases.	2	0	1	3	1	1
			Acquire knowledge about Open source Java ,Script libraries	2	3	2	2	3	1
	20111SEC06L	**Communicative English Lab-VI**	To help to gather knowledge on banking and Financial system in India.	3	0	3	3	2	3
			various types of risk based by banks	2	1	2	3	1	3
	20122EXACT	**Extension Activities**	Learn to create animated graphics and sound and interactivity	3	2	1	1	1	0
			CD based presentations	2	0	1	1	2	0
			Add and Manage Tweens.	2	1	1	3	3	0

	20122PEE	**Program Exit Examination**	Increases confidence in their ability to read comprehends organize and retain written information.	1	1	3	2	3	1
			Increases Vocabulary through the study of word parts, use of context clues and Practice with a dictionary.	2	0	3	2	1	0
	201LSCIC	**Indian Constitution**	Concept of various organizations, approaches, thoughts of Political Science	1	2	1	2	3	0
			Ability to understand basic foundation of Political Science	3	2	3	2	1	3
			Applying this knowledge in understanding legal studies and political discourse	2	3	1	1	1	2

	201LSCCS	**Communication Skills**	Develop knowledge, skills, and judgment around human communication that facilitate their ability to work collaboratively with others.	1	2	1	2	3	0
			Understand and practice different techniques of communication.	3	2	3	2	1	3
			Practice and adhere to the 7Cs of Communication.	2	3	1	1	1	2
	201SSCBE	**Basic Behavioral Etiquette**	Network effectively, including making introductions, shaking hands, and using business cards appropriately	1	2	1	2	3	0
			Develop an extra edge to establish trust and credibility	3	2	3	2	1	3
			To perform documentation	2	3	1	1	1	2

			To perform accounting operations	3	2	3	1	3	0
	201LSCOA	**Office Automation**	To perform presentation skills	3	2	3	1	3	0
			To perform accounting operations	3	3	1	1	3	0
	201LSCLS	**Leadership and Management Skills**	Identify different leadership styles;	2	3	1	3	3	1
			Communicate effectively by saying no, delegating, and promoting others' growth;	3	1	2	1	2	0
	201SSCAQ	**General Aptitude and Quantitative Ability**	Students will communicate effectively & appropriately in real life situation.	1	1	3	3	2	3
			Students will be able to prepare for various public and private sector exams & placement drives.	2	1	1	1	2	3

	201LSCPS	**Professional Skills**	To Develop Coherence, Cohesion and Competence in Oral Discourse through Intelligible Pronunciation.	1	3	2	1	1	0
			Develop and Expand Writing Skills through Controlled and Guided Activities	1	1	3	2	1	1
	201LSCCE	**Community Engagement**	Demonstrate an ability to engage respectfully with others in a diverse society.	3	1	2	1	3	0
			Demonstrate an ability to engage respectfully with others in a diverse society.	3	2	1	2	2	0
	201SSCIM	**Interview Skills Training and Mock Test**	understand how to decide between the different types of interview	1	1	2	3	1	0

PRIST
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THANJAVUR – 613 403 - TAMILNADU

S.No	Programme Name	PO and CO
1.	B.Sc. Computer Science	Yes
2.	M.Sc. Computer Science	Yes
3.	M.Phil. Computer Science	Yes
4.	BCA	Yes
5.	MCA	Yes

DEPARTMENT OF COMPUTER SCIENCE
B.Sc. Computer Science

PROGRAMME OUTCOMES	
PO1	Understand dynamic memory allocation and pointers.
PO2	Trace the flow of information from one node to another node in the network.
PO3	Understand the format and use of objects.
PO4	Able to Measure the product and process performance using various metrics
PO5	Design Secure applications.
PO6	Apply the various optimization techniques.
PROGRAM SPECIFIC OUTCOME	
PSO1	Understand the impact of the professional solutions in societal and environmental Contexts, and demonstrate the knowledge of, and need for sustainable development.

PSO2	Apply problem-solving skills and the knowledge of computer science to solve real world problems.
PSO3	Use software development tools, software systems, and modern computing platforms
PSO4	Communicate computer science concepts, designs, and solutions effectively and professionally
PROGRAM EDUCATIONAL OBJECTIVES	
PEO1	To study about I/O management, storage management
PEO2	To know the methods of connecting them to the peripheral devices.
PEO3	To learn Software design and Implementation
PEO4	To learn the basic principles of database and database design
PEO5	To understand computational development of graphics with mathematics

Sem	Course code	Course title	CO's	PO1	PO2	PO3	PO4	PO5	PO6
I	20110AEC11	Tamil- I	Learn the changes occurred in literature since classical period.	3	1	3	1	3	0
			Obtaining More information about one's culture and tradition	2	0	3	2	1	0
			Encourage creative writing and developing self-confidence.	1	2	3	3	3	1

	20132AEC11	**Hindi-I**	Enables other state students to continue their learning phase without any disruptions.	2	1	3	2	1	0
			Through this language they can learn spirituality.	2	0	3	1	2	0
			Students can learn social discrimination	2	3	1	2	1	1
			Students can learn grammar techniques	2	1	2	1	3	0
	20111AEC11	**Advanced English-I**	Academic skills in preparation for tertiary study.	1	2	1	1	2	3
			Presentation and participation skills.	3	2	1	1	2	2
			Learning strategies and research skills	1	2	3	1	2	1

			Academic essay and report writing skills	2	0	1	3	1	1
	20135AEC11	**French-I**	Focus on all four modalities of the language: speaking, listening, reading and writing	2	3	2	2	3	1
			As well as knowledge of Francophone cultures and the skills of collaboration and critical thinking	1	2	3	1	2	1
			Students can compare and contrast cultural practices as they relate to French and American culture.	2	1	2	1	3	0
			Improves their proficiency in English language.	1	2	1	1	2	3
			Develops functional communicative aspect of language through a series of real life tasks	3	2	1	1	2	2
	20111AEC12	**English-I**	Read and comprehend literature						

			Understand how to lead one's life realizing the modernity and its environment/atmosphere.						
			Improves their proficiency in English language.						
			Develops effective writing skills.						
			Develops functional communicative aspect of language through a series of real life tasks.						
	20120SEC13	**Programming in C with C++**	Design C Programs for problems.	1	2	3	1	2	1
			Able to understand and design the solution to a problem using object-oriented programming concepts.	2	0	1	3	1	1

	20120SEC16L	**Programming in C with C++ Lab**	Read understand and trace the execution of programs written in C language.						
			Implement programs with pointers and arrays, perform pointer arithmetic, and use the pre-processor.						
	20112AEC14B	**CLASSICAL ALGIBRA**	Understand the theory of, and be able to solve problems in Caylee Hamilton Theorem, and finding the Eigen values & Eigen vectors	2	3	2	2	3	1
			Able to manipulate relation between root and coefficients, symmetric functions of the roots in terms of the coefficients and transformation of equation	3	0	3	3	2	3
			be able to calculate summation related to Binomial,	2	1	2	3	1	3

			be able to calculate summation related to Binomial, Exponential and Logarithmic series	3	2	1	1	1	0
	20112AEC15B	**Numerical And Statistical Methods**	Apply numerical methods to find the solution of algebraic equations using diffe rent method and numerical	2	0	1	1	2	0
			Apply various interpolation methods and finite difference concepts.	2	3	1	1	3	1
			Work out numerical differentiati on and integration whenever and wherever routine methods are not applicable.	2	1	1	3	1	0
			Solve a differential equation using an appropriate numerical method	1	2	2	2	3	0

	201LSCIC	**Indian Constitution**	Understand how Constitutions embody certain ideals.	2	3	1	1	3	1
			Learn why there is a need for limits on power in a democratic form of government.	2	1	1	3	1	0
			Understand the difference between monarchy, dictatorship and democracy.	1	2	2	2	3	0
			Describe the importance of Preamble of the Indian Constitution and its significance.	3	2	1	2	1	1
	201LSCUV	**Universal Human Values**	Know about universal human values and understand the importance of values in individual, social circles, career path, and national life.	1	2	1	2	3	0

			From case studies of lives of great and successful people who followed and practiced human values and achieved self-actualization.	3	2	3	2	1	3
			Realize their potential as human beings and conduct themselves properly in the ways of the world.	2	3	1	1	1	2
II	**20110AEC21**	**Tamil- II**	Know what devotion really is. Know the fruitfulness obtained through devotion	2	1	3	2	1	1
			Perceive the progress achieved in the society through devotion	2	0	1	2	3	0
			Obtaining More information about one's culture and tradition	2	1	2	3	1	1
			Encourage creative writing and developing self-confidence.	2	1	2	3	1	0

			Aiming at enriching human excellence	2	1	1	3		3
	20111AEC21	**Hindi-II**	Enables other state students to continue their learning phase without any disruptions	1	2	2	2	3	1
			Through this language the can learn spirituality Students can learn grammar techniques. Enables them to enhance their language skills. Enables them to develop creative writing.	2	2	3	2	2	1
			Students can learn social discrimination.D18	1	1	1	3	1	2
	20111AEC21	**Advanced English-II**	Communicate effectively in most daily practical and social situations at both concrete and abstract levels	2	0	2	3	1	1

			Participate in formal and informal conversations involving problem solving and decision making	2	1	3	1	1	0
			Speak on familiar concrete topics at a descriptive level and present a detailed analysis or comparison	2	0	1	3	1	1
			Demonstrate an increased ability to respond appropriately to the formality level of a social interaction	2	1	2	2	3	1
	20135AEC21	**French-II**	Focus on all four modalities of the language: speaking, listening, reading and writing.	2	1	1	1	2	3
			As well as knowledge of Francophone cultures and the skills of collaboration and critical thinking.	3	2	1	1	2	1
			Students can compare and contrast cultural practices as they relate to	3	2	1	1	2	1

			French and American culture						
			Read and appreciate literature	2	3	1	1	1	0
			Know more about Mahatma Gandhi, Mother Teresa, and Martin Luther King.	2	1	2	3	1	0
			Describe Daffodils, beauty of Byron‘s Maid, Painful account of apple- pickers	2	1	3	2	3	0
			Understand the basic Grammar, and Spoken English. Ability to write composition, letter and vocabulary	2	1	2	2	2	3
			Gain vocabulary through reading. Acquire fluency in English language.	3	1	3	2	2	2
	20120SEC23	**Internet and Java Programming**	Understand development of JAVA applets vs. JAVA applications.	3	2	3	3	2	3

			Understand object inheritance and its use.	2	2	3	2	3	3
	20120SEC26L	**Internet and Java Programming Lab**	To develop software applications using Java programming language.	3	2	3	1	3	1
			Write modular, multithreading and event driven programming.	3	2	3	1	3	0
	20112AEC24B	**Discrete Mathematics**	Students completing this course will be able to express a logic sentence in terms of predicates, quantifiers, and logical connectives	3	2	3	2	3	3
	20112AEC25B	**Operations Research**	Identify and develop operational research models from the verbal description of the real system	3	2	2	2	3	3
			Use mathematical software to solve the proposed models.	2	3	1	2	1	3

			Develop a report that describes the model And the solving technique, analyses the results and propose recommendations in language	2	1	3	1	2	0
			Understand variety of problems such as assignment, transportation, travelling salesman etc.	1	1	2	2	3	0
	20120RLC27	**Research Led Seminar**	This course provides an experience in leading and participating in a discussion about a scientific paper.	3	2	3	1	3	0
	201LSCCS	**Communication Skill**	Develop speaking and writing skills .	3	2	3	1	3	0
			Identifying strengths and weaknesses of contributions and expanding a discussion beyond the paper content.	3	3	1	1	3	0

			Improves their ability to read and spell words through an analysis of structure of the English language.	3	2	3	1	3	0
	201SSCBE	**Basic Behavioral Etiquette**	Business etiquette training, a key part of soft skills & communication, facilitated by Momentum enlightens participants on the accepted behaviour patterns and manners key to their profession.	**2**	**2**	**1**	**2**	**2**	**1**
			It emphasises on a set of practices used and accepted in a multi-national work environment. .	2	1	3	2	2	2
	IIII **20110AEC31**	**Tamil-III**	Achieve one's goal by following the ancestral path.	2	0	3	2	2	0

			They will expose themselves into many question and answer session in research stations through which they can mould themselves for their better subject knowledge.	2	3	1	2	1	1
	20132AEC31	**Hindi-III**	Enables other state students to continue their learning phase without any disruptions.	2	1	2	3	2	0
			Through this language they can learn spirituality.	1	2	1	2	3	0
			Students can learn social discrimination.D18.	2	1	3	2	2	0
	20111AEC31	**Advanced English-III**	Follow main ideas, key words, and important details in an authentic 2-3 page text on a familiar and partially predictable topic.	2	3	1	3	2	0

			Read in English for information, to learn the language and to develop reading skills.	2	0	1	3	1	0
			Write coherent paragraphs on familiar topics with clear main ideas and some supporting details. Develop a sense of audience.	3	1	2	3	2	1
	20135AEC31	**French-III**	Focus on all four modalities of the language: speaking, listening, reading and writing.	2	3	1	1	2	2
			As well as knowledge of Francophone cultures and the skills of collaboration and critical thinking.	1	2	3	2	1	1
			Students can compare and contrast cultural practices as they relate to French and American culture.	2	1	3	2	1	2

			Students can demonstrate critical thinking and Collaborative problem-solving through advanced task-based language activities.	2	1	2	1	2	3
	20111AEC32	**English III**	Understand the basic Grammar, and Spoken English. Ability to write composition, letter and vocabulary.	3	2	3	1	3	0
			Know more about Mahatma Gandhi, Mother Teresa, Martin Luther King.	3	2	3	1	3	0
	20120SEC33	**Visual Programming**	Design, create, build, and debug Visual Basic applications.	2	1	1	2	2	1
			Explore Visual Basic's Integrated Development Environment (IDE).	2	1	3	3	2	2

			Write Windows applications using forms, controls, and events	2	3	3	2	2	1
			Write and apply decision structures for determining different operations.	3	1	3	3	2	2
	20120SEC35L	**Visual Programming Lab**	Apply arithmetic operations for displaying numeric output.	2	1	3	3	2	3
			Apply decision structures for determining different operations.	3	3	1	2	1	3
	20113AEC34A	**Applied physics –I**	Demonstrate a working knowledge of the basic concepts and theories of physics.	2	2	3	1	2	3
			Formulate hypotheses and devise and perform experiments to test a hypothesis as individuals and in a team.	2	2	1	3		3

			Cognitive abilities and skills relating to solution of problems in Physics and Physics Related Disciplines						
	20113AEC36AL	**Applied physics Lab-I**	An ability to apply knowledge of mathematics, science, and engineering. Graduates should transform knowledge of mathematics, Physics, chemistry, Engineering Mechanics, probability and statistics, and engineering drawing in solving a wide range of civil engineering problems.	3	1	3	1	3	0
			An ability to design, implement, evaluate a system and conduct experiments, as well as to analyze and interpret data. Graduates should show that they can make decisions regarding type, and number of data points to be collected, duration of the	2	0	3	2	1	0

			experiment						
			data points to be collected, duration of the experiment to obtain intended results, and demonstrate an understanding of accuracy and precision of data	1	2	3	3	3	1
			An ability to design, implement and evaluate a system, or process to meet desired needs Graduates should be able to identify the project goal;	2	1	3	2	1	0
III	**20120RMC37**	**Research Methodology**	Students who complete this course will be able to understand and comprehend the basics in research methodology and applying them in research/ project work.	2	0	3	1	2	-1
			This course will help them to select an appropriate research design.	3	2	3	1	3	0

			The course will also enable them to collect the data, edit it properly and analyses it accordingly. Thus, it will facilitate students' prosperity in higher education.	2	3	1	1	3	0
			With the help of this course, students will be able to take up and implement a research project/ study.	1	1	1	3	1	0
	201LSCOAN	**OFFICE AUTOMATION**	Recognize when to use each of the Microsoft Office programs to create professional and academic documents.	2	1	3	2	3	0
			Use Microsoft Office programs to create personal, academic and business documents following current professional and/or industry standards.	3	2	3	2	1	3

IV	**20110AEC41**	**Tamil-IV**	Realize how the ancient people changed their life style according to the ages	3	1	2	1	2	0
			Learn how to change one's lifestyle according to the needs of the future	2	3	1	2	1	1
			Obtaining More information about one's culture and tradition; Encourage creative writing and developing self-confidence.	1	2	3	1	2	1
	20132AEC41	**Hindi-IV**	Enables other state students to continue their learning phase without any disruptions.	2	1	2	1	3	0
			Through this language they can learn	1	2	1	1	2	3

			spirituality.						
			Students can learn social discrimination.D18.	3	2	1	1	2	2
	20111AEC41	**Advanced English-IV**	Make oral presentations effectively for academic purposes by using appropriate discourse markers, transitions and conjunctions.	1	2	3	1	2	1
			Respond to spoken discourse in their content courses and academic presentations.	2	0	1	3	1	1
			Follow oral instructions, identify details, and evaluate the speakers' viewpoints and attitudes	2	3	2	2	3	1
	19135AEC41	**French-IV**	Focus on all four modalities of the language: speaking, listening, reading and writing.	3	0	3	3	2	3

			As well as knowledge of Francophone cultures and the skills of collaboration and critical						
			Students can compare and contrast cultural practices as they relate to French and American culture.	2	1	2	3	1	3
	20111AEC42	**English-IV**	Know about genius of Shakespeare, Martin Luther King, Mahatma Gandhi, and Mother Teresa.	3	2	1	1	1	0
			Describe Daffodils, beauty of Byron‘s Maid, Painful account of apple- pickers.	2	0	1	1	2	0
			Understand the basic Grammar, and Spoken English. Ability to write composition, letter and vocabulary	2	1	1	3	3	0
	20120SEC43	**Active Server Programming**	Learners will be able to design web applications using ASP.NET	1	1	3	2	3	1

			Learners will be able to use ASP.NET controls in web applications	2	0	3	2	1	0
	20120SEC46L	**Active Server Page Lab**	Analyze the basic structure of a C# application and be able to document, debug, compile, and run a simple application.	2	1	3	1	2	0
			Integrate and relate scientific knowledge learned from classroom with real life situations.	2	3	1	1	3	1
			Use common statements to implement flow control, looping, and exception handling.	2	1	1	3	1	0

			They get knowledge about the integrated management of plant diseases and pest.	1	2	2	2	3	0
	20113AEC44A	**Applied physics –II**	Demonstrate a working knowledge of the basic concepts and theories of physics.	3	2	1	1	1	3
			The Applied Physics program will produce intellectually engaged graduates accomplished in application of fundamental physics principles, and prepared for direct entry into the workplace or continuing professional development.	2	1	3	1	1	0
			Demonstrate a working knowledge of the basic concepts and theories of physics.	1	1	1	3	1	2

	20113AEC47AL	**Applied physics Lab–II**	Integrate and relate scientific knowledge learned from classroom with real life situations.	1	2	3	3	2	3
			Effectively use and critically evaluate current technical/scientific research literature, online information, as well as information related to scientific issues in the mass media.	3	2	1	1	1	0
	22113AEC44AZ	**Applied physics lab II**		3	1	2	1	1	1
			Maintain life-long learning in the sciences and incorporate new information into the existing body of knowledge.	2	1	3	1	1	0
	201ACLSLMS	**Leadership and Management Skills**	Help students to develop essential skills to influence and motivate	2	0	1	1	3	0

			others						
			Nurture a creative and entrepreneurial mindset	2	0	1	1	1	3
			Make students understand the personal values and apply ethical principles in professional	2	1	3	1	2	0
	201ACSSAQA	**General Aptitude and Quantitative Ability**	The student will be able to • Use their logical thinking and analytical abilities to solve Quantitative aptitude questions from company specific and other competitive tests.	3	1	1	2	2	1
			Effort has been made to accommodate fundamental, mathematical aspects to instill confidence among students.	3	2	2	3	3	2

			This course consists of practice exercises for Quantitative or Numerical and Verbal Ability. Prepare for Aptitude Tests for Entrance Exams like GATE, CAT, Bank PO, SAT, GMAT, GRE, UPSC and RRB.	2	3	2	1	1	3
	V 20120SEC51	**Data Communication and Networking**	Choose the required functionality at each layer for given application	1	2	2	3		3
			Trace the flow of information from one node to another node in the network	1		2	1	3	3
			Use data communication vocabulary appropriately when discussing issues with other networking professionals.	3	2	1	1	1	1
	20120SEC52	**Operating System**	Compare and contrast various memory management schemes.	1	1	1	3	1	0

			Design and Implement a prototype file systems.	1	2	1	2	3	0
	20120SEC53	**Microprocessor and its Applications**	Design Memory Interfacing circuits.	1	1	3	1	2	1
			Understand the implementation of Buses	2	1	1	3	2	0
			Design and implement programs on 8086 microprocessor.	2	1	3	2	1	0
			Design and implement 8051 microcontroller based systems	3	3	1	2	2	0
	20120SEC55L	**Microprocessor lab**	Develop testing and experimental procedures on Microprocessor and Microcontroller analyze their operation under different cases.	1	2	3	3	3	1

			Prepare professional quality textual and computational results, incorporating accepted data analysis and synthesis methods, simulation software, and word-processing tools.	2	0	2	2	3	3
	20120SEC56L	**Operating System Lab**	Use UNIX/Linux command line (shell) commands to navigate and manage the UNIX/Linux file system, customize the user shell environment,	2	1	1	2	1	2
			Install a Linux operating system with a custom partitioning scheme and log into and out of a UNIX/Linux computer system using graphical and command line environments.	2	1	3	2	1	2

			Use file name globing and regular expressions to find files and text in the system.	3	2	1	2	1	1
			To Manage user and group accounts and permissions.	2	1	3	1	3	0
	20120DSC56A	**Cloud Computing**	Identify the architecture, infrastructure and delivery models of cloud computing	2	1	1	3	1	0
			Address the core issues of cloud computing such as security, privacy and interoperability	1	2	1	2	3	1
			. Apply suitable virtualization concept.	3	2	3	2	1	1
	20120DSC56B		To study how it helps to incorporate	2	3	1	1	1	0

		Middleware Technology	application portability, distributed application component interoperability and integration.						
			Understand Distributed systems design and implementation	2	1	3	2	1	1
			Understand existing Distributed Technologies	2	0	1	2	3	0
			Understand Web services architectures	2	1	2	3	1	3
	20120DSC56C	**Enterprise Resource Planning**	To aim at preparing the students technological competitive and make them ready to self-upgrade with the higher technical skills.	2	1	2	3	1	1
			Actively participate in group	2	1	1	3		1

			discussions towards gainful employment						
			Enlist the common errors generally made by candidates in an interview	1	2	2	2	3	0
	20120BRC57	**Participation in Bounded Research**	Familiar with how to write a good introduction to an educationa; research study and the components that comprise such an introduction.	2	2	3	2	2	0
			To understood a general definition of research design .	1	1	1	3		0
			Improves their ability to read and spell words through an analysis of structure of the English language		1	3	2	2	0
	201ACLSPSL	**Professional Skills**	Develop effective presentation skills. Conduct effective business	3	1	2	2	1	0

			correspondence and prepare business reports which produce results. Conduct effective business correspondence and prepare business reports which produce results.						
			By the end of the soft skills training program, the students should be able to: Develop effective communication skills (spoken and written).	2	2	3		3	1
			summarization forms and determine data mining functionalities	1	1	1	3	1	1
			· Students learn to use the natural farm resources produced within the farm	2	0	1	2	3	2
	VI 20120SEC61	**NET Programming**	Utilize the .NET environment to create Web Service-based applications and components.	3	0	3	1	1	0

			Demonstrate advanced knowledge of programming for network communications.	3	1	1	1	1	0
			Utilize DirectX libraries in the .NET environment to implement 2D and 3D animations and game-related graphic displays and audio.	2	1	3	1	2	0
	20120SEC62	**Relational Data Base Management System**	Apply security concepts to databases.	2	1	2	3		2
			Apply concurrency control and recovery mechanisms for practical problems.	2	1	3	3	2	1
			Use the Relational model, ER diagrams.	2	0	2	3	1	1

			Design Databases for applications.	2	1	3	1	1	0
	20120SEC64L	**NET Programming Lab**	Use common statements to implement flow control, looping, and exception handling.	2	0	1	3	1	1
			Contrast and compare major elements of the .NET Framework and explain how C# fits into the .NET platform.	2	1	2	2	3	1
			Analyze the basic structure of a C# application and be able to document, debug, compile, and run a simple application.	2	1	1	1	2	3

	20120SEC65L	**Oracle Lab**	Unary and Binary table Operations.	3	2	1	1	2	1
			Handling online Transactions.	3	2	1	1	2	1
			Database Connectivity with front-end.	2	3	1	1	1	0
	20120DSC65A	**Data Mining**	Assess raw input data, and process it to provide suitable input for a range of data mining algorithms.	2	1	2	3	1	0
			Characterize and discriminate data summarization forms and determine data mining functionalities.	2	1	3	2	3	0
			Evaluate and select appropriate data-mining algorithms and apply, and interpret and report the output appropriately.	2	1	2	2	2	3

	20120DSC65B	**Artificial Intelligence and Expert Systems**	Demonstrate fundamental understanding of the history of artificial intelligence(AI) and its foundation.	3	1	3	2	2	2
			Apply basic principles of aim solutions that require problem solving, inference, perception, knowledge representation, and learning.	3	1	3	1	3	0
			Demonstrate knowledge of the building blocks of AI as presented in terms of intelligent agents.	2	0	3	2	1	0
			Formalize a given problem in the language/framework of different AI methods.	1	2	3	3	3	1

	20120DSC65C	**Ethical Hacking**	Plan a vulnerability assessment and penetration test for a network.	3	2	3	1	3	0
			Execute a penetration test using standard hacking tools in an ethical manner.	3	2	3	1	3	0
			Report on the strengths and vulnerabilities of the tested network.	3	3	1	1	3	0
			Identify legal and ethical issues related to vulnerability and penetration testing.	2	3	1	3	3	1
	201TAOEC	**Tamil IlakkiyaVaralaru**	Realize how the ancient people changed their life style according to the ages	2	1	3	2	1	0

			Obtaining More information about one's culture and tradition;	2	0	3	1	2	-1
	201TAOEC	**Development of Mathematical Skill**	Aiming at enriching human excellence;	2	1	3	1	2	0
			. Select and apply general rules correctly to solve problems including those in real-life contexts. Write and understand basic proofs.	2	3	1	1	3	0
			Develop and maintain problem-solving skills.	1	1	1	3	1	0
			Use mathematical ideas to model real-world problems.	2	1	3	2	3	0
		Instrumentation	Measurement of R,L,C ,Voltage,	2	3	1	2	1	1

	201PHOEC		Current, Power factor , Power, Energy						
			Ability to balance Bridges to find unknown values.	1	2	3	1	2	1
			Ability to use Digital voltmeters	2	1	2	1	3	0
			Ability to measure strain, displacement, Velocity, Angular Velocity, temperature, Pressure , Vacuum, and Flow.	1	2	1	1	2	3
	201CHOEC	**Food and Adulteration**	Understand, identify and analyze a problem related to food industry and ability to find an appropriate solution for the same.	3	2	1	1	2	2
			Design, implement and evaluate a research based project to meet	1	2	3	1	2	1

			demands of the society. Use appropriate techniques, skills, and modern tools in the food industry and in academic profession.						
			Understanding of professional, ethical, legal, security and social issues and responsibilities for entrepreneurship skills.	2	0	1	3	1	1
			Use appropriate techniques, skills, and modern tools in the food industry and in academic profession.	2	3	2	2	3	1
	201MBOEC	**Wildlife Conservation**	understand the factors affecting the need to find sustainable practices for production of food, feed and fiber crops and how to implement them.	3	0	3	3	2	3

			competent in basic forest management principles and evaluation of forest stands for health, wildlife habitat and lumber use.	2	1	2	3	1	3
	22120PRW66	**E-Learning**	Students will be able to write a well formed / valid XML document.	3	2	1	1	1	0
			Students will be able to connect a java program to a DBMS and perform insert, update and delete operations on DBMS table	2	0	1	1	2	0
	201CMOEC	**Banking Service**	Understand the ability to use accounting concepts, principles, and frameworks to analyze and effectively communicate information to a variety of audiences.	1	1	3	2	3	1

			Apply the ability to use accounting information to solve a variety of business problems.	2	0	3	2	1	0
	20120PRW66	**Project Work**	For a selected research topic, student manager will be able to compile the relevant literature and frame hypotheses for research as applicable	3	2	3	1	3	
			For a selected research topic, student manager will be able to plan a research design including the sampling, observational, statistical and operational designs if any	3	2	3	1	3	
	201SSCIM	**Interview Skills Training and Mock Test**	Help candidates reduce their stress and anxiety before a real job interview.	3	3	1	1	3	

			Provide you with useful feedback in a low-stress environment.	2	3	1	3	3	
	201LSCCE	**Community Engagement**	Experience the personal benefits of forming reciprocal relationships in one's community, including joy, fulfillment, and well-being.	3	1	2	1	2	
			Being Healthy so that they are physically, mentally, emotionally and sexually healthy, have healthy lifestyles and choose not to take illegal drugs.	1	1	3	3	2	

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SCHOOL OF ARTS AND SCIENCE
DEPARTMENT OF COMPUTER SCIENCE
MCA

PROGRAMME OUTCOMES	
PO1	To communicate computer science concepts, designs, and solutions effectively and professionally;
PO2	To apply knowledge of computing to produce effective designs and solutions for specific problems;
PO3	To identify, analyses, and synthesize scholarly literature relating to the field of computer science;
PO4	To use software development tools, software systems, and modern computing platforms.

PO5	To an understanding of professional, ethical, legal, security and social issues and responsibilities
PO6	To do capable of evaluating personal and professional choices in terms of codes of ethics and ethical theories and understanding the impact of their decisions on themselves, their professions, and on society
PO7	To apply design and development principles in the construction of software systems of varying complexity.
PROGRAM SPECIFIC OUTCOME	
PSO1	➢ Demonstrate understanding of the principles and working of the hardware and software aspects of computer systems.
PSO2	➢ Understanding the structure and development methodologies of software systems. Possess professional skills and knowledge of software design process. Familiarity and practical competence with a broad range of Programming language and open source platforms.

Sem	Course code	Course title	CO's	PO1	PO2	PO3	PO4	PO5	PO6
I	**20220SEC11**	**J2EE programming**	Understand the format and use of objects.	3	1	3	1	3	0

			Understand basic input/output methods and their use.	2	0	3	2	1	0
			Understand development of JAVA applets vs. JAVA applications.	1	2	3	3	3	1
	20220SEC12	**Relational Data Base Management System**	Design a database using ER diagrams and map ER into Relations and normalize the reltions.	2	1	3	2	1	0
			Acquire the knowledge of query evaluation to monitor the performance of the DBMS.	2	0	3	1	2	0
			Identify what students will know and be able to do if they master the material.	2	3	1	2	1	1
			Identify what students will know and be able to do if they master the material.	2	1	2	1	3	0
	20222SEC13	Routing and Switching in LAN	Students develop PERT and CPM networks and finding the shortest path	1	2	1	1	2	1
			Understand the concept of sequencing problems and game theory	3	2	1	1	2	3
			Students gets the knowledge about inventory theory	1	2	3	1	2	1
			Extend knowledge to Non Linear Programming Problems	2	0	1	3	1	2
	20212SEC14	**Discrete Mathematics**	The common 2-year sequence works well for many disciplines.	1	2	1	1	2	3

			Topics can be introduced ""just-in-time"" for many disciplines.	3	2	1	1	2	2
			Ability study of mathematical structures that are countable or otherwise distinct and separable.	1	2	3	1	2	1
			Examples of structures that are discrete are combinations, graphs, and logical statements. Discrete structures can be finite or infinite.	2	0	1	3	1	1
	20220SEC15L	**J2EE programming Lab**	Thestudents ableto Design and develop GUI applications using Abstract Windowing Toolkit (AWT)	2	3	2	2	3	1
			Programmer training by creating standardized, reusable modular components and by enabling the tier to handle many aspects of programming automatically.	1	2	3	1	2	1
			Swing and Event Handling	2	1	2	1	3	0
			Web applications and Designing	1	2	1	1	2	3

			Enterprise based applications for business logic	3	2	1	1	2	2
	20220SEC16L	**RDBMS Lab**	Can Declare and enforce integrity constraints on a database using a state-of-the-art.	1	2	3	1	2	1
			Programming PL/SQL including stored Procedures.	2	0	1	3	1	1
	20222DSC17A	Mobile Computing	Analyze processor Performance improvement using instruction level parallelism.	2	3	2	2	3	1
			Learn the function of each element of a memory hierarchy.	3	0	3	3	2	3
			Articulate design issues in the development of processor or other components that satisfy design requirements and objectives.	2	1	2	3	1	3
	20222DSC17B -	Knowledge based decision support system	Analyze processor Performance improvement using instruction level parallelism.	2	0	1	1	2	0
			Study various data transfer techniques in digital computer.	2	3	1	1	3	1

	20222RLC18	Research Led Seminar	The exam is supposed to measure the learning outputs of the program as a whole not a individual course.	1	2	1	1	2	1
			The primary purpose of the exit exams is to assess students' educational achievement in the courses in their major area of program study.	3	2	1	1	2	3
	20220SEC21	**Python Programming**	To implement the python programming features in practical applications	2	3	1	1	3	1
			To implement Python programs with conditionals and loops	2	1	1	3	1	0
			Represent compound data using Python lists, tuples, dictionaries, turtles, Files and modules	1	2	2	2	3	0
			Use functions for structuring Python programs.	3	2	1	2	1	1
	20220SEC22	**Cryptography & Network Security**	Develop basic skills of secure network architecture and explain the theory	2	1	3	1	3	1

			behind the security of different cryptographic algorithms.						
			Describe common network vulnerabilities and attacks, defense mechanisms against network attacks, and cryptographic protection mechanisms.	2	1	1	3	1	0
	20220SEC23	Open Source programming	Graduates of the program are expected to demonstrate the problem	1	2	1	2	3	0
			An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	3	2	3	2	1	3
			To Explain methods of capturing, specifying, visualizing and analyzing software requirements.	2	3	1	1	1	2
	20220SEC25L	**Python Programming Lab**	Able to determine the methods to create and manipulate Python programs.	2	1	3	2	1	1
			By utilizing the data structures like lists, dictionaries, tupelos and sets.	2	0	1	2	3	0
			Identify the commonly used operations involving file systems and regular expressions	2	1	2	3	1	1

			Duck typing and huge standard library	2	1	2	3	1	0
			Presence of third-party modules.	2	1	1	3		3
	20220SEC24	Web Service	To introduce Basic Unix general purpose Commands	1	2	2	2	3	1
			To learn C programming in Unix editor environment.	2	2	3	2	2	1
			To learn shell script and sed concepts.	1	1	1	3	1	2
	20222SEC26L	Open Source programming Lab	To impart basic proficiency in representing difficult real life problems in a state space representation so as to solve them using AI techniques like searching and game playing	2	0	2	3	1	1
			To introduce advanced topics of AI such as planning, Bayes networks,	2	1	3	1	1	0
			Analyze and formalize the problem as a state space, graph, design heuristics and select amongst different search or game based techniques to solve them.	2	0	1	3	1	1

			Develop intelligent algorithms for constraint satisfaction problems and also design intelligent systems for Game Playing	2	1	2	2	3	1
	20222DSC27A	Game Programming	To understand the main components of an OS & their functions.	2	1	1	1	2	3
			To study the process management and scheduling.	3	2	1	1	2	1
			To understand various issues in Inter Process Communication (IPC) and the role of OS in IPC.	3	2	1	1	2	1
	20222DSC27B	Multimedia and Graphics	Develop open source programming products which are normally free to download, although it does incur running costs such as storage and computing power.	2	3	1	1	1	0
			Even those rare paid-for open source products still tend to be far cheaper than closed source alternatives	2	1	2	3	1	0
			Understand process of executing a PHP-based script on a webserver.	2	1	3	2	3	0

			Be able to develop a form containing several fields and be able to process the data provided on the form by a user in a PHP-based script.	2	1	2	2	2	3
			Understand basic PHP syntax for variable use, and standard language constructs, such as conditionals and loops	3	1	3	2	2	2
	20222DSC27C	Middleware Technology	To Dmonstrate advanced knowledge of networking understands the key protocols which support the Internet.	3	2	3	3	2	3
			Be familiar with several common programming interfaces for network communication.	2	2	3	2	3	3
	20222RMC28	Research Methodology	Thesestudents able to develop efficient open source programmes for rapidly developing network world	3	2	3	2	3	3
	20222BRC29	Participation in Bounded Research	The students are able to develop programs using C# based on object oriented concepts	3	2	2	2	3	3
			Write the ROBUST, EXTENSIBLE and EFFICIENT programs by using c# code and ASP.Net	2	3	1	2	1	3
			Create dynamic web pages for further development.	2	1	3	1	2	0
			It provides re-usability.	1	1	2	2	3	0

	IIII 20222SEC31	Data mining and warehousing	Ability to estimate if a system takes distributed system characteristic into account in a reasonable way.	2	1	1	2	2	3
			Knowing the basic structures (e.g. client-server) and knowing the existing middleware frameworks.	3	0	2	3	2	
			Ability to estimate framework suitability for different applications.	1	2	2	2	1	3
			Ability to implement a simple distributed software laboratory work with socket and RMI interfaces.	2	0	3	2	2	2
	20222SEC32	Grid and Cloud Computing.	These students able to understand and develop wireless communication and its infrastructure. Understand design considerations for wireless communication networks	2	2	1	2	2	1
			Understand the fundamentals of wireless networks.	2	1	3	2	2	2
			Learn and analyze the different wireless technologies.	3	1	2	1	1	0
			These students able to understand and develop wireless communication and its infrastructure.	1	2	3	1	1	0

	20222SEC33	.NET Programming	It provides re-usability.	2	0	3	2	2	0
			Create web-based distributed applications using ASP.NET, SQL Server and ADO.NET	2	3	1	2	1	1
	20222SEC34	Object Oriented System Design	develop menu based program for text manipulation.	2	1	2	3	2	0
			Utilize the .NET environment to create Web Service-based applications and components.	1	2	1	2	3	0
			Less Coding and Increased Reuse of Code: This framework works on object-oriented programming which eliminates unnecessary codes and involves less coding for the developers.	2	1	3	2	2	0
	20222SEC35L	.NET Programming Lab.	Securing confidential information.	2	3	1	3	2	0
			Protection from malicious attacks on your network.	2	0	1	3	1	0
			Develop an understanding of security policies.	3	1	2	3	2	1
	20222DSC 36A	Information Security	Deletion and/or guaranteeing malicious elements within a preexisting network.	2	3	1	1	2	2

			Prevents users from unauthorized access to the network.	1	2	3	2	1	1
			Upon completion of the course, the student should be able to	2	1	3	2	1	2
			Analyze various protocols for IoT	2	1	2	1	2	3
	20222DSC36B	Internet of Things	Develop web services to access/control IoT devices.	2	1	1	2	2	1
			Design a portable IoT using Rasperry Pi	2	1	3	3	2	2
			Deploy an IoT application and connect to the cloud.	2	3	3	2	2	1
			Analyze applications of IoT in real time scenario	3	1	3	3	2	2
	20222DSC36C	M-Marketing	Upon Completion of the course, the students should be able to Business techinques	2	1	3	3	2	3

			Analyze various mobile marketing strategies.	3	3	1	2	1	3
	20222SRC37	Societal project (Mini Project)	To understand and implement Automated software testing techniques for Web testing, Performance testing, and GUI testing.	2	2	3	1	2	3
			To develop, implement, and demonstrate the learning through a project that meet stated specifications.	2	2	1	3		3
	20222SEC41	**Human Computer Interaction**	Design effective dialog for HCI.	3	1	3	1	3	0
			Design effective HCI for individuals and persons with disabilities.	2	0	3	2	1	0
			Assess the importance of user feedback.	1	2	3	3	3	1
			Explain the HCI implications for designing multimedia/ ecommerce/ e-learning Websites.	2	1	3	2	1	0
	20222SEC42	Software Project Management	An understanding of multimedia development in the business world, and how successful development is contingent on detailed client specifications, user and audience research, and design decisions taken during the planning phase.	2 2	0 1	3 3	1 1	2 2	-1 0
			An understanding of the content of learning materials available from e-skills UK and how these can be used with learners to develop multimedia products						
			To work with learners to plan and create a multimedia product that includes animation, audio and video	2	3	1	1	3	0

			An understanding of multimedia development in the business world, and how successful development is contingent on detailed client specifications, user and audience research, and design decisions taken during the planning phase.	1	1	1	3	1	0
	20222SEC43	Big Data	In Business it helps streamline processes and improve efficiency in terms of organization.	2	1	3	2	3	0
			It facilitates communication between the system.	3	2	3	2	1	3
	20222PRW44	Project work	Can be able to develop plans with relevant people to achieve the project's goals.	3	1	2	1	2	0
			Break work down into tasks and determine handover procedures.	2	3	1	2	1	1
			Identify links and dependencies, and schedule to achieve deliverablehandoverE	1	2	3	1	2	1
	20222PEE	Program Exit Examination	The exam is supposed to measure the learning outputs of the program as a whole not a individual course.	2	1	2	1	3	0
			The primary purpose of the exit exams is to assess students' educational achievement in the courses in their major area of program study.	1	2	1	1	2	3

			The exam is supposed to measures the learning outputs of the program as a whole not the individual courses.	3	2	1	1	2	2

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SCHOOL OF ARTS AND SCIENCE
DEPARTMENT OF COMPUTER SCIENCE
MSC CS

PROGRAMME OUTCOMES	
PO1	To communicate computer science concepts, designs, and solutions effectively and professionally;
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PO3	To identify, analyses, and synthesize scholarly literature relating to the field of computer science;
PO4	To use software development tools, software systems, and modern computing platforms.
PO5	To an understanding of professional, ethical, legal, security and social issues and responsibilities
PO6	To do capable of evaluating personal and professional choices in terms of codes of ethics and ethical theories and understanding the impact of their decisions on themselves, their professions, and on society
PO7	To apply design and development principles in the construction of software systems of varying complexity.
PROGRAM SPECIFIC OUTCOME	

PSO1	➢ Demonstrate understanding of the principles and working of the hardware and software aspects of computer systems.
PSO2	➢ Understanding the structure and development methodologies of software systems. Possess professional skills and knowledge of software design process. Familiarity and practical competence with a broad range of Programming language and open source platforms.

Sem	Course code	Course title	CO's	PO1	PO2	PO3	PO4	PO5	PO6
I	**20220SEC11**	**J2EE programming**	Understand the format and use of objects.	3	1	3	1	3	0

			Understand basic input/output methods and their use.	2	0	3	2	1	0
			Understand development of JAVA applets vs. JAVA applications.	1	2	3	3	3	1
	20220SEC12	**Relational Data Base Management System**	Design a database using ER diagrams and map ER into Relations and normalize the relations.	2	1	3	2	1	0
			Acquire the knowledge of query evaluation to monitor the performance of the DBMS.	2	0	3	1	2	0
			Identify what students will know and be able to do if they master the material.	2	3	1	2	1	1
			Identify what students will know and be able to do if they master the material.	2	1	2	1	3	0
	20212SEC13	**Discrete Mathematics**	The common 2-year sequence works well for many disciplines.	1	2	1	1	2	3
			Topics can be introduced ""just-in-time"" for many disciplines.	3	2	1	1	2	2
			Ability study of mathematical structures that are countable or otherwise distinct and separable.	1	2	3	1	2	1

			Examples of structures that are discrete are combinations, graphs, and logical statements. Discrete structures can be finite or infinite.	2	0	1	3	1	1
	20220SEC14L	**J2EE programming Lab**	The students ableto Design and develop GUI applications using Abstract Windowing Toolkit (AWT)	2	3	2	2	3	1
			Programmer training by creating standardized, reusable modular components and by enabling the tier to handle many aspects of programming automatically.	1	2	3	1	2	1
			Swing and Event Handling	2	1	2	1	3	0
			Web applications and Designing	1	2	1	1	2	3
			Enterprise based applications for business logic	3	2	1	1	2	2
	20220SEC15L	**RDBMS Lab**	Can Declare and enforce integrity constraints on a database using a state-of-the-art.	1	2	3	1	2	1

			Programming PL/SQL including stored Procedures.	2	0	1	3	1	1
	20220DSC16A	**WAP and XML**	Analyze processor Performance improvement using instruction level parallelism.	2	3	2	2	3	1
			Learn the function of each element of a memory hierarchy.	3	0	3	3	2	3
			Articulate design issues in the development of processor or other components that satisfy design requirements and objectives.	2	1	2	3	1	3
			Analyze processor Performance improvement using instruction level parallelism	3	2	1	1	1	0
	20220DSC16B	**Advanced Computer Architecture**	Analyze processor Performance improvement using instruction level parallelism.	2	0	1	1	2	0
			Study various data transfer techniques in digital computer.	2	3	1	1	3	1
			Develop basic skills of secure network architecture and explain the theory behind the security of different cryptographic algorithms.	2	1	1	3	1	0

			Describe common network vulnerabilities and attacks, defense mechanisms against network attacks, and cryptographic protection mechanisms.	1	2	2	2	3	0
	20220SEC21	**Python Programming**	To implement the python programming features in practical applications	2	3	1	1	3	1
			To implement Python programs with conditionals and loops	2	1	1	3	1	0
			Represent compound data using Python lists, tuples, dictionaries, turtles, Files and modules	1	2	2	2	3	0
			Use functions for structuring Python programs.	3	2	1	2	1	1
	20220SEC22	**Cryptography & Network Security**	Develop basic skills of secure network architecture and explain the theory behind the security of different cryptographic algorithms.	2	1	3	1	3	1
			Describe common network vulnerabilities and attacks, defense mechanisms against network attacks, and cryptographic protection mechanisms.	2	1	1	3	1	0

	20220SEC23	**Software Engineering**	Graduates of the program are expected to demonstrate the problem	1	2	1	2	3	0
			An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	3	2	3	2	1	3
			To Explain methods of capturing, specifying, visualizing and analyzing software requirements.	2	3	1	1	1	2
	20220SEC24L	**Python Programming Lab**	Able to determine the methods to create and manipulate Python programs.	2	1	3	2	1	1
			By utilizing the data structures like lists, dictionaries, tupelos and sets.	2	0	1	2	3	0
			Identify the commonly used operations involving file systems and regular expressions	2	1	2	3	1	1
			Duck typing and huge standard library	2	1	2	3	1	0
			Presence of third-party modules.	2	1	1	3		3

	20220SEC25L	**UNIX Lab**	To introduce Basic Unix general purpose Commands	1	2	2	2	3	1
			To learn C programming in Unix editor environment.	2	2	3	2	2	1
			To learn shell script and sed concepts.	1	1	1	3	1	2
	20220DSC26A	**Artificial Intelligence**	To impart basic proficiency in representing difficult real life problems in a state space representation so as to solve them using AI techniques like searching and game playing	2	0	2	3	1	1
			To introduce advanced topics of AI such as planning, Bayes networks,	2	1	3	1	1	0
			Analyze and formalize the problem as a state space, graph, design heuristics and select amongst different search or game based techniques to solve them.	2	0	1	3	1	1
			Develop intelligent algorithms for constraint satisfaction problems and also design intelligent systems for Game Playing	2	1	2	2	3	1

	20220DSC26B -	**Distributed Operating System**	To understand the main components of an OS & their functions.	2	1	1	1	2	3
			To study the process management and scheduling.	3	2	1	1	2	1
			To understand various issues in Inter Process Communication (IPC) and the role of OS in IPC.	3	2	1	1	2	1
	20220SEC31	**Open Source programming**	Develop open source programming products which are normally free to download, although it does incur running costs such as storage and computing power.	2	3	1	1	1	0
			Even those rare paid-for open source products still tend to be far cheaper than closed source alternatives	2	1	2	3	1	0
			Understand process of executing a PHP-based script on a webserver.	2	1	3	2	3	0
			Be able to develop a form containing several fields and be able to process the data provided on the form by a user in a PHP-based script.	2	1	2	2	2	3
			Understand basic PHP syntax for variable use, and standard language constructs, such as conditionals and loops	3	1	3	2	2	2

	20220SEC32	**.Net Programming**	To Demonstrate advanced knowledge of networking understands the key protocols which support the Internet.	3	2	3	3	2	3
			Be familiar with several common programming interfaces for network communication.	2	2	3	2	3	3
	20220SEC33L	**Open Source programming Lab**	These students able to develop efficient open source programmers for rapidly developing network world	3	2	3	2	3	3
	20220SEC34L	.Net Programming Lab	The students are able to develop programs using C# based on object oriented concepts	3	2	2	2	3	3
			Write the ROBUST, EXTENSIBLE and EFFICIENT programs by using c# code and ASP.Net	2	3	1	2	1	3
			Create dynamic web pages for further development.	2	1	3	1	2	0
			It provides re-usability.	1	1	2	2	3	0
	20220DSC35A	Real Time Operating Systems	Ability to estimate if a system takes distributed system characteristic into account in a reasonable way.	2	1	1	2	2	3
			Knowing the basic structures (e.g. client-server) and knowing the existing middleware frameworks.	3	0	2	3	2	
			Ability to estimate framework suitability for different applications.	1	2	2	2	1	3

			Ability to implement a simple distributed software laboratory work with socket and RMI interfaces.	2	0	3	2	2	2
	20220DSC35B	Wireless Communication Network	These students able to understand and develop wireless communication and its infrastructure. Understand design considerations for wireless communication networks	2	2	1	2	2	1
			Understand the fundamentals of wireless networks.	2	1	3	2	2	2
			Learn and analyze the different wireless technologies.	3	1	2	1	1	0
			These students able to understand and develop wireless communication and its infrastructure.	1	2	3	1	1	0
	202ENOEC	Writing for the Media	To understand and implement Automated software testing techniques for Web testing, Performance testing, and GUI testing.	2	0	3	2	2	0
			To develop, implement, and demonstrate the learning through a project that meet stated specifications.	2	3	1	2	1	1
	202MAOEC		Design effective dialog for HCI.	2	1	2	3	2	0

		Applicable Mathematics Techniques	Design effective HCI for individuals and persons with disabilities.	1	2	1	2	3	0
			Assess the importance of user feedback.	2	1	3	2	2	0
	202PHOEC	Bio-medical Instrumentation	Explain the HCI implications for designing multimedia/ ecommerce/ e-learning Websites.	2	3	1	3	2	0
			Analyze processor Performance improvement using instruction level parallelism.	2	0	1	3	1	0
			Learn the function of each element of a memory hierarchy.	3	1	2	3	2	1
	202CHOE	Green Chemistry	Study various data transfer techniques in digital computer.	2	3	1	1	2	2
			Articulate design issues in the development of processor or other components that satisfy design requirements and objectives.	1	2	3	2	1	1
			Develop basic skills of secure network architecture and explain the theory behind the security of different cryptographic algorithms.	2	1	3	2	1	2

			Describe common network vulnerabilities and attacks, defense mechanisms against network attacks, and cryptographic protection mechanisms.	2	1	2	1	2	3
	202BCOEC	Herbal Medicines	Compare various Cryptographic Techniques	2	1	1	2	2	1
			Design Secure applications	2	1	3	3	2	2
			Attain the capability to represent various real life problem domains using logic based techniques and use this to perform inference or planning.	2	3	3	2	2	1
			Formulate and solve problems with uncertain information using Bayesian approaches.	3	1	3	3	2	2
	202CMOEC	Financial Service	To understand the main components of an OS & their functions.	2	1	3	3	2	3
			To study the process management and scheduling.	3	3	1	2	1	3

	IV 20220SEC41	Software Testing	To understand and implement Automated software testing techniques for Web testing, Performance testing, and GUI testing.	2	2	3	1	2	3
			To develop, implement, and demonstrate the learning through a project that meet stated specifications.	2	2	1	3		3
	20220SEC42	Human Computer Interaction	Design effective dialog for HCI.	3	1	3	1	3	0
			Design effective HCI for individuals and persons with disabilities.	2	0	3	2	1	0
			Assess the importance of user feedback.	1	2	3	3	3	1
			Explain the HCI implications for designing multimedia/ ecommerce/ e-learning Websites.	2	1	3	2	1	0
	20220DSC43A	Multimedia and its application	An understanding of multimedia development in the business world, and how successful development is contingent on detailed client specifications, user and audience research, and design decisions taken during the planning phase.	2 2	0 1	3 3	1 1	2 2	-1 0
			An understanding of the content of learning materials available from e-skills UK and how these can be used with learners to develop multimedia products						
			To work with learners to plan and create a multimedia product that includes animation, audio and video	2	3	1	1	3	0
			An understanding of multimedia development in the business world, and how successful development is contingent on detailed client specifications, user and audience research, and design decisions taken during the planning phase.	1	1	1	3	1	0

	20220DSC43B	Middleware Technology	In Business it helps streamline processes and improve efficiency in terms of organization.	2	1	3	2	3	0
			It facilitates communication between the system.	3	2	3	2	1	3
	20220PRW44	Project work	Can be able to develop plans with relevant people to achieve the project's goals.	3	1	2	1	2	0
			Break work down into tasks and determine handover procedures.	2	3	1	2	1	1
			Identify links and dependencies, and schedule to achieve deliverablehandoverE	1	2	3	1	2	1
	20220PEE	Programme Exit Examination	The exam is supposed to measure the learning outputs of the program as a whole not a individual course.	2	1	2	1	3	0
			The primary purpose of the exit exams is to assess students' educational achievement in the courses in their major area of program study.	1	2	1	1	2	3
			The exam is supposed to measures the learning outputs of the program as a whole not the individual courses.	3	2	1	1	2	2

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SCHOOL OF ARTS AND SCIENCE

2022 REGULATION

M.Phil

Sem	Course code	Course title	CO's	PO1	PO2	PO3	PO4	PO5	PO6
I	203RMGC11	Research Methodology	Systematic approach to hierarchical network that support voice, video, and data.	3	1	3	1	3	0
			Idea on VLAN, VTP, STP and Inter-VLAN Routing.	2	0	3	2	1	0
			Components of a wireless LAN and its operations.	1	2	3	3	3	1
	203CSC12	Advanced Technologies in Computer Science	You will also learn how to configure the router and the switch for remote access.	2	1	3	2	1	0
			small business router in order to provide network connectivity in a small LAN environment.	2	0	3	1	2	0
			Students completing this course will be able to express a logic sentence in terms of predicates, quantifiers, and logical connectives.	2	3	1	2	1	1
			Students completing this course will be able to apply the rules of inference and methods of proof including direct and indirect proof forms, proof by contradiction, and mathematical induction.	2	1	2	1	3	0

	203CSC13_	**Advanced Networking Big Data**	Systematic approach to hierarchical network that support voice, video, and data.	1	2	1	1	2	3
			Idea on VLAN, VTP, STP and Inter-VLAN Routing.	3	2	1	1	2	2
			Components of a wireless LAN and its operations.	1	2	3	1	2	1
			You will also learn how to configure the router and the switch for remote access.	2	0	1	3	1	1
	203RPE14	**Research and Publication Ethic**	Small business router in order to provide network connectivity in a small LAN environment.	2	3	2	2	3	1
			Students completing this course will be able to express a logic sentence in terms of predicates, quantifiers, and logical connectives.	1	2	3	1	2	1
			Students completing this course will be able to apply the rules of inference and methods of proof including direct and indirect proof forms, proof by contradiction, and mathematical induction.	2	1	2	1	3	0
			Systematic approach to hierarchical network that support voice, video, and data.	1	2	1	1	2	3

			Idea on VLAN, VTP, STP and Inter-VLAN Routing.	3	2	1	1	2	2
	203CSD21	**Dissertation - (Topic selected should be relevant to the topic of the In-depth paper**	Students completing this course will be able to apply the rules of inference and methods of proof including direct and indirect proof forms, proof by contradiction, and mathematical induction.	1	2	3	1	2	1
			Systematic approach to hierarchical network that support voice, video, and data.	2	0	1	3	1	1