

Dept: ECE- BTech (FT) Mapping of COs and Pos

2019 regulation- UG (FT)

	Course	Title of the								POS	5				
Sem	Code	Course	COs	PO	РО	РО	РО	РО	РО	РО	РО	PO	РО	РО	PO12
				1	2	3	4	5	6	7	8	9	10	11	
ha of	he Departme	Communicativ e English	 Read articles of a general kind in magazines and newspapers. Participate effectively in informal conversations; introduce themselves and their friends and express opinions in English. Comprehend conversations and short talks delivered in English Write short essays of a general kind and personal letters and emails in English. 	T .	Ti Ti	Part of the state	2	2	4.	~	~	* He	u	1	

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Parallella and American State of the Control of the	Engineering Mathematics - I	Use both the limit definition and rules of differentiation to differentiate functions. Apply differentiation to solve maxima and minima problems. Evaluate integrals both by using Riemann sums and by using the Fundamental Theorem of Calculus. Apply integration to compute multiple integrals, area, volume, integrals in polar coordinates, in addition to change of order and change of variables. Evaluate integrals using techniques of integration, such as substitution, partial fractions and integration by parts.	✓	4				?		e Luci	uf	
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	 Determine convergence/divergence of improper integrals and evaluate convergent improper integrals. Apply various techniques in solving differential equations. 											
Head Of the Department Communication Engineering Pounding In Electronics and	 The students will gain knowledge on the basics of properties of matter and its applications, The students will acquire knowledge on the concepts of waves and optical devices and their applications in fibre optics, The students will have adequate knowledge on the concepts of thermal properties of materials and their applications in 	✓	✓	~	~	?	2	2	Clu	ufi	*	

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			expansion joints and heat exchangers, • The students will get knowledge on advanced physics concepts of quantum theory and its applications in tunneling microscopes, and • The students will understand the basics of crystals, their structures and different crystal growth techniques.												
Hend Copartme	19149514	Engineering Chemistry ment	• The knowledge gained on engineering materials, fuels, energy sources and water treatment techniques will facilitate better understanding of engineering processes and applications for further learning.	1	4	1	1	7	2	2	2	2 Very	P.	4	*

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The same of the sa	19154515	Engineering Graphics	 Familiarize with the fundamentals and standards of Engineering graphics Perform freehand sketching of basic geometrical constructions and multiple views of objects. Project orthographic projections of lines and plane surfaces. Draw projections and solids and development of surfaces. Visualize and to project isometric and perspective sections of simple solids. 			7	7	2	?	?	?	2	✓	✓	
Delan	19150S16	Problem Solving and Python	 Develop algorithmic solutions to simple computational problems Read, write, execute 	1	1	V	1	1	2	?	?	W	e Wa	us	-

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		Programming	by hand simple Python programs. Structure simple Python programs for solving problems. Decompose a Python program into functions. Represent compound data using Python lists, tuples, dictionaries. Read and write data from/to files in Python Programs.													
and the second s	nd Of the Pertment Of Electronical Control Con	THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.	 Write, test, and debug simple Python programs. Implement Python programs with conditionals and loops. Develop Python programs step-wise by defining functions and calling them. Use Python lists, 	✓	4	~	✓	2	?	2	2	2 Au	2 CAM	d Tech	•	

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	tuples, dictionaries for representing compound data. • Read and write data from/to files in Python.											
Physics and Chemistry Laboratory Head Of the Department Department of Electronics and Communication Engineering Institute of	Upon completion of the course, the students will be able to apply principles of elasticity, optics and thermal properties for engineering applications. • To make the student to acquire practical skills in the determination of water quality parameters through volumetric and instrumental analysis. • To acquaint the students with the determination of molecular weight of a	~	✓	~	~	?	7	P.	P.	2	✓	

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of the	191VEA19	Value Education	To learn about philosophy of Life and Individual qualities To learn and practice social values and responsibilities To learn and practice mind culture, forces acting on the body To learn more of Responsibilities and Rights as Professional and facing Global Challenges Emerge as responsible citizen with clear conviction to be a rolemodel in the society.	2		~	2	~		*	*	~	4	~	2
Ponns	contounication	Technical English and English and English and	 Read technical texts and write area- specific texts effortlessly. Listen and 	?	2	7	?	1	1	1	1	ž	, uu	ul	· ·

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		comprehend lectures and talks in their area of specialisation successfully. • Speak appropriately and effectively in varied formal and informal contexts. • Write reports and winning job applications.												
Оеф	19148S22	Eigenvalues and eigenvectors, diagonalization of a matrix, Symmetric matrices, Positive definite matrices and similar matrices. Gradient, divergence and curl of a vector point function and related identities. Evaluation of line, surface and volume	✓	1	~	✓	7	?	?	2	DE	✓ ·	✓	

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		integrals using Gauss, Stokes and Green's theorems and their verification. • Analytic functions, conformal mapping and complex integration. • Laplace transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients.													
Who we would be	19149S23B	 Gain knowledge on classical and quantum electron theories, and energy band structuues, Acquire knowledge on basics of semiconductor physics and its applications in various 	4	4	1	1	7	?	?	2 M	e lui	uf	*	1	

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			devices,												
Deveren	Of the Department of Electronication English	nics and	 Understand the concept of three phase power circuits and measurement. Comprehend the concepts in electrical generators, motors and transformers Choose appropriate measuring instruments 	✓	✓	✓	4	✓	✓ ·	7	Ē.	?	P Mu	luy	*

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		for given application												
19152S25B	Circuit Analysis	Develop the capacity to analyze electrical circuits, apply the circuit theorems in real time Design and understand and evaluate the AC and DC circuits.	√	√	4	✓	√	· /	?	?	?	?	1	1
Of the Dener	Electronic Devices	Explain the V-I characteristic of diode, UJT and SCR Describe the equivalence circuits of transistors Operate the basic electronic devices such as PN junction diode, Bipolar and Field effect Transistors, Power control devices, LED, LCD and other Optoelectronic devices	1	4	1	1	1		7	2	2	P	m	-

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19154L27 Topication of Electronic argument of Electronic argument and Engine	Engineering Practices Laboratory ant: e and ering	Fabricate carpentry components and pipe connections including plumbing works. Use welding equipments to join the structures. Carry out the basic machining operations Make the models using sheet metal works Illustrate on centrifugal pump, Air conditioner, operations of smithy, foundary and fittings Carry out basic home electrical works and appliances Measure the electrical quantities Elaborate on the components, gates, soldering practices.	~			~	~			?			my		
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19152L28B	Circuits and Devices Laboratory	Analyze the characteristics of basic electronic devices Design RL and RC circuits Verify Thevinin & Norton theorem KVL & KCL, and Super Position Theorems	1	~	4	1	✓	7	7	?	. ?	?	1	✓
191ICA29	THO DIVE	Understand the emergence and evolution of Indian Constitution. Understand the structure and composition of Indian Constitution Understand and analyse federalism in the Indian context. Understand and analyse the three organs of the state in the contemporary scenario.	7	2	✓	2	7		~	Sch		Lu	2 Lun	and Teck

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		Understand and Evaluate the Indian Political scenario amidst the emerging challenges.						*							
Flead Of the Department Of Electronics	Linear Algebra and Partial Differential Equations	 Explain the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts. Demonstrate accurate and efficient use of advanced algebraic techniques. Demonstrate their mastery by solving non trivial problems related to the concepts and by proving simple theorems about the statements proven by the text. Able to solve various 	1	~	1	1	✓		7	7	rhool (e e e e e e e e e e e e e e e e e e e	WW EAL	and Teck	

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	types of partial differential equations. Able to solve engineering problems using Fourier series.											
Control Systems Engineering	 Identify the various control system components and their representations. Analyze the various time domain parameters. Analysis the various frequency response plots and its system. Apply the concepts of various system stability criterions. Design various transfer functions of digital control system using state variable models. 	~	*	~	~	~	✓	?	7	7	Pu V	uf

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	19152C33	Fundamentals of Data Structures In C	 Implement linear and non-linear data structure operations using C Suggest appropriate linear / non-linear data structure for any given data set. Apply hashing concepts for a given problem Modify or suggest new data structure for an application Appropriately choose the sorting algorithm for an application 	✓	4	4	1	✓	✓	7			?	✓	
De James	19152C34	Digital Electronics	Use digital electronics in the present contemporary world Design various combinational digital circuits using logic gates Do the analysis and	~	√	1	1	1	·	7	?	?	Wu Wu	uny	

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		design procedures for synchronous and asynchronous sequential circuits • Use the semiconductor memories and related technology • Use electronic circuits involved in the design of logic gates												
General Control of the Department Control of the Co	Signals and Systems	To be able to determine if a given system is linear/causal/stable Capable of determining the frequency components present in a deterministic signal Capable of characterizing LTI systems in the time domain and frequency	1	4	1	1	1	1	2	7	2	2 U	Muny	

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7 mile 119	152L37	nd fundamentals te of	• To understand and	1	4	1	1	1	1	?	?	?	?	✓ School	✓DEAT of Engineering	
Frand Of the 19		Electronic Circuits- I	o Working principles, characteristics and applications of BJT and FET o Frequency response characteristics of BJT and FET amplifiers • Analyze the performance of small signal BJT and FET amplifiers - single stage and multi stage amplifiers • Apply the knowledge gained in the design of Electronic circuits	✓	✓	~	1	1	4.	P:	?	7	7	✓		
			domain To be able to compute the output of an LTI system in the time and frequency domains Acquire knowledge of													

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		of Data Structures In C Laboratory	implement basic data structures using C • To apply linear and non-linear data structures in problem solving. • To learn to implement functions and recursive functions by means of data structures • To implement searching and sorting algorithms													
ent Of	Department	Analog and Digital Circuits Laboratory	 Design and Test rectifiers, filters and regulated power supplies. Design and Test BJT/JFET amplifiers. Differentiate cascode and cascade amplifiers. Analyze the limitation in bandwidth of single stage and multi stage 	1	4	1	1	1	*	2	7	2	2	Cohe	DE A	Eliu and Tech

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			 amplifier Measure CMRR in differential amplifier Simulate and analyze amplifier circuits using PSpice. Design and Test the digital logic circuits. 												
		Interpersonal Skills / Listening & Speaking	Equip students with the English language skills required for the successful undertaking of academic studies with primary emphasis on academic speaking and listening skills. Provide guidance and practice in basic general and classroom conversation and to engage in specific	[2]	2	2	2	2	7	?	?	?	?	?	7
pariment Poramunic Si van Re	19152L39	and ing little of	academic speaking activities. • improve general and												Hum

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		academic listening skillsMake effective presentations.					4						
Vend Of the Department of Electronic Innum 191485418	es and lering stitute of	 Understand the fundamental knowledge of the concepts of probability and have knowledge of standard distributions which can describe real life phenomenon. Understand the basic concepts of one and two dimensional random variables and apply in engineering applications. Apply the concept random processes in engineering disciplines. Understand and apply the concept of correlation and spectral densities. 	✓	✓	~	~	~	2	2	2	7	~	Rem

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	• The students will have an exposure of various distribution functions and help in acquiring skills in handling situations involving more than one variable. Able to analyze the response of random inputs to linear time invariant systems.													
Electronic Circuits II The Control of the Electronics and 19152C42 an	 Analyze different types of amplifier, oscillator and multivibrator circuits Design BJT amplifier and oscillator circuits Analyze transistorized amplifier and oscillator circuits Design and analyze feedback amplifiers Design LC and RC oscillators, tuned 	~	~	·	~	✓	✓.	7	?	2 She	? uuu	* LANGE AND THE READ TO THE READ THE READ TO THE READ	~	

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			amplifiers, wave shaping circuits, multivibrators, power amplifier and DC convertors.												
a dra	19152C43	Communicatio n Theory	Design AM communication systems Design Angle modulated communication systems Apply the concepts of Random Process to the design of Communication systems Analyze the noise performance of AM and FM systems Gain knowledge in sampling and quantization	1	1	4	✓	✓	✓	2	?	?	P	~	~
Gentlem O	19152C44	Electromagnet is Fields	Display an understanding of fundamental electromagnetic laws	√	1	1	1	V	√.	?	?	?	2	liu	unj

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		and concepts • Write Maxwell's equations in integral, differential and phasor forms and explain their physical meaning • Explain electromagnetic wave propagation in lossy and in lossless media • Solve simple problems requiring estimation of electric and magnetic field quantities based on these concepts and laws												
Triulia 19152C4	Linear Integrated Circuits	 Design linear and non linear applications of OP AMPS Design applications using analog multiplier and PLL Design ADC and DAC using OP – AMPS Generate waveforms 	4	~	1	1	1	1	?	?	7	r W	· · ·	uf.

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			using OP – AMP Circuits • Analyze special function Ics												
	19149546	Environmental Science and Engineering	One will obtain knowledge on the following after completing the course. • Public awareness of environmental is at infant stage. • Ignorance and incomplete knowledge has lead to misconceptions • Development and improvement in standard of living has lead to serious environmental disasters	1	1		1	7		1	1	?	2	✓	~
Wead Department	06 the Decem 19152L47	Circuits Design and Simulation Laboratory	 Analyze various types of feedback amplifiers Design oscillators, tuned amplifiers, wave- 	1	1	1	1	4	1	?	?	2	* Lu	· uu	, i

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	shaping circuits and multivibrators • Design and simulate feedback amplifiers, oscillators, tuned amplifiers, waveshaping circuits and multivibrators using SPICE Tool.												
Circu	rated experiment on frequency response. • Analyze the working of PLL and describe its application as a frequency multiplier. • DesignDC power supply using ICs.	~	4	✓	4	~	 2	2	7	P White	un	4	

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			performance of filters, multivibrators, A/D converter and analog multiplier using SPICE.												
	19152CRS	Research Led Seminar	Exposure to various research domains Acquaintance with languages of research Development for research aptitude	~	~	~	~	~	~	?	2	?	?	?	2
Weed O	19152C51	Digital Communicatio n ent eat	Design PCM systems Design and implement base band transmission schemes Design and implement band pass signaling schemes Analyze the spectral characteristics of band pass signaling schemes and their noise performance Design error control	4	1	1	1	1	1		P	?	P	She	MEAN

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		coding schemes												
19152C52	Discrete-Time Signal Processing	 Apply DFT for the analysis of digital signals and systems Design IIR and FIR filters Characterize the effects of finite precision representation on digital filters Design multirate filters Apply adaptive filters appropriately in communication systems 	1	1	4	√	√	✓	?	?	7	?	√	✓
19152C53	s and	Describe data representation, instruction formats and the operation of a digital computer Illustrate the fixed point and floating-point arithmetic for ALU operation	√	4	4	√	√	✓	2	2	7	2	sk sk	lump
	19152C53	Signal Processing 19152C52 Computer Architecture and Organization	analysis of digital signals and systems Design IIR and FIR filters Characterize the effects of finite precision representation on digital filters Design multirate filters Apply adaptive filters appropriately in communication systems Describe data representation, instruction formats and the operation of a digital computer Architecture and Organization Describe data representation, instruction formats and the operation of a digital computer Illustrate the fixed point and floating-point arithmetic for ALU	analysis of digital signals and systems Design IIR and FIR filters Characterize the effects of finite precision representation on digital filters Design multirate filters Apply adaptive filters appropriately in communication systems Describe data representation, instruction formats and the operation of a digital computer Architecture and Organization The Describe at a representation, instruction formats and the operation of a digital computer Illustrate the fixed point and floating-point arithmetic for ALU	analysis of digital signals and systems Design IIR and FIR filters Characterize the effects of finite precision representation on digital filters Design multirate filters Apply adaptive filters appropriately in communication systems Describe data representation, instruction formats and the operation of a digital computer Architecture and Organization In the point and floating-point arithmetic for ALU	analysis of digital signals and systems Design IIR and FIR filters Characterize the effects of finite precision representation on digital filters Design multirate filters Apply adaptive filters appropriately in communication systems Describe data representation, instruction formats and the operation of a digital computer Architecture and Organization Illustrate the fixed point and floating-point arithmetic for ALU	analysis of digital signals and systems Design IIR and FIR filters Characterize the effects of finite precision representation on digital filters Design multirate filters Apply adaptive filters appropriately in communication systems Describe data representation, instruction formats and the operation of a digital computer Architecture and Organization Instruction formats and the operation of a digital computer Under the operation of a digital computer Illustrate the fixed point and floating-point arithmetic for ALU	analysis of digital signals and systems Design IIR and FIR filters Discrete-Time Signal Processing Processing Design multirate filters Design multirate filters Design multirate filters Apply adaptive filters appropriately in communication systems Describe data representation, instruction formats and the operation of a digital computer Architecture and Organization Describe data representation, instruction formats and the operation of a digital computer Ullustrate the fixed point and floating-point arithmetic for ALU	analysis of digital signals and systems Design IIR and FIR filters Characterize the effects of finite Processing Processing Processing Design multirate filters Design multirate filters Apply adaptive filters appropriately in communication systems Describe data representation, instruction formats and the operation of a digital computer Architecture and Organization Unganization Organization Describe data representation, instruction formats and the operation of a digital computer Ullustrate the fixed point and floating-point arithmetic for ALU	analysis of digital signals and systems Design IIR and FIR filters Characterize the effects of finite precision representation on digital filters Design multirate filters Apply adaptive filters appropriately in communication systems Describe data representation, instruction formats and the operation of a digital computer Architecture and Organization Computer Alignment of a digital computer Organization Describe data representation, instruction formats and the operation of a digital computer Illustrate the fixed point and floating-point arithmetic for ALU	analysis of digital signals and systems • Design IIR and FIR filters • Characterize the effects of finite precision representation on digital filters • Design multirate filters • Design multirate filters • Apply adaptive filters appropriately in communication systems • Describe data representation, instruction formats and the operation of a digital computer and Organization • Illustrate the fixed point and floating-point arithmetic for ALU	analysis of digital signals and systems Design IIR and FIR filters Discrete-Time Characterize the effects of finite Frocessing Processing Precision representation on digital filters Design multirate filters Apply adaptive filters	analysis of digital signals and systems Design IIR and FIR filters Characterize the effects of finite precision representation on digital filters Design multirate filters Design multirate filters Apply adaptive filters appropriately in communication systems Describe data representation, instruction formats and the operation of a digital computer and Organization Describe the fixed point and floating-point arithmetic for ALU	analysis of digital signals and systems • Design IIR and FIR filters • Characterize the Signal effects of finite processing precision representation on digital filters • Design multirate filters • Apply adaptive filters appropriately in communication systems • Describe data representation, instruction formats and the operation of a digital computer and Organization • Illustrate the fixed point and floating-point arithmetic for ALU

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

Head 019150	Database Management Systems FE541 ment	Understand relational data model, evolve conceptual model of a given problem, its mapping to relational model and	4	1	1	√	✓	4	✓	√	1	1	~	numy
191	FE54 Free Elective -	Discuss about implementation schemes of control unit and pipeline performance Explain the concept of various memories, interfacing and organization of multiple processors Discuss parallel processing technique and unconventional architectures												

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Dept: ECE- BTech (FT)

Mapping of COs and Pos

10		 Query the relational database and write programs with database connectivity Understand the concepts of database security and information retrieval systems 												
19150FE54	Cloud Computing	 Articulate the main concepts, key technologies, strengths and limitations of cloud computing. Learn the key and enabling technologies that help in the development of cloud. Develop the ability to understand and use the architecture of compute and storage cloud, service and delivery models. Explain the core issues 	4	*	~	✓	✓	✓	~	~	4	2	Luu	W. FAN

Communication Engineering
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Dept: ECE- BTech (FT)

Mapping of COs and Pos

				of cloud computing such as resource management and security. • Be able to install and use current cloud technologies. • Choose the appropriate technologies, algorithms and approaches for implementation and use of cloud.											
Day	Feed Control) 19153FE54	Industrial Nano Technology ment	To possess knowledge on nanotechnology based applications in each industry To provide details of contemporary industrial applications of nanotechnology To provide an overview of future technological	✓	~	✓	√	~	~	~	2	✓ ×	A of Epg	DEAN DEAN Teck

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Investigation - 554 474, Table NADU.

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Dept: ECE-BTech (FT)

Mapping of COs and Pos.

			advancements and increasing role of nanotechnology in each industry												
	19153FE54 B	Energy Conservation and Management	 Can carry out energy accounting and balancing • Can suggest methodologies for energy savings 	1	1	1	1	1		✓	1	1	1	2	1
Department	19154FE54 A	Renewable Energy Sources	 Understanding the physics of solar radiation. Ability to classify the solar energy collectors and methodologies of storing solar energy. Knowledge in applying solar energy in a useful way. Knowledge in wind energy and biomass with its economic aspects. 	4	~	1	✓	✓	✓	✓	✓	~	~	To the second	umy

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

			Knowledge in capturing and applying other forms of energy sources like wind, biogas and geothermal energies.												
	19154FE54 B	Automotive Systems	 Identify the different components in automobile engineering. Have clear understanding on different auxiliary and transmission systems usual. 	1	√	✓	√	√	ż	1	✓	✓	✓	✓	2
Head	19155FE54	Air Pollution and Control Engineering	 An understanding of the nature and characteristics of air pollutants, noise pollution and basic concepts of air quality management Ability to identify, formulate and solve air 	1	*	~	1	~	· ·	~	1	School	√ lof El	» DE	Mund AN

Pounativan Ramajayam Institute of Science & Technology (PRIST) (Institution Desman to be University 16.3 of the UGC Act. 1968) THAN INVERSITY 1913 AND TAME MADE.

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Dept: ECE- BTech (FT)

Mapping of COs and Pos

			and noise pollution problems • Ability to design stacks and particulate air pollution control devices to meet applicable standards. • Ability to select control equipments. • Ability to ensure quality, control and preventive measures.											
Depart	19155FE54 td Of the Depa	ronics and	 Have basic idea about the fundamentals of GIS. Understand the types of data models. Get knowledge about data input and topology. Gain knowledge on data quality and standards. Understand data management functions 	1	4	1	√	√	1	1	1	✓	1	lum

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

		Communicatio n Networks	Identify the components required to build different types of networks Choose the required functionality at each layer for given application Identify solution for each functionality at each layer Trace the flow of information from one node to another node in	~	*	4	1	1	✓	7	7	2		1	✓
	19152C55 19152E56_	Elective - I	the network												
			Know the human body												
Hond C	19152E56B	Medical Electronics nent	electro- physiological parameters and recording of bio- potentials	1	1	2	2	2	1	7:	P		?	✓	Hump

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

electrical physiological		
parameters and their		
measurement – body		
temperature, blood		
pressure, pulse, blood		
cell count, blood flow		
meter etc.		
 Interpret the various 		
assist devices used in		
the hospitals viz.		
pacemakers,		
defibrillators, dialyzers		
and ventilators		
Comprehend physical		
medicine methods eg.		
ultrasonic, shortwave,		
microwave surgical		
diathermies , and bio-		4800
telemetry principles and		Λ
methods		
Know about recent		* Mulle
trends in medical		
instrumentation		DEAN

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Head Of the Department
Department of Electronics and

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Dept: ECE- BTech (FT)

Mapping of COs and Pos

		19152E56E	Nano Technology and Applications	 Describe the basic science behind the properties of materials. Interpret the creation, characterization, and manipulation of nanoscale materials. Comprehend the exciting applications of nanotechnology at the leading edge of scientific research Apply their knowledge of nanotechnology to identify how they can be exploited for new applications. 	1	4	~	✓	1	•	4	1	P	~	√		
Depa	and Courtmen	19152E56G	ics and	 The student would be able to apply the tools and techniques of quality management to manufacturing and services processes. 	2	2	2	3	7	~	~	~	2	(Par	? D	Lump	

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School: ENGINEERINGAND TECHNOLOGY Dept: ECE- BTech (FT)

Mapping of COs and Pos

	19152Е56Н	Digital Audio Engineering	 Analyze the type of dither. Analyze the recording and transmission principles in digital audio. Analyze the various compression techniques. Design and analyze the digital audio editing. Analyze the various application of digital audio. 	4	1	1	1	4	✓	4	4	4	~	7	~
Head	019152E56F	Logic and Distributed Control Systems	 Ability to understand and analyze Instrumentation systems and their applications to various industries. Ability to understand and analyse, linear and digital electronic 	√	4	1	✓	1		1	1	1	1	2	Muy

Communication Engineering
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Dept: ECE-BTech (FT)

Mapping of COs and Pos

and the	19152L57	Discrete Time Signal Processing Laboratory	Carryout basic signal processing operations Demonstrate their abilities towards MATLAB based implementation of various DSP systems Analyze the architecture of a DSP Processor Design and Implement the FIR and IIR Filters in DSP Processor for performing filtering operation over real-time signals Design a DSP system for various applications of DSP	~	~	~	~	✓		2	2			✓	✓
Vend Of Department of much analyzar	19152L58	Communicatio n Systems Laboratory	Simulate & validate the various functional modules of a	1	1	1	1	1	1	?	?	?	?	1	Sleiny

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School of Engineering and Tech Pennaiyah Ramajayam Institute of Science and Technology (PRIST) Deemed to be University Vallam, Thanjayer-613,496



Dept: ECE-BTech (FT)

Mapping of COs and Pos.

Dem knowl signali through of digits schem App coding demo capab impronoise comm Simulations	nunication system nonstrate their ledge in base band ing schemes gh implementation ital modulation nes ly various channel g schemes & nstrate their polities towards the evement of the performance of nunication system ulate end-to-end nunication Link													
Communicatio n Networks Laboratory Head Of the Department Transport 19152L59 Laboratory Frequences and socket	lement the ent protocols gram using	~	~	√	V	1	ż	2	7	2	2	1	Lewn	

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

			compare the various routing algorithms • Use the simulation tool.						-						
	19152CRM	Research Methodology	Understand the approaches towards and constraints in good research. Use the statistical tools used in research methodology Compose the manuscript for publication Obtain computational and excel- skills for research in engineering	1	~	1	4	√	7	1	1	7	P.	7	2
 epartn Comm	Of the Depart	Microprocess ors and Microcontroll respt nice and neering	 Understand and execute programs based on 8086 microprocessor. Design Memory Interfacing circuits. Design and interface 	4	1	1	1	1	√	2	?	2	2	1	Kenny

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School: ENGINEERINGAND TECHNOLOGY Dept: ECE- BTech (FT)

Mapping of COs and Pos

			I/O circuits. • Design and implement 8051 microcontroller based systems.					ā								
	0 19152C62	VLSI Design	 Realize the concepts of digital building blocks using MOS transistor. Design combinational MOS circuits and power strategies. Design and construct Sequential Circuits and Timing systems. Design arithmetic building blocks and memory subsystems. Apply and implement FPGA design flow and testing. 	1	1	1	1	1	✓	P	7	?	<u>~</u>	1	1	
Depart	The Cy Election	Wireless Communicatio	Characterize a wireless channel and evolve the system design specifications	1	1	1	1	1	7	?	2	?	?	1		Menuny C

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

			Design a cellular system based on resource availability and traffic demands Identify suitable signaling and multipath mitigation techniques for the wireless channel and system under consideration. Upon completion of													
Joseph Carrier Contract Contra	of the 12266 and 1226	Principles of Management	the course, students will be able to have clear understanding • Managerial functions like planning, organizing, staffing, leading & controlling and have same basic knowledge on international aspect of management	7	2	?	?	?		✓	✓	?	✓	1	✓ Q	Sump
musikan demun	TATAL THE STATE A THE CASE AS	nstitute of	• Explain the	1	1	1	1	1	1	?	?	2	?	1	Science and	DEAN pering and Tech majayam Instit Technology (PF

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

		Lines and RF	characteristics of												1		
		Systems	transmission lines and														
		2 2	its losses						45								
			Write about the														
			standing wave ratio and														
			input impedance in high														
			frequency transmission														
			lines														
			Analyze impedance														
			matching by stubs using														
			smith charts														
			Analyze the														
			characteristics of TE and														
			TM waves														
			Design a RF														
			transceiver system for														
			wireless communication														
	19152E66_	Elective - II															
B	No		Understand the		-												-\/
50		Cryptography	fundamentals of														
KI	ead Of the Departs	and Network	networks security,	1	1	1	1	1	1	?	1	1	1	?		1	Mullen
Deps	19152E66A	Security	security architecture,													,	Mary all
Co	mmuhitataztoomi	sering	threats and						,							DE	7

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

	vulnerabilities • Apply the different cryptographic operations of symmetric cryptographic algorithms • Apply the different cryptographic operations of public key cryptography • Apply the various Authentication schemes to simulate different applications. • Understand various Security practices and System security standards											
Advanced Political Of the Department Digital Signal Of Electronics Processing Political Of the Department Digital Signal Of Electronics Processing Political Value of Size Ce & Bonnology (PRIST) (Institution Decemed to be University	 Articulate and apply the concepts of special random processes in practical applications Choose appropriate spectrum estimation 	~	1	1	~	~	1	~	~	1	Sch	DOI of Engineering and reck

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

		techniques for a given random process • Apply optimum filters appropriately for a given communication application • Apply appropriate adaptive algorithm for processing nonstationary signals • Apply and analyse wavelet transforms for signal and image processing based applications											
Head Of the Dope Department Of Elect Com 19152E66F	ronics and	Conversant with the latest 3G/4G networks and its architecture Design and implement wireless network environment for any application using latest wireless protocols and standards	✓	1	~	√	1	✓	✓	~	~	1	*

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

			Ability to select the suitable network depending on the availability and requirement Implement different type of applications for smart phones and mobile devices with latest network strategies												
Jac.	19152E66H	SCADA System and Applications Management	This course gives knowledge about various system components and communication protocols of SCADA system and its applications.	1	1	1	1	1	7	1	1	1	1	✓	~
Hea: Departe	19152E66I	Software Engineering	 Identify the key activities in managing a software project. Compare different 	1	1	1	1	1	4.	1	1	1	1	ak	1 wurst

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Dept: ECE-BTech (FT)

Mapping of COs and Pos.

			process models. Concepts of requirements engineering and Analysis Modeling. Apply systematic procedure for software design and deployment. Compare and contrast the various testing and maintenance. Manage project schedule, estimate project cost and effort required.												
Her Depar	19152L61	Microprocess ors and Microcontroll ers Laboratory ment ronics and gineering	Write ALP Programmes for fixed and Floating Point and Arithmetic operations Interface different I/Os with processor Generate waveforms using Microprocessors Execute Programs in	1	1	~	4	1	√	2	2	?	2	, m	ungl

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Dept: ECE- BTech (FT)

Mapping of COs and Pos

				8051 Explain the difference between simulator and Emulator						•						
		19152L62	VLSI Design Laboratory	Write HDL code for basic as well as advanced digital integrated circuit Import the logic modules into FPGA Boards Synthesize Place and Route the digital IPs Design, Simulate and Extract the layouts of Digital & Analog IC Blocks using EDA tools	~	1	1	1	1	1	2	2	?	7		~
N.	Jka Hood	19152L63	Professional Communicatio n	 Make effective presentations Participate confidently in Group Discussions. Attend job interviews and be successful in 	7	2	2	2	2	✓	?	?	?	Že	? 	my

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

	them. • Develop adequate Soft Skills required for the workplace										1	
Head Of the Department Operation 19152L64	technologies To impart skills in preparing detailed report describing the project and results To effectively communicate by making an oral presentation before an evaluation committee	2	~	✓	✓	· ·	?	~	~	ali	lu	w/

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Mapping of COs and Pos

	19152CBR	Participation in Bounded Research	 Hands on exposure to problem solving tools in contemporary research Evolve research intuitiveness and orientation Familiarize with cutting edge research trends 	✓	4	4	4	✓	✓,	✓	√	?	?	P	7
VII	19152C71	Antennas and Microwave Engineering	 Apply the basic principles and evaluate antenna parameters and link power budgets Design and assess the performance of various antennas Design a microwave system given the application specifications 	√	~	~	√	✓	· ·	?	?	2	2	~	*
Por	Head Of the Department Of CJ915267236	Optical Communicatio Communicat	Realize basic elements in optical fibers, different modes and	1	1	1	1	~	√	?	?	2	?	lu	usc

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Dept: ECE- BTech (FT)

Mapping of COs and Pos

	configurations. Analyze the transmission characteristics associated with dispersion and polarization techniques. Design optical sources and detectors with their use in optical communication system. Construct fiber optic receiver systems, measurements and coupling techniques. Design optical communication systems and its networks.													
Head Of the Department of the	Time programming of ARM processor • Outline the concepts	~	~	~	1	✓	✓	7	?	?	2	·	m/	

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Mapping of COs and Pos

			Explain the basic concepts of real time operating system design Model real-time applications using embedded-system concepts												
	191FE74 _	Free Elective - I				J									
	19150FE74 A	Introduction to C Programming	 Develop simple applications using basic constructs Develop applications using arrays and strings Develop applications using functions and structures 	1	2	1	1	1	1	1	1	1	1	√	*
Head Communication		Data Structures and Algorithms	 Implement linear data structures and solve problems using them. Implement and apply trees and graphs to solve problems. 	1	1	1	1	~	-	1	1	1	√	Le	ment

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

			• Implement the various searching and sorting algorithms.												
	19153FE74 A	Basic Circuit Theory	introduce electric circuits and its analysis impart knowledge on solving circuit equations using network theorems introduce the phenomenon of resonance in coupled circuits. introduce Phasor diagrams and analysis of three phase circuits	~	~	✓	√	✓	✓	✓	√	1	~	7	*
A Of the D	9 19153FE74 B	Introduction to Renewable Energy Systems	 understand and analyze power system operation, stability, control and protection. handle the engineering aspects of electrical energy generation and 	1	1	1	1	1	1	1	1	1	×	Par de la companya dela companya dela companya de la companya dela companya de la companya dela companya de la companya dela companya de la companya dela companya de la companya dela compa	uf

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

		utilization. understand the stand alone and grid connected renewable energy systems. design of power converters for renewable energy applications. acquire knowledge on wind electrical generators and solar energy systems. design power converters used for hybrid renewable energy systems.													
0 . 1	Industrial Safety and	• identify and prevent chemical, environmental mechanical, fire hazard through analysis and apply proper safety techniques on safety engineering and	1	2	1	✓	~	1	1	✓	✓	al	? //	mf	

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Mapping of COs and Pos.

		management.												
19154FE74 B	Testing of Materials	 Identify suitable testing technique to inspect industrial component Use the different technique and know its applications and limitations 	1	?	1	1	1	4.	1	1	1	1	?	~
	Green Building Design	Identify existing energy codes, green building codes and green rating systems. Identify and compare cost and performance of building materials with recycled components, non-petroleum based	✓	2	✓	4	✓	·	1	1	1	✓	2	✓
19155FE74 Of the Densition of Charles	ment mics and	materials, materials with low volatile organic compounds, materials with low embodied energy and salvaged									Sle	LU D	my EAN	7

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Mapping of COs and Pos

		materials and incorporate them into design. Identify and use construction materials and methods that more easily allow for salvage and re-use of building materials. Understand the techniques and benefits of building performance testing, monitoring and metering. Identify and make use of techniques for weatherization and sustainable remodeling of existing structures														
19155FE74 Hend Of the Devertigent Of the	Waste Water Treatment	 Will have knowledge about adsorption and oxidation process. Will gain idea about various methods 	1	2	1	1	✓	✓	1	1	· W	lu	? Wy	CAN .	/	

Communication and institute of Ponnal yah Radio (1975)
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THANJAVUR - 513 403, TAMIL NAUJ

School of Engineering and Teck.
Ponnalyah Ramajayam Institute of
Science and Technology (PRIST)
Deemed to be University
Vallam, Thanjavur - 613,403.



Dept: ECE-BTech (FT)

Mapping of COs and Pos

	available for water treatment. • Will appreciate the necessity of water and acquire knowledge of preliminary treatment.									,		
Adhoc and Wireless Sensor Networks	Networks Apply this knowledge to identify the suitable routing algorithm based on the network and user requirement Apply the knowledge to identify appropriate physical and MAC layer protocols Understand the transport layer and security issues possible in Ad hoc and sensor networks.	~	4	~	4	4	 ?	7	2	Pu lu	luy	

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

19152E76_	used i Netwo	n Wireless Sensor orks and build modules					-							
19152E76A	Advanced Wireless Communication	Comprehend and appreciate the significance and role of this course in the present contemporary world Apply the knowledge about the importance of MIMO in today's communication Appreciate the various methods for improving the data rate of wireless communication system	✓	1	✓		· •	✓	✓	*	✓	✓	?	~
Feed Of the D Deu-19152E76B Communication	Cognitive Radio	Gain knowledge on the design principles on software defined	1	1	1	7	1	1	√	Men	my	✓	?	1

Science & Training (PRIST)

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Wallam, Thanjayur-613 403.



Dept: ECE-BTech (FT)

Mapping of COs and Pos

	radio and cognitive radio Develop the ability to design and implement algorithms for cognitive radio spectrum sensing and dynamic spectrum access Build experiments and projects with real time wireless applications Apply the knowledge of advanced features of cognitive radio for real world applications												
Mixed Signal IC Design Bead Of the Department Sinctronics and 19152E76F	Apply the concepts for mixed signal MOS circuit. Analyze the characteristics of IC based CMOS filters. Design of various	*	7	1	?	1	1	1	Mu	unk	1	2	1

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

	data converter architecture circuits. • Analyze the signal to noise ratio and modeling of mixed signals. • Design of oscillators and phase lock loop circuit.											
Space Time Wireless Communication 19152E76H Timent Del 19152E76H Timent	the channel characterization. • Analyze the capacity of random MIMO channel. • Design and analyze the order diversity and channel variability. • Analyze the multiple antenna coding and receivers. • Analyze the MIMO multi user detection	~	~	1	1	1	1	~	1	DEA	Muny	✓

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Vancass, Thanjayur - 012, 003.



Dept: ECE-BTech (FT)

Mapping of COs and Pos

	19152E76I	Telecommunication Network Management	 Design and analyze of fault management. Analyze the common management information protocol specifications. Design and analyze of management information model. Design the simple network management protocol. Design the various types of network management tools. 	~	~	~	1		✓	✓	✓	~	*	2	~
Ala	Communica	Embedded Laboratory Towartment Court was and the court of the court	Write programs in ARM for a specific Application Interface memory, A/D and D/A convertors with ARM system Analyze the performance of	4	1	4	√	· ·	✓	2	School of	DE4	Muy		~

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

	interrupt • Write program for interfacing keyboard, display, motor and sensor. • Formulate a mini project using embedded system											
Advanced Communication Laboratory	Analyze the performance of simple optical link by measurement of losses and Analyzing the mode characteristics of fiber Analyze the Eye Pattern, Pulse broadening of optical	1	✓	4	✓	√	7	7	2	?	4	1
Head Of the Department Department Electronics and Communication Engineering	fiber and the impact on BER • Estimate the Wireless Channel Characteristics and Analyze the							n.h.o.i	DF of Enginee	AN and Tech	ingl	

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Valiam, Thanjayur-613 +03,



Dept: ECE-BTech (FT)

Mapping of COs and Pos

			Wireless Communication System • Understand the intricacies in Microwave System design													
	19152CSR	Design/Socio Technical Project	Sensitive to social needs for innovation Develop teams and work towards interdisciplinary synchronous research strategy Develop critical thinking and synergistic research approach.	~	1	4	1	1	1	1	✓	~	~	✓	1	
VIII	19152E81_	Elective – IV														
	19152E81A Department Of Communicationally above 1	Electro Magnetic Interference and Compatibility	• Identify the various types and mechanisms of Electromagnetic Interference • Propose a suitable EMI mitigation technique •	1	1	~	1	· ·	1	√	1	,	Kinn		1	

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Variatin, Thanjayur-613 403.



Dept: ECE-BTech (FT)

Mapping of COs and Pos

	Describe the various EMC Standards and methods to measure them									
Digital Image Processing Head Of the Department Department of Electromes and 19152E81E Image Processing	 Know and understand the basics and fundamentals of digital image processing, such as digitization, sampling, quantization, and 2D-transforms. Operate on images using the techniques of smoothing, sharpening and enhancement. Understand the restoration concepts and filtering techniques. Learn the basics of segmentation, features extraction, compression and 	-	~	1	1	4	1	DEAN	luny	~

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

		recognition methods for color models.												
19152E81F	Professional Ethics in Engineering	• to apply ethics in society, discuss the ethical issues related to engineering and realize the responsibilities and rights in the society.	7	?	2	?	✓ -	~	√	1	1	✓	7	~
		Apply the constituents of a telecommunication systems.						×						
	Telecommunication System Modeling and Simulation	 Analyze various modeling methodologies and simulation techniques. Estimate the performance measures 	1	1	4	1		1	~	✓	√	V	2	1
19152E81G	ice and	of telecommunication systems. • Apply system modeling in telecommunication.									DE DE	Mun	1	

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

191528	Transducer E81H Engineering	 Demonstrate light wave communication and satellite communication systems. to model and analyze transducers. 	1	√	1	√		✓	√	√	√	√	7	1
191528														
19152E	DSP Architecture and Programming	 Analyze the concepts of Digital Signal Processors Demonstrate their ability to program the DSP processor for signal processing applications Discuss, compare and select the suitable Advanced DSP Processors for real-time signal processing applications 	~	~	✓	*	· · · · · · · · · · · · · · · · · · ·	✓	✓	School	D) I of Engine	Luur EAN A	The state of	✓

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

	19152E82C	Satellite Communication	 Analyze the satellite orbits Analyze the earth segment and space segment Analyze the satellite Link design Design various satellite applications 	4	1	4	4		1	✓	✓	*	✓	2	4
	19152E82F	Fundamentals of Nano Science	Will familiarize about the science of nanomaterials Will demonstrate the preparation of nanomaterials Will develop knowledge in characteristic nanomaterial	1	✓	1	1	1	1	~	✓	4	4	?	4
, D	And Of the I parament Of S community 19152E82G	Environmental and Social impact Assessment	carry out scoping and screening of developmental projects for	1	1	√	1	√	~	~	1	*	Muy		✓

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Science and Technology (PRIST)



Dept: ECE-BTech (FT)

Mapping of COs and Pos

			environmental and social assessments explain different methodologies for environmental impact prediction and assessment plan environmental impact assessments and environmental management plans evaluate environmental impact assessment reports										
wha	Head Of the	Telehealth Technology Department Hectronics and	 Apply multimedia technologies in telemedicine. Explain Protocols behind encryption techniques for secure transmission of data. Apply telehealth in healthcare. 	1	1	4	1	1	√	√	~	Run	✓

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THAMAN AND SCIENCE OF TAMIL NACE

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

Department Of Ele Com 19152P83	Project Work tronics and indinesting in institute of	 apply fundamental and disciplinary concepts and methods in ways appropriate to their principal area of study. demonstrate skill and knowledge of current information and technological tools and techniques specific to the professional field of study. use effectively oral, written and visual communication. identify, analyze, and solve problems creatively through sustained critical investigation. integrate information from multiple sources. demonstrate an awareness and 		~	✓	*		~			Dol of Engine	EAN Tengan Ing	ct.	~	
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Dept: ECE-BTech (FT)

Mapping of COs and Pos

Programme Exit Examination	The students will be confident in discussing the fundamental aspects of any engineering problem/situation and	1	1	1	√	-		4	
	application of appropriate personal, societal, and professional ethical standards. • practice the skills, diligence, and commitment to excellence needed to engage in lifelong learning.								

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Communication Engineering
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Dept: ECE-BTech (FT)

Mapping of COs and Pos

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Sem	Course Code	Title of the Course	COs]	POS					
				PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
I	19148S11BP	Transforms and Partial Differential Equations	Be capable of mathematically formulating certain practical problems in terms of partial differential equations, solve them and physically interpret the results. Have gained a well founded knowledge of Fourier series, their different possible forms and		4	✓	✓	1						1	~
J. Ten	19152H12P	Electromagnetic Theory	 analyze fields a potentials due to static changes evaluate static magnetic fields understand how materials affect electric and 	1	1	✓	√	1	1			*	luu	nf	-

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

			magnetic fields • understand the relation between the fields under time varying situations • understand principles of prop										
the	19152Н13Р	Digital Electronics	introduce number systems and codes introduce basic postulates of Boolean algebra and shows the correlation between Boolean expressions introduce the methods for simplifying Boolean expressions outline the formal procedures for the analysis and des		1	✓	✓	✓	✓			~	✓
Dep	19152H14P	ment. Electronic Circuits - I	The methods of biasing transistorsDesign of simple	1	1	1	✓.	1	1	Mu	went	1	1

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Dept: ECE- BTech (FT)

Mapping of COs and Pos

			amplifier circuits • Mid – band analysis of amplifier circuits using small - signal equivalent circuits to determine gain input impedance and output impedance • Method of calculating cutoff fre									
Co	19152H15P	Signals and Systems tment incs and incsding	 To study the properties and representation of discrete and continuous signals. To study the sampling process and analysis of discrete systems using z-transforms. To study the analysis and synthesis of discrete time 		✓	*	✓	had of	Le	uu	y	✓

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

			systems.• To study the properties									
II	19148S21P	Numerical Methods	• The roots of nonlinear (algebraic or transcendental) equations, solutions of large system of linear equations and eigenvalue problem of a matrix can be obtained numerically where analytical methods fail to give solution. • When huge amounts of experimen	*	~	✓	✓	✓			~	~
Heed Coparino	19152S22P	Electrical Engineering and Control Systems	To understand the operation of Electrical machines and transformers To understand the open loop and closed loop	4	1	1	·	√	1	Mu	anyl	-

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Dept: ECE-BTech (PT)

Mapping of COs and Pos

			(feedback) systems To understand time domain and frequency domain analysis of control systems required for stability analysis. To unde									
Ara	19152Н23Р	Linear Integrated Circuits	 To introduce the basic building blocks of linear integrated circuits. To teach the linear and nonlinear applications of operational amplifiers. To introduce the theory and applications of analog multipliers and PLL. To teach the theory of ADC and 	4	1	1	✓	✓	1		~	✓
Head Of Department	19152H24P	Electronic Circuits - II	• The advantages and method of analysis of feed	1	1	1	√.	1	1	Xluny	1 1	1

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Dept: ECE-BTech (PT)

Mapping of COs and Pos

			back amplifiers • Analysis and design of RC and LC oscillators, tuned amplifiers, wave shaping circuits, multivibrators, blocking oscillators and time based generators. • The advantages and method of analysi										
Heappar	19152H25P	Transmission Lines and Waveguides	• To become familiar with propagation of signals through lines • Understand signal propagation at Radio frequencies• Understand radio propagation in guided systems• To become familiar with resonators • To become	✓	✓	1	✓	✓	Scho	ol of En	DEAN gineering an	und	-

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Dept: ECE- BTech (FT)

Mapping of COs and Pos

			familiar with propagation of sig									
III	19148S31BP	Probability and Random Processes	Have a fundamental knowledge of the basic probability concepts. Have a well – founded knowledge of standard distributions which can describe real life phenomena. Acquire skills in handling situations involving more than one random variable and funct	✓	-	1	✓	1			1	1
da B	19152H32P	Microprocessor Interfacing and Applications	 To introduce the architecture and programming of 8085 microprocessor. To introduce the interfacing of peripheral devices with 8085 	~	~	✓	· ·	~	✓	All	lucy	(

Communication Engineering
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Dept: ECE-BTech (FT)

Mapping of COs and Pos

			microprocessor. • To introduce the architecture and programming of 8086 microprocessor. • To introduce the applications,											
	19152Н33Р	Digital Signal Processing	To study DFT and its computation To study the design techniques for digital filters To study the finite word length effects in signal processing To study the non-parametric methods of power spectrum estimations To study the fundamentals of digit	1	1	1		1	~				~	4
tha Depart	19152H34P	Communication Theory	To provide various Amplitude modulation and demodulation	1	1	1	j	1	1	X	Mu	of	1	1

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

			systems. • To provide various Angle modulation and demodulation systems. • To provide some depth analysis in noise performance of various receiver. • To study some basic information theory with so										
W Head (19152L35P	Digital Signal Processing and Microprocessor Lab	Carryout basic signal processing operations Design and Implement the FIR and IIR Filters in DSP Processor for performing filtering operation over real-time signals Interface different I/Os with processor Generate waveforms using	1	~	~	4	✓	✓	School (Muu of Engineen	unf	*

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Dept: ECE-BTech (PT)

Mapping of COs and Pos

			Microprocessors •									
IV	19152H41P	Digital Communication	To study pulse modulation and discuss the process of sampling, quantization and coding that are fundamental to the digital transmission of analog signals. To learn baseband pulse transmission, which deals with the transmission of pulse-amplitude, modu	✓	4	4	✓	✓	~		*	~
Atia Hord Of	19152H42P	Antenna and Wave Propagation	 To study radiation from a current element. To study antenna arrays To study aperture antennas To learn special antennas such as frequency 	√	1	1	✓	1	1	She	ung C	~

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

			independent and broad band antennas. • To study radio wave propagation. • To study radiation from a current e									
Atra	19152H43P	Computer Networks	• To introduce the students the functions of different layers. • To introduce IEEE standard employed in computer networking. • To make students to get familiarized with different protocols and network components.• To introduce the students the functions o	4	1	1	~	✓		a	lus	~

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Dept: ECE- BTech (FT) Mapping of COs and Pos

	19152E44AP	High Speed Networks	Students will get an introduction about ATM and Frame relay. Students will be provided with an up-to-date survey of developments in High Speed Networks. Enable the students to know techniques involved to support real-time traffic and congestion cont	1	1	~		✓	✓			1	
Depar	19152E44BP ad Of the Departs tment Of Electron	ics and	 To study the parametric methods for power spectrum estimation. To study adaptive filtering techniques using LMS algorithm and to study the applications of adaptive filtering. To study 	~	√	~	~	~	✓	X	lunery		✓

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Dept: ECE-BTech (PT)

Mapping of COs and Pos

			multirate signal processing fundamentals. • To study the analysis										
	19152E44CP	Speech Processing	 To introduce the models for speech production To develop time and frequency domain techniques for estimating speech parameters To introduce a predictive technique for speech compression To understand speech recognition, synthesis and speaker ident 	✓	1	4	✓	√	✓				✓
W Read Beparim Commit	19152E44DP Of the Department and OI Electronics	Fuzzy Logic and Neural Networks	To introduce the ideas of fuzzy sets, fuzzy logic and use of heuristics based on human experience To become	~	√	1	√	√	4	ý.	Kumpl	_	~

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

			familiar with neural networks that can learn from available examples and generalize to form appropriate rules for inferencing systems • To prov										
A had	19152E44FP	Digital Audio Engineering	 Analyze the type of dither. Analyze the recording and transmission principles in digital audio. Analyze the various compression techniques. Design and analyze the digital audio editing. Analyze the various application of digital audio. Analyze 	✓	✓	✓	✓	✓	✓	✓	llu	up	*

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Dept: ECE-BTech (PT)

Mapping of COs and Pos

	19152L45P	Networks and Communication Lab	• Communicate between two desktop computers• Implement the different protocols• Implement and compare the various routing algorithms• Use the simulation tool.• Simulate & validate the various functional modules of a communication system• Apply variou	*	4	~	✓	✓	✓			
V Head Departm	19152H51P Of the Department Of Electronic	Optical Communication and Networks	 To learn the basic elements of optical fiber transmission link, fiber modes configurations and structures. To understand the different kind of losses, signal distortion in 	1	1	1	1	1	4	Du	unf	~

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Dept: ECE-BTech (PT)

Mapping of COs and Pos

19152H52P	Microwave Engineering	optical wave guides and other signal degradation factors. Design optimization o • To study passive microwave components and their S- Parameters. • To study Microwave semiconductor devices & applications. • To study Microwave sources and amplifiers. • To study passive microwave components and their S- Parameters. • T	4	*	*	✓	~	~		~	*
19152H53Pm	VLSI Design	To learn the basic CMOS circuits. To learn the CMOS process	1	1	1	~	1	School	Mullin	1	1

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Mapping of COs and Pos

	191_E54_P	Elective II	technology. To learn techniques of chip design using programmable devices. To learn the concepts of designing VLSI subsystems. To learn the concepts of modeling a digital system using H									
Head Departs	19149E54AP	Environmental Science and Engineering	 Public awareness of environmental is at infant stage. Ignorance and incomplete knowledge has lead to misconceptions Development and improvement in standard of living has lead to serious 	4	~	✓.	✓	1	DI	Nege	nf	

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Mapping of COs and Pos

	19152E54BP	Optoelectronic Devices	environmental disasters• Public awareness of environmental is a • To know the basics of solid state physics and understand the nature and characteristics of light. • To understand different methods of luminescence, display devices and laser types and their applications. • To learn the principle of optical	✓	✓	✓	✓.	✓	✓					✓	
	19152E54DP	Digital Image	• To study the image fundamentals and mathematical transforms	4	✓	✓	·	√	✓	✓	✓	1	*		1
 Depair 	ad Of the Departs tment Of Electron	Processing next ics and pering	necessary for image processing. • To study the image enhancement								a pis	DEA	Mu N and Tec	my	

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Mapping of COs and Pos

			techniques To study image restoration procedures. To study the image compression procedures. To study the image segmentati									
0	19152E54EP	Engineering Acoustics	 To provide mathematical basis for acoustics waves To introduce the concept of radiation reception absorption and attenuation of acoustic waves. To present the characteristic behaviour of sound in pipes, resonators and filters. To introduce the pro 	✓	1	✓	4	✓	THAN	Kuu	w/	

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Vallam, Thamayur, 843,402



School: ENGINEERINGAND TECHNOLOGY Dept: ECE-BTech (FT)

Mapping of COs and Pos

	19152E54FP	Software Engineering	 Identify the key activities in managing a software project. Compare different process models. Concepts of requirements engineering and Analysis Modeling. Apply systematic procedure for software design and deployment. Compare and contrast the 	4	✓	~	~	~	√	~	✓			
than Dopa	19152L55P	Optical Communication and Microwave Lab	 Analyze the performance of simple optical link. Test microwave and optical components. Analyse the mode characteristics of fiber Analyse the 	4	1	1	1	1	1			Mun	nf.	

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

			radiation of pattern of antenna. Analyze the performance of simple optical link. Test microwave and op												
VI	19152Н61Р	Mobile and Wireless Communication	• It deals with the fundamental cellular radio concepts such as frequency reuse and handoff. This also demonstrates the principle of trunking efficiency and how trunking and interference issues between mobile and base stations combine to affect the overal	1	1	✓	✓	1	✓				*		
Department Commun	19152H62P*	Medical Electronics	To study the methods of recording various biopotentials To study how to measure biochemical and	4	4	√	✓	√		M	lu	nf.	~	1	

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

		various physiological information • To understand the working of units which will help to restore normal functioning • To understand the use of radiation f									
19152H63P	Micro Controller and Embedded systems	• To study 8051 architecture • To write assembly language programming • To study the embedded architecture and real time applications. • To study 8051 architecture • To write assembly language programming • To study the embedded architecture and	✓	✓	✓	✓	→	✓		DEA	

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

			real time												
	191E64_P	Elective III													
	19160E64AP	Principles Of Management	• Upon completion of the course, students will be able to have clear understanding• Managerial functions like planning, organizing, staffing, leading & controlling and have same basic knowledge on international aspect of management• Upon completion of t						1	1	1		✓		
Depa		1 1 m. market	 Overview of satellite systems in relation to other terrestrial systems. Study of satellite orbits and 	4	1	1	✓	✓	√	✓	1	1	ille	Muy	yĽ.

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Ponnalyah Ramajayam Institute of
Science and Technology (NIST)

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Mapping of COs and Pos

		launching. • Study of earth segment and space segment components • Study of satellite access by various users. • Study of DTH and compression standar											
19152E64CP	Robotics	 The course has been so designed to give the students an overall view of the mechanical components and mathematics associated with the same. Actuators and sensors necessary for the functioning of the robot. The course has been so designed to give the 	1	✓	√	✓-	✓	~	√	✓	Lu	unf	

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Dept: ECE-BTech (PT)

Mapping of COs and Pos

	19152E64DP	Remote sensing	 Principles of Remote Sensing and GIS Analysis of RS and GIS data and interpreting the data for modeling applications Principles of Remote Sensing and GIS Analysis of RS and GIS data and interpreting the data for modeling applications 	✓	✓	~	į.	✓	✓			~	
	19150E64FP	Transducer Engineering	to model and analyze transducers	1	1	1	1	1	1			1	1
9	19152L65P	VLSI and Embedded systems Lab	Write HDL code for basic as well as advanced digital integrated circuit Import the logic modules into FPGA Boards Synthesize Place and Route the digital IPs Write programs	√	√	1	1	1	4		LU	enf	1

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Mapping of COs and Pos

			in ARM for a specific Application • Interface memory, A/D and D/A convertor											
VII	19160S71P	Total Quality Management	• The student would be able to apply the tools and techniques of quality management to manufacturing and services processes.						√	√	√	✓	~	*
Depart	19152H72P	Wireless Networks	 To understand physical as wireless MAC layer alternatives techniques. To learn planning and operation of wireless networks. To study various wireless LAN and WAN concepts. To understand WPAN and geolocation systems. 	√	✓	✓	√-	✓			Sch	MUL DEA	unf National	

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Dept: ECE-BTech (FT)

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	19152Н73Р	Telecommunication Switching and Networks	 To introduce the concepts of Frequency and Time division multiplexing. To introduce digital multiplexing and digital hierarchy namely SONET / SDH To introduce the concepts of space switching, time switching and combination switching, example of a sw 	4	✓	✓	✓	✓					
	191E74_P	Elective IV											
a D	19152E74AP Head Of the Decomposition of the Composition of the Compos	Power Electronics	 To study about power electronic circuits for voltage and current control and protection. To learn the switching characteristics of transistors and 	1	1	1	1	1	1		Heu	unj	Č

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Dept: ECE-BTech (PT)

Mapping of COs and Pos

			SCRs. Series and parallel functions of SCRs, Programmable triggering methods of SCR. • To learn controll										
	19152E74BP	Advanced Microprocessors	To introduce the concepts in internal programming model of Intel family of microprocessors. To introduce the programming techniques using MASM, DOS and BIOS function calls. To introduce the basic architecture of Pentium family of processors. To in	✓	*	√	~	*	~			~	
₹c:	19152E74CP	Electromagnetic Interference and Compatibility	• To understand EMI Sources, EMI problems and their solution methods in PCB level /	1	1	1	~	1	1	Du	und	-	1

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

		Subsystem and system level design. • To measure the emission. immunity level from different systems to couple with the prescribed EMC standards										
19152E74DP	Solid State Electronic Drives	 To learn crystal structures of elements used for fabrication of semiconductor devices. To study energy band structure of semiconductor devices. To understand fermi levels, movement of charge carriers, Diffusion current and Drift current. To study 	1	~	√	1	1	· · · · · · · · · · · · · · · · · · ·	sh	Um	1	

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Dept: ECE-BTech (PT)

Mapping of COs and Pos

	19152E74FP	Space TimeWireless Communication	 Design and analyze the channel characterization. Analyze the capacity of random MIMO channel. Design and analyze the order diversity and channel variability. Analyze the multiple antenna coding and receivers. Analyze the MIMO multi user detectio 		~	-		✓	✓					
the T	19152P75P Head Of the Done teriment Or Electronimunication Environmentation Environmentatio	n Institute o	• apply fundamental and disciplinary concepts and methods in ways appropriate to their principal area of study.•	~	~	1	√.	✓	1	✓	- 4	ĺm	my	-

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Dept: ECE-BTech (FT)

Mapping of COs and Pos

demonstrate skill and knowledge of
current
information and
technological
tools and
techniques
specific to the
professional field
of study.

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Head Of the Department Department Of Electronics and Communication Engineering Ponnaiyah Ramajayam Institute of The & Technology (PRIST) " Peamed to be University

= UGC Act.1958) = 403, TAMIL NADI4.



Dept:ECE(M.TECH COMM.SYS REG2019-FT)

School:E&T

Mapping of COs and POs

Sem	Course	Title of the	COs							POS					
	Code	Course		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
-	19248S11B	Applied mathematics for Electronics Engineering	Concepts on vector spaces, linear transformation, inner product spaces, eigen values and generalized eigenvectors. Apply various methods in linear algebra to solve system of linear equations. Could develop a fundamental understanding of linear programming models, able to develop a linear programming model from problem description, apply the simplex method for												



		solving linear programming problems.	JAV OR	C-013.	-03-12	MIL N				
		prooferns.								
19271H12	Statistical Signal Processing	 Formulate time domain and frequency domain description of Wide Sense Stationary process in terms of matrix algebra and relate to linear algebra concepts. State Parseval's theorem, W-K theorem, principle of orthogonality, spectral factorization theorem, Widrow-Hoff LMS algorithm and Shannon's sampling theorem, and define linear prediction, linear estimation, sample autocorrelation, periodogram, bias and consistency. 	✓	•					· •	



J				• Explain various	TOP VOI	C-313.	+03 - 12		200		Ī				ĺ	l
				noise types, Yule-												
				Walker algorithm, parametric and												
				non-parametric												
				methods, Wiener												
				and Kalman												
				filtering, LMS												
				and RMS												
				algorithms,												
				Levinson Durbin												
				algorithm,												
				adaptive noise												
				cancellation and												
				adaptive echo												
				cancellation,												
				speed verses												
				convergence												
				issues, channel												
				equalization,												
				sampling rate												
				change, subband												
				coding and												
				wavelet												
				transform.												
	Г	19271H13	Modern Digital	• Develop the												
			Communicatio	ability to												
			n Systems	understand the												
			,	concepts of signal												
				space analysis for												
				coherent and non-												
				coherent												
				receivers.												
				• Conceptually												
				appreciate												
				different	✓	✓	·	/ /	· •	/ v	/	√ ✓	✓	✓ ✓	•	
				uniterent	v	v	v	v	v	•		v v	v	v		



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		Equalization												
		techniques												
		• Possess												
		knowledge on												
		different block												
		codes and												
		convolutional												
		codes.												
		• Comprehend the												
		generation of												
		OFDM signals												
		and the												
		techniques of												
		multiuser												
		detection.												
19271S14	Communication													-
192/1514	Communicatio													
	n Protocol	network and user												
	Engineering	requirements and												
		the type of												
		channel over												
		which the												
		network has to												
		operate, the												
		student would be												
		in a position to												
		apply his												
		knowledge for												
		identifying a												
		suitable routing												
		algorithm,												
		implementing it												
		and analyzing its												
		performance.												
		• The student												
		would also be												
		able to design a	✓	✓	•	∕ √	✓ ✓	✓	✓	✓	′ √	✓		





1 1	•	1	THAI	NJAVUI	R-6134	103 - TA	MILN	ADU	1	ı		1	i	i
			so understand											
			why standard											
			protocols are											
			designed the way											
			that they are											
			• Be able to solve											
			problems for the											
			design of											
			multimedia											
			applications on											
			Internet.											
	19271E16B	Digital Image	• Explain the											
		Processing	fundamentals											
			digital image											
			processing.											
			• Describe image											
			various											
			segmentation and											
			feature extraction											
			techniques for											
			image analysis.											
			• Discuss the											
			concepts of image											
			registration and							l _		l		
			fusion.	<u>√</u>	✓	1	<u>/</u>	<u></u> 1	<u> </u>	<u> </u>	/√	v	<u> </u>	
	19271E16C	LASER	Recognize and											
		Communicati	classify the											
		on	structures of											
			Optical fiber and											
			types.											
			• Discuss the											
			channel											
			impairments like											
			losses and											
			dispersion.						l	l				
			 Analyze 	✓	✓	1	<u>/</u>	<u> </u>	<u>/_</u> ,	/,	<u>/_</u> √	v		



		various coupling					abo					
		losses.										
		• Classify the										
		Optical sources										
		and detectors and										
		to discuss their										
		principle.										
		• Familiar with										
		Design										
		considerations of										
		fiber optic										
		systems.										
		To perform										
		characteristics of										
		optical fiber,										
		sources and										
		detectors, design										
		as well as conduct										
		experiments in										
		software and										
		hardware, analyze										
		the results to										
		provide valid										
		conclusions.										
19271E16D	MEMS and	Ability to										
	NEMS	understand the										
		operation of										
		micro devices,										
		micro systems										
		and their										
		applications										
		Ability to design										
		the micro										
		devices, micro										
		systems using the	✓	✓	٠	/√	<u> </u>	/ <u> </u>	/v	/√	 ✓	



		MEMS fabrication			103-12	WILNA	ш0							
		process.												
		Gain a												
		knowledge of												
		basic approaches												
		for various sensor												
		design												
		Gain a												
		knowledge of												
		basic approaches												
		for various												
		actuator design												
		Develop												
		experience on												
		micro/nano												
		systems for												
		photonics .												
		Gain the technical												
		knowledge												
		required for												
		computer-aided												
		design,												
		fabrication,												
		analysis and												
		characterization												
		of nano-												
		structured												
		materials, micro-												
		and nano-scale												
		devices.												
19271L19	Communicatio	Measure and												
	n Systems Lab	analyze various												
	- I	transmission line												
		parameters.	✓	✓	•	/ /	<u> </u>	/ /	✓	✓	<u> </u>	<u>√</u>		



•		_	IIIA	NJAVU	K-013	4U3 - IA	TAIL 143	DU .	i	1	1	1		1 1
			• Design											
			Microstrip patch											
			antennas.											
			• Implement the											
			adaptive filtering											
			algorithms											
			 To generate and 											
			detect digital											
			communication											
			signals of various											
			modulation											
			techniquesusing											
			MATLAB.											
	19271CRS	Research Led	a. Exposure to											
		Seminar	various research											
			domains											
			b. Acquaintance											
			with languages of											
			research											
			c. Development											
			of research											
			aptitude								✓			
		·		l	5	SEMEST	ER-II		ı			ı		
						LIVILOI	LIC II							
	19271H21	Mobile	Discuss cellular											
		Communicatio	radio concepts.•											
		n Networks	Identify various											
			propagation											
			effects.• To have											
			knowledge of the											
			mobile system											
			specifications.•											
			Classify multiple											
			access techniques											
ll II			in mobile	✓	√	•	/ /	✓ ✓	✓	✓	•	/ /		
1	1					•							1	1



		communication. •											
		Outline cellular											
		mobile											
		communication											
		standards.Analyze											
		various											
		methodologies to											
		improve the											
		cellular capacity											
19271H22	Advanced	Capability to											
	Microwave	design											
	Systems	Microwave											
		circuits.											
		• To be able to											
		analyze											
		microwave											
		integrated											
		circuits.	✓	✓	,	/ /	^ 1		√	′ √	′ √	∕ √	
19271H23	Fiber Optic	Design and											
	Networking	Analyze Network											
		Components											
		Assess and											
		Evaluate optical											
		networks											
			~	_	ļ ,	/ •	,	/ /	✓	′ √	′ √	∕ √	✓
				EI	ECT	IVE II	-						
					32301	. ,	-						
19271E24A	High Speed	• The student]	
	Switching	would be able to											
	Architecture	identify suitable											
	7 Hemiceture	switch											
		architectures for a											
		specified											
		networking											
		scenario and	✓	✓	•	/ /	· ,	/ ,	/ v	/		✓	



		demonstrate its blocking performance. • The student would be in a position to apply his knowledge of									
		switching technologies, architectures and buffering strategies for designing high speed communication networks and									
		analyse their performance									
19271E24B	DSP Processor Architecture and Programming	 Become Digital Signal Processor specialized engineer DSP based System Developer 	√	✓	,	∕_ ✓	<u> </u>	<i></i>	/ _ √		
19271E24C	Digital Speech Processing	 Model speech production system and describe the fundamentals of speech. Extract and compare different speech parameters. Choose an 	√	✓				<i>(</i> ,	/ ✓	√	



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		appropriate										
		statistical speech										
		model for a given										
		application.										
		• Design a speech										
		recognition										
		system.										
		• Use different										
		text analysis and										
		speech synthesis										
		techniques.										
19271E24D	ASIC and FPGA	 Demonstrate 										
	Design	VLSI tool-flow										
		and appreciate										
		FPGA										
		architecture.										
		• Understand the										
		issues involved										
		in ASIC design,										
		including										
		technology										
		choice, design										
		management,										
		tool-flow,										
		verification,										
		debug and test,										
		as well as the										
		impact of										
		technology										
		scaling										
		on ASIC										
		design.										
			./			/	/	/			l	
]		• Understand the	✓	√	1	<u> </u>	1	/ <u>~</u>	 ✓ ✓	✓		



		THA	NAA(NJAVUI	2-6134	MEDI	MILN	ADII						
		algorithms used											
		for ASIC											
		construction											
		• Understand the											
		basics of System											
		on Chip, On											
		chip											
		communication											
		architectures											
		like											
		AMBA,AXI											
		and utilizing											
		Platform based											
		design.											
		• Appreciate											
		high											
		performance											
		algorithms											
		available for											
		ASICs											
19271E25A	Digital	Apply basic											
	Communicati	principles of											
	on Receivers	digital											
		communication											
		techniques.											
		• Discuss on											
		receivers for											
		AWGN & Fading channel											
		• Describe various											
		synchronization											
		techniques.											
		• Design adaptive											
		equalization	✓	✓	•	/ /	· •	/ /	٠,	✓ ✓	•		
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			algorithms to satisfy the evolving demands in digital communication.	NJAVUI	C-6132	103 - TA	MIL N	ADO					
19	9271E25B	Soft Computing	 Knowledge on concepts of soft computational techniques. Able to apply soft computational techniques to solve various problems. Motivate to solve research oriented problems. 	✓	✓		<i>/</i> ,/		<i>'</i>	✓ ✓			
19	9271E25C	Communicati on Network Security	 Explain digital signature standards Discuss authentication Explain security at different layers 	√	·	,	.			 · _ •	· •	< >	
1	19271L26	Communicatio n Systems Lab - II	• Apply knowledge to identify a suitable architecture and systematically design an RF system.	√	✓	,	∕ √		✓ ✓	/	√	,	



		THA	NJAVUI	8-6134	103 - TA	MILN	ADU						
		Comprehensively											
		record and report											
		the measured											
		data, and would											
		be capable of											
		analyzing,											
		interpreting the											
		experimentally											
		measured data											
		and produce the											
		meaningful											
		conclusions.											
		• Design and											
		develop											
		microstrip filters.											
192TECWR	Technical	Selecting a											
	Writing	subject,											
	/Seminars	narrowing the											
		subject into a											
		topic											
		2. Stating an											
		objective.											
		3. Collecting the											
		relevant											
		bibliography											
		(atleast 15 journal											
		papers)											
		4. Preparing a											
		working outline.											
		5. Studying the											
		papers and											
		understanding the											
		authors											
		contributions and											
		critically											
		analysing each						√	· .	✓ ✓	✓		
 L				l l				•			,		



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		paper. 6. Preparing a working outline										
		7. Linking the										
		papers and										
		preparing a draft										
		of the paper.										
		8. Preparing										
		conclusions based										
		on the reading of										
		all the papers.										
		9. Writing the										
		Final Paper and										
		giving final										
		Presentation										
19271CRM	Research	a. Understanding										1
192/1CKW	Methodology	research questions										
	Methodology	and tools										
		b. Experience in										
		scientific writings										
		c. Practice in										
		various aspects of										
		scientific										
		publications										
		d. Inculcation of										
		research ethics					√	√ ✓	′ √			
19271CBR	Participation in	a. Hands on										1
1,2,1021	Bounded	exposure to										
	Research	problem solving										
	11000001	tools in										
		contemporary										
		researchb.										
		Evolution of										
		research										
		intuitiveness and										
		orientationc.					✓	✓ ✓	∕ √			



THANJAVUR-613403-TAMILNADU	, ,
Familiarity with	
cutting edge	
research trends	
III 19271H31 Wireless • Familiar with	
Sensor the latest 4G	
Networks networks and	
LTE LTE	
• Understand	
about the wireless	
IP architecture	
and LTE network	
architecture.	
• Familiar with	
the adaptive link	
layer and network	
layer graphs and	
protocol.	
• Understand	
about the mobility	
management and management and	
cellular network.	
• Understand	
about the wireless	
sensor network	
architecture and	
its concept.	
its concept.	



			NJAVUI	R-6134	103 - 17	MILL	ADU		,					
19271E32A	Software	• Compare MAC												
	Defined	and network layer												
	Radio	design for												
		software defined												
		radio												
		• Discuss												
		cognitive radio												
		for Internet of												
		Things and				1	1_		l l					
		M2Mtechnologies	√	√	1	/ ·		\checkmark	✓	✓	✓	✓		
19271E32B	Satellite	• Discuss satellite												
	Communicati	navigation and												
	on	global positioning												
		system												
		Outline deep												
		space networks												
		and inter												
		planetary		I		l _	1							
		missions	✓	✓	1	/ ·		✓	✓	✓	✓	✓	✓	
19271E32C	CDMA	Analyze MIMO												
	Systems	system.												
		• Discuss												
		millimeter wave												
		communication.												
		Demonstrate												
		software defined												
		radio and							Į.	ا		_		
		cognitive radio.	✓	✓		/	/	✓_✓	√	√	_✓	_ ✓		
	Speech	 Identify the 												
	Processing	various temporal,												
	and Synthesis	spectral and												
		cepstral features												
		required for												
		identifying speech												
		units – phoneme,	-					1		.		_		
19271E25D		syllable and word	✓	✓	1	/ .		\checkmark \checkmark	✓	✓	✓	✓		



		Determine and apply Melfrequency cepstral coefficients for processing all types of signals Justify the use of formant and concatenative approaches to speech synthesis Identify the apt approach of speech synthesis depending on the language to be processed Determine the various encoding techniques for representing											
		speech.				ELECTI	/E \/						
19271E33A	Wavelets and Multi Resolution Processing	• The students will be able to apprehend the detailed				LLECTIV	/L V						
	Frocessing	knowledge about the Wavelet transforms& its applications.	√	✓	,	∕ •	· ,	√	√	,	/ ✓	✓	



1 400-4-00-		THAI	NJAVUE	t-6134	03 - TA	MILN	ADU	1 1	1	Í	I	ĺ	j i	I
19271E33B	High	• Diagnose												
	performance	problems and												
	Communicati	make minor												
	on Networks	repairs to												
		computer												
		networks using												
		appropriate												
		diagnostics												
		software												
		• Demonstrate												
		how to correctly												
		maintain LAN												
		computer systems												
		• Maintain the												
		network by												
		performing												
		routine												
		maintenance tasks												
		Apply network												
		management tools	✓	✓	v	/ _•		√ _ ✓	✓	✓ ✓	✓	✓		
19271E33C	Advanced	• The student will												
1,2,12,55	Microprocess	be able to work												
	ors and	with suitable												
		microprocessor /												
	Microcontroll	microcontroller												
	ers	for a specific real												
		world application.	~	~	l	/ •			√	√	· ·	/ /	√	
19271E33D	Reconfigurabl	1. Identify the	•		Ĭ	•			•	•	Ť	•		
172/11/331		need for												
	e computing													
		reconfigurable												
		architectures												
		2. Discuss the												
		architecture of												
		FPGAs												
		3. Point out the	✓	✓	v	/ v		✓ ✓	✓	✓ ✓	✓	✓		



	•	THA	NJAVUI	R-6134	03 - TA	MILN	ADU			i	i	1	i i
		salient features of different reconfigurable architectures 4. Build basic modules using any HDL 5. Develop applications using any HDL and appropriate tools 6. Design and build an SoPC for a particular application	NJAVOI	c-6134	03 - TA	MILN	ADU						
					[ELECTIV	'E VI						
19271E34A	Simulation of Communicati on Networks	Apply Monte Carlo simulation Discuss Lower Layer and Link Layer Wireless Modeling Compare channel modeling and mobility modeling	√	√	•	′ √			· •	· •	 	√	



100715245	Lx 6 12 1	THA	NJAVUI	C-6134	403 - 12	MILI	IADU	1	1 1	1	1	İ	1	ĺ
19271E34B		• Explain												
	Imaging	computer aided												
		tomography												
		• Discuss												
		ultrasonic												
		systems												
		• Outline												
		magnetic												
		resonance					L	1		, ,				
		imaging	✓	✓	1	<u>/</u> ·	<u>/</u>	<u>√_</u> v	<u>/ </u>	<u> </u>	✓	✓		
19271E34C	Mobile	 Identify 												
	ADHOC	different issues in												
	networks	wireless ad hoc												
	networks	and sensor												
		networks.												
		• To analyze												
		protocols												
		developed for ad												
		hoc and sensor												
		networks.												
		 To identify and 												
		address the												
		security threats in												
		ad hoc and sensor												
		networks.												
		• Establish a												
		Sensor network												
		environment for												
		different type of												
			✓	./	,	/	/	./	/ .	/ /	_/	✓		
19271E34D	Ultra Wide	applications.	v		'			<u>vv</u>	` 			v		
194/1E34D		radio technology												
	Band	that can use a												
	Communicati	very low energy												
	on	level for short-			<u>,</u>	L		1			, ,			
		range, high-	✓	✓	1	/ •	/	✓	✓	✓	✓	✓	√	



į i	THANJAVUI	R-613403-T	AMILNADU	1 1	1	1	1 1
1	bandwidth						
1	communications						
	over a large						
	portion of the						
	radio spectrum						
Project P	hase – The student						
I	should be able to:						
	• Apply						
	fundamental and						
	disciplinary						
	concepts and						
	methods in ways						
	appropriate to						
	their principal						
	area of study.						
	Demonstrate						
	skill and						
	knowledge of						
	current						
	information and						
	technological						
	tools and						
	techniques						
	specific to the						
	professional field						
	of study.						
	• Use effectively						
	oral, written and						
	visual						
	communication.						
	• Identify,						
	analyze, and solve						
	problems						
	creatively through						
10071007	sustained critical						
19271P35	investigation.			√			



19	9271CSR	Participation in Scaffolded Research(Desi gn/Societal Project)	Integrate information from multiple sources. Demonstrate an awareness and application of appropriate personal, societal, and professional ethical standards. Practice the skills, diligence, and commitment to excellence needed to engage in lifelong learning. a. Sensitization of social needs for innovation b. Team work towards interdisciplinary synchronous research strategy c. Development of critical thinking and synergistic research approach.				→				
1	9271P41	Project Phase – II	The student should be able to:		SEM	1 V					
			• Apply				✓				



									1
		fundamental and							
		disciplinary							
		concepts and							
		methods in ways							
		appropriate to							
		their principal							Ì
		area of study.							Ì
		• Demonstrate							
		skill and							Ì
		knowledge of							
		current							
		information and							
		technological							
		tools and							Ì
		techniques							Ì
		specific to the							
		professional field							
		of study.							Ì
		• Use effectively							
		oral, written and							Ì
		visual							
		communication.							
		• Identify,							
		analyze, and solve							
		problems							Ì
		creatively through							Ì
		sustained critical							Ì
		investigation.							Ì
		• Integrate							Ì
		information from							Ì
		multiple sources.							
		• Demonstrate an							1
		awareness and							1
		application of							1
		appropriate							1
		personal, societal,							1



and professional						
ethical standards.						
• Practice the						
skills, diligence,						
and commitment						
to excellence						
needed to engage						
in lifelong						
learning.						



Dept:ECE(M.TECH COMM.SYS-PT REG2019)

Mapping of COs and POs

Sem	Course	Title of	COs						POS	5					
	Code	the Course		DO4	D04	200	DO 4	DO 5	D 0.6	D0=	Dog	Dog	PO	P O	D044
				PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	10	11	PO12
						SEM-	[
I	19248S11 BP	Applied mathematic s for Electronics Engineerin g	 Concepts on vector spaces, linear transformation, inner product spaces, eigen values and generalized eigenvectors. Apply various methods in linear algebra to solve system of linear equations. Could develop a fundamental understanding of linear programming models, able to develop a linear programming model from problem description, apply the simplex method for solving linear programming problems. 	`											



		THANJA	VUR-	ACCRE: -613403-	TAMIL	D NADU	į.						
19271C12	Statistical	• Formulate time domain	~			/ ~		· •	~	~			
P	Signal	and frequency domain										ĺ	
	Processing	description of Wide											
		Sense Stationary process											
		in terms of matrix											
		algebra and relate to											
		linear algebra concepts.											
		• State Parseval's											
		theorem, W-K theorem,											
		principle of											
		orthogonality, spectral											
		factorization theorem,											
		Widrow-Hoff LMS											
		algorithm and Shannon's											
		sampling theorem, and											
		define linear prediction,											
		linear estimation, sample											
		auto-correlation,											
		periodogram, bias and											
		consistency.											
		• Explain various noise											
		types, Yule-Walker											
		algorithm, parametric											
		and non-parametric											
		methods, Wiener and											
		Kalman filtering, LMS											
		and RMS algorithms,											
		Levinson Durbin											
		algorithm, adaptive											
		noise cancellation and											
		adaptive echo											
		cancellation, speed											
		verses convergence											
		issues, channel											
		equalization, sampling											
		rate change, subband											



		coding and wavelet transform.								
19271C13 P	Modern Digital Communic ation Systems	 Develop the ability to understand the concepts of signal space analysis for coherent and noncoherent receivers. Conceptually appreciate different Equalization techniques Possess knowledge on different block codes and convolutional codes. Comprehend the 	~		\	~	•	~	•	



			generation of OFDM signals and the techniques of multiuser detection.										
	19271L14 P	Communic ation Systems Lab - I	• Measure and analyze various transmission line parameters.• Design Microstrip patch antennas.• Implement the adaptive filtering algorithms• To generate and detect digital communication signals of various modulation techniquesusing MATLAB.	~	~	•			~	Ž			
	19271CRS P	Research Led Seminar	a. Exposure to various research domains b. Acquaintance with languages of research c. Development of research aptitude					✓			✓		
						SEM-II							



_		1	THANJA	VUR-	613403-	TAMIL	NADU	1	İ	i i	ĺ	i	Í	ı	ī
	19271C21	Mobile	Discuss cellular radio												
	P	Communic	concepts.												
		ation	 Identify various 												
		Networks	propagation effects.												
			 To have knowledge of 												
			the mobile system												
			specifications.												
			• Classify multiple												
			access techniques in												
			mobile communication.												
			Outline cellular mobile												
			communication												
			standards.												
			Analyze various												
			methodologies to												
			improve the cellular												
			capacity		~					_/			I		
	19271C22	Advanced	Capability to design			,	~~~	•			~	Ť		~	
	P	Microwave	Microwave circuits.												
	1	Systems	• To be able to analyze												
		Systems	microwave integrated												
			circuits.									ļ			
	19271L24	Communic	Apply knowledge to	~	~	,	~ ~	~			~	Ť	Ì		
	P	ation	identify a suitable												
	r	Systems	architecture and												
		Lab - II													
		Lab - II	systematically design an												
			RF system.												
			• Comprehensively												
			record and report the												
			measured data, and												
			would be capable of												
			analyzing, interpreting												
			the experimentally												
			measured data and												
			produce the meaningful												
			conclusions.	~	~	•	· •	< v	< v	~	~	~	· •		



_	-	THANJA	VUR-	613403-	TAMIL	NADU		-		
		 Design and develop 								
		microstrip filters.								
19271TEC	Technical	Selecting a subject,								
WRP	Writing	narrowing the subject								
,,,,,,,	/Seminars	into a topic								
	/ Schimars	2. Stating an objective.								
		3. Collecting the								
		relevant bibliography								
		(atleast 15 journal								
		papers)								
		4. Preparing a working								
		outline.								
		5. Studying the papers								
		and understanding the								
		authors contributions								
		and critically analysing								
		each								
		paper.								
		6. Preparing a working								
		outline								
		7. Linking the papers								
		and preparing a draft of								
		the paper.								
		8. Preparing conclusions								
		based on the reading of								
		all the papers.					✓			



		9. Writing the Final Paper and giving final Presentation						
19271CR MP	Research Methodolo gy	a. Understanding research questions and tools b. Experience in scientific writings c. Practice in various aspects of scientific publications d. Inculcation of research ethics			~			
19271CB RP	Participatio n in Bounded Research	a. Hands on exposure to problem solving tools in contemporary researchb. Evolution of research intuitiveness and orientationc. Familiarity			∨			



 _		THANJA		613403-				_						
		with cutting edge												
		research trends												
				SEM	-III		<u> </u>		l					
19271C31	Communic	Given the network and												
P	ation	user requirements and												
	Protocol	the type of channel over												
	Engineerin	which the network has to												
	g	operate, the student												
	8	would be in a position to												
		apply his knowledge for												
		identifying a suitable												
		routing algorithm,												
		implementing it and												
		analyzing its												
		performance.												
		• The student would also												
		be able to design a new												
		algorithm or modify an												
		existing algorithm to												
		satisfy the evolving												
		demands in the network												
		and by the user											_	
10051535		applications.	~	✓	•	< <	✓	~	~	•	< v	~		
19271C32	Advanced	Ability to understand												
P	Radiation	antenna concepts												
	Systems	• Ability to design												
		antenna for various												
		applications												
		Knowledge of modern												
		antenna design	~	✓	•	< <	✓	· ~	~	•	/ v	✓		



	1	THANJA	VUR-	613403-	TAMIL	NADU							
19271CSR	Design/Soc	Sensitization of social											
P	io technical	needs for innovation											
	Project	b. Team work towards											
		interdisciplinary											
		synchronous research											
		strategy											
		c. Development of											
		critical thinking and											
		synergistic research											
		approach.						~			~		
	II.				SEM-IV	7				I		L	
19271C41	Wireless	• Familiar with the latest											
P	Sensor	4G networks and LTE											
1	Networks	• Understand about the											
	Titetworks	wireless IP architecture											
		and LTE network											
		architecture.											
		• Familiar with the											
		adaptive link layer and											
		network layer graphs											
		and protocol.											
		• Understand about the											
		mobility management											
		and cellular network.											
		Understand about the											
		wireless sensor network											
		architecture and its											
		concept.	~	~			√		· ~		-		
19271C42	Fiber Optic	Design and Analyze		•				<u>_</u>			Ť	Ť	
P	Networkin	Network Components											
1	g	Assess and Evaluate											
	8	optical networks											
		T	~	~	,	/ /	~	· •	~	~	~	/ -	



F	•	1	THANJA	VUR-	613403-	TAMIL	NADU	1 1	- -	Ī	i i		
	19271P44	Project	The student should be										
	P	Phase – I	able to: Apply										
			fundamental and										
			disciplinary concepts										
			and methods in ways										
			appropriate to their										
			principal area of study.•										
			Demonstrate skill and										
			knowledge of current										
			information and										
			technological tools and										
			techniques specific to										
			the professional field of										
			study.• Use effectively										
			oral, written and visual										
			communication.•										
			Identify, analyze, and										
			solve problems										
			creatively through										
			sustained critical										
			investigation.• Integrate										
			information from										
			multiple sources.•										
			Demonstrate an										
			awareness and										
			application of										
			appropriate personal,										
			societal, and										
			professional ethical										
			standards.• Practice the										
			skills, diligence, and										
			commitment to										
			excellence needed to										
			engage in lifelong										
			learning.						~				
					EL	ECTIV	E-I						



	Ì		VUR-	613403-	TAMIL	NADU	1 1		ı	i i				1
19271E2	High	• The student would be												
3AP	Speed	able to identify suitable												
	Switching	switch architectures for												
	Architectu	a specified networking												
	re	scenario and												
	16	demonstrate its blocking												
		performance.												
		• The student would be												
		in a position to apply his												
		knowledge of switching												
		technologies,												
		architectures and												
		buffering strategies for												
		designing high speed												
		communication												
		networks and analyse												
		their performance	✓	✓	•	✓	✓	✓	✓	✓	•	/ .	✓	
19271E2	DSP	Become Digital Signal												
3BP	Processor	Processor specialized												
	Architectu	engineer												
	re and	DSP based System												
	Programm	Developer												
	ing													
	IIIg		~	~	•	· •	~	~	~	~	•	/	~	



	ı		VUR-	613403-	TAMIL	NADU		i	i i	i	ı	1 1	 ī
19271E2	Digital	Model speech											
3CP	Speech	production system and											
	Processing	describe the											
		fundamentals of speech.											
		 Extract and compare 											
		different speech											
		parameters.											
		• Choose an appropriate											
		statistical speech model											
		for a given application.											
		• Design a speech											
		recognition system.											
		• Use different text											
		analysis and speech											
		synthesis techniques.											
							/				<u>.</u>		



		THANJA	VUR-	613403-	TAMIL	NADU						
19271E2	ASIC and	 Demonstrate VLSI 										
3DP	FPGA	tool-flow and	·									
	Design	appreciate FPGA	·									
		architecture.•	·									
		Understand the issues	·									
		involved in ASIC	·									
		design, including	ļ									
		technology choice,	ļ									
		design management,	ļ									
		tool-flow, verification,	ļ									
		debug and test, as well	ļ									
		as the impact of	·									
		technology scaling	ļ									
		on ASIC design.•	ļ									
		Understand the	ļ									
		algorithms used for	ļ									
		ASIC construction•	ļ									
		Understand the basics	·									
		of System on Chip, On	·									
		chip communication	ļ									
		architectures like	ļ									
		AMBA,AXI and	ļ									
		utilizing Platform	ļ									
		based design.•	ļ									
		Appreciate high	ļ									
		performance										
		algorithms available										
		for ASICs		✓	•	✓	✓	✓	 ✓	,	<u> </u>	
				ELI	ECTIV	E-II						



	1	THANJA	VUR-	613403-	TAMIL	NADU							
19271E3	Internetwo	• Understand the state-	I										
3AP	rking and	of-art developments in	I										
	Multimedi	Internet technologies	I										
	a	and applications	I										
		• Understand the	I										
		development of next	I										
		generation Internet	I										
		• Appreciate the	I										
		principles used in	I										
		designing Internet	I										
		protocols for multimedia	I										
		applications, and so	I										
		understand why standard	I										
		protocols are designed	I										
		the way that they are	I										
		• Be able to solve	I										
		problems for the design	I										
		of multimedia	I										
		applications on Internet.	~	~	,	✓	✓	~	~	~	✓	✓	
19271E3	Digital	• Explain the	I										
3BP	Image	fundamentals digital	İ										
	Processing	image processing.	I										
		Describe image various	I										
		segmentation and feature	İ										
		extraction techniques for	1										
		image analysis.	1										
		• Discuss the concepts of	1										
		image registration and	1										
		fusion.	~	~	•	✓	✓	~	✓	~	· •	✓ ✓	



 -	i	THANJA	VUR-	613403-	TAMIL	NADU		1		1			
19271E3	LASER	Recognize and classify	I										
3CP	Communi	the structures of Optical	I										,
	cation	fiber and types.	I										,
		• Discuss the channel	I										
		impairments like losses	I										
		and dispersion.	I										
		 Analyze various 	I										
		coupling losses.	I										
		 Classify the Optical 	I										
		sources and detectors	I										
		and to discuss their	I										
		principle.	1										
		 Familiar with Design 	1										
		considerations of fiber	I										
		optic systems.	1										
		• To perform	1										
		characteristics of optical	1										
		fiber, sources and	1										
		detectors, design as well	1										
		as conduct experiments	1										
		in software and	I										
		hardware, analyze the	1										,
		results to provide valid	1										
		conclusions.	~	~	•	<u>✓</u>	√	· ~	~	,	<u>/</u>	· •	



1007150	1 ATEN 40	THANJA	VUR-	613403-	TAMIL	NADU	1 1	1	ı	1		1 1	1	Ī
19271E3	MEMS	Ability to understand												
3DP	and	the operation of micro												
	NEMS	devices, micro systems												
		and their applications												
		Ability to design the												
		micro devices, micro												
		systems using the												
		MEMS fabrication												
		process. Gain a												
		knowledge of basic												
		approaches for various												
		sensor design Gain a												
		knowledge of basic												
		approaches for various												
		actuator design												
		Develop experience on												
		micro/nano systems for												
		photonics . Gain the												
		technical knowledge												
		required for computer-												
		aided design,												
		fabrication, analysis and												
		characterization of												
		nano-structured												
		materials, micro- and												
		nano-scale devices.	~	~	~	✓		~	~	~	~	· •		
				EEL	ECTIV	EIII								



i	1	THANJA	VUR-	613403-	TAMIL	NADU	i i	ı	i	1 1	ĺ	i	i
19271E4	Digital	 Apply basic principles 											
3AP	Communi	of digital											
	cation	communication											
	Receivers	techniques.											
	Receives	• Discuss on receivers											
		for AWGN & Fading											
		channel											
		Describe various											
		synchronization											
		techniques.											
		Design adaptive											
		equalization algorithms											
		to satisfy the evolving											
		demands in digital											
		communication.	~	~	,	/ /	~	· •	· ~	~	- I	/	
19271E4	Soft	Knowledge on											
3BP	Computin	concepts of soft											
021	g	computational											
	5	techniques.											
		• Able to apply soft											
		computational											
		techniques to solve											
		various problems.											
		Motivate to solve											
		research oriented											
		problems.											
		^	~	~	•	/ /	~	· •	· ~	~	- -	/	
19271E4	Communi	Explain digital											
3CP	cation	signature standards											
	Network	• Discuss authentication											
	Security	• Explain security at											
	Security	different layers	~	~	,	/ /	~	· •	· ~	~	 	/	



		THANJA	VUR-6	13403-T	AMILNA	DU							
19271E4	Radar	 Know how a radar is 											
3DP	Signal	built and understand											
	Processing	the principles of											
		behavior.											
		Have a basic											
		understanding of how											
		radar signals propagate											
		through a medium, and											
		the mechanisms for											
		signal reflection from											
		the target and				_					_	_	
		unwanted reflections	✓		~	~	~		~	~	~	~	
		("clutter").						✓					
		 Understand the basic 											
		principles of signal											
		processing done in a											
		radar.											
		Be able to estimate											
		the performance of a											
		radar based on											
		parameters provided,											
		for example at what											
		distance the radar will											
		be able to detect targets											
		of a given size.											
		 Be able to assess what 											
		type of radar is suitable											
		for which task (choice of											
		waveforms, frequency											
		bands, etc).											
		Be able to use											
		numerical tools to		,					,				
		calculate radar	√	√	√_				√	_√ _	√_	_•	
		performance and to	~	~	✓	~	√ _	_•	~	~	~	✓	



	ı	THANJA	VUR-6	13403-	IAMILI	IADU					1
		simulate the signal	I								
		processing in a radar.	I								
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				ELECT	VE IV SE	M-V					
19271E5	Software	Compare MAC and		ELECT	VE IV SE	M-V					
19271E5 1AP	Software Defined	Compare MAC and network layer design for		ELECT	VE IV SE	M-V					
19271E5 1AP	Defined	network layer design for software defined radio•		ELECT	VE IV SE	M-V					
		network layer design for software defined radio• Discuss cognitive radio		ELECT	VE IV SE	M-V					
	Defined	network layer design for software defined radio• Discuss cognitive radio for Internet of Things		ELECT	VE IV SE	M-V					
1AP	Defined Radio	network layer design for software defined radio• Discuss cognitive radio for Internet of Things and M2Mtechnologies		ELECT	VE IV SE	M-V					
1AP 19271E5	Defined Radio	network layer design for software defined radio• Discuss cognitive radio for Internet of Things and M2Mtechnologies • Discuss satellite		ELECT	VE IV SE	M-V					
1AP	Defined Radio Satellite Communi	network layer design for software defined radio• Discuss cognitive radio for Internet of Things and M2Mtechnologies • Discuss satellite navigation and global		ELECT	VE IV SE	M-V					
1AP 19271E5	Defined Radio	network layer design for software defined radio• Discuss cognitive radio for Internet of Things and M2Mtechnologies • Discuss satellite navigation and global positioning system		ELECT	VE IV SE	M-V					
1AP 19271E5	Defined Radio Satellite Communi	network layer design for software defined radio• Discuss cognitive radio for Internet of Things and M2Mtechnologies • Discuss satellite navigation and global		ELECT	VE IV SE	M-V					



19271E5	CDMA	Analyze MIMO	WUR-	613403-	TAMIL	NADU	1	1		1	
1CP	Systems	system.									
ICI	Systems	• Discuss millimeter									
		wave communication.									
		Demonstrate software									
		defined radio and									
		cognitive radio.									
19271E5	Speech	• Identify the various	~		Ť	~			~		<u> </u>
		temporal, spectral and									
1DP	Processing	cepstral features									
	and										
	Synthesis	required for identifying									
		speech units – phoneme,									
		syllable and word									
		• Determine and apply									
		Mel-frequency cepstral									
		coefficients for									
		processing all types of									
		signals									
		• Justify the use of									
		formant and									
		concatenative									
		approaches to speech									
		synthesis									
		 Identify the apt 									
		approach of speech									
		synthesis depending on									
		the language to be									
		processed									
		• Determine the various									
		encoding techniques for									
		representing speech.	~	~	~	· •	✓		~	~	
					ELEC	CTIVE V					
19271E5	Wavelets	• The students will be									
2AP	and Multi	able to apprehend the									
2111	Resolution	detailed knowledge									
	Resolution	about the Wavelet	~	~	~	_	✓	~	~	· ,	



1	1 _	THANJA	VUR-	613403-	TAMIL	NADU	ı	1			ı	1		1
	Processing	transforms& its												
		applications.												
19271E5	High	 Diagnose problems and 												
2BP	performan	make minor repairs to												
	ce	computer networks												
		using appropriate												
	Communi	diagnostics software												
	cation	• Demonstrate how to												
	Networks													
		correctly maintain LAN												
		computer systems												
		• Maintain the network												
		by performing routine												
		maintenance tasks												
		Apply network												
		management tools	~	~	,	✓	√	•	~	~	~	/ ,	/	
19271E5	Advanced	• The student will be												
2CP	Microproc	able to work with												
201	essors and	suitable microprocessor /												
	Microcont	microcontroller for a												
		specific real world												
	rollers	application.						-						
19271E5	Daganfigu		~	~	,	✓	•		~	~	~			
	Reconfigu	1. Identify the need												
2DP	rable	for reconfigurable												
	computing	architectures												
		2. Discuss the												
		architecture of												
		FPGAs												
		3. Point out the												
		salient features of												
		different												
		reconfigurable												
		architectures												
		4. Build basic		_		ا ا	ļ	_						
		4. Dullu Dasic	~	✓	•	✓	✓		✓	✓	v	1		



		modules using any HDL 5. Develop applications using any HDL and appropriate tools 6. Design and build an SoPC for a particular application		613403-									
				Е	LECTIVE	VI							
19271E5 3AP	Simulatio n of Communi cation Networks	• Apply Monte Carlo simulation• Discuss Lower Layer and Link Layer Wireless Modeling• Compare channel modeling and mobility modeling	\	~	·		~	· ~	~	·	· •		
19271E5 3BP	Medical Imaging	 Explain computer aided tomography Discuss ultrasonic systems Outline magnetic resonance imaging 	\	~	,		~	· •	~	,	•	,	



19271E5	Mobile	Identify different	WOR-	613403-	TAME	ADO		ĺ					
3CP	ADHOC	issues in wireless ad hoc											
	networks	and sensor networks.											
		• To analyze protocols											
		developed for ad hoc											
		and sensor networks.											
		• To identify and address											
		the security threats in ad											
		hoc and sensor											
		networks.											
		 Establish a Sensor 											
		network environment for											
		different type of											
		applications.	~	~	~	~	✓	~	~	✓	✓		
19271E5	Ultra	radio technology that											
3DP	Wide	can use a very low											
	Band	energy level for short-											
	Communi	range, high-bandwidth											
	cation	communications over a											
		large portion of the											
		radio spectrum	~	~	~	~	✓		~	~	~	✓	
			·	-	SEM VI					·			



19271P61	Project	The student should be	W OIC-	613403-		IVADO					
P	Phase – II	able to:									
1	Titase II	Apply fundamental and									
		disciplinary concepts									
		and methods in ways									
		appropriate to their									
		principal area of study.									
		Demonstrate skill and									
		knowledge of current									
		information and									
		technological tools and									
		techniques specific to									
		the professional field of									
		study.									
		• Use effectively oral,									
		written and visual									
		communication.									
		• Identify, analyze, and									
		solve problems									
		creatively through									
		sustained critical									
		investigation.									
		 Integrate information 									
		from multiple sources.									
		• Demonstrate an									
		awareness and									
		application of									
		appropriate personal,									
		societal, and									
		professional ethical									
		standards.									
		• Practice the skills,									
		diligence, and									
		commitment to									
		excellence needed to									
		engage in lifelong]]	~		~		



		learning.						