

## ER.PERUMAL MANIMEKALAI COLLEGE OF ENGINEERING

COURSE OUTCOMES



## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

REGULATION: 2013

S.NO	COURSE NAME		COURSE OUT COMES		
	I-	C101.1	Understand the basic grammatical functions and vocabulary.		
	Snglish	C101.2	Speak and write clearly and communicate using appropriate communicative strategies		
1	echnical E (HS6151)	C101.3	Write Informal letters /blog/email with a wide range of vocabulary		
	C101- Technical English – (HS6151)	C101.4	listen/view and comprehend different spoken discourses and passages in different accents.		
	C101	C101.5	Read and write different genres of texts.		
	I-	C102.1	Understand the Concepts of Diagonalization of matrices.		
	natics 1)	C102.2	Apply simple techniques for testing the convergence of sequences and series		
2	Mathema (MA6151)	C102.3	Use the differentiation concepts to differentiate functions		
	C102 - Mathematics - I (MA6151)	C102.4	Apply partial differentiation in functions of several variables.		
	C10	C102.5	Apply integration concepts to compute multiple integrals.		
	I	C103.1	Able to classify various crystal structures and its parameters.		
	C103 - Egineering Physics – I (PH6151)	C103.2	Explain the basics of properties of matter, the thermal properties of materials like thermal conductivity and its application.		
3		C103.3	Acquire knowledge on the concepts of quantum theory and its application in tunneling microscopes.		
	· Egine	C103.4	Understands the basic concepts of Acoustics in buildings and the production of ultrasonic waves and its application in NDT and medical field.		
	C103 -	C103.5	Understands the concept of photonics and its usage in the production of different types of laser and the principle of fibre optics with its application in various fields.		
		C104.1	Understand the types of water and water treatment techniques.		
	eering Y615	C104.2	Utilize the various adsorbent in industries.		
4	C104 - Engineering Chemistry-1 (CY6151)	C104.3	Classify the types of alloys and understand the component present in the alloys.		
	104 - emistr	C104.4	Explain the types of fuels and manufacturing of secondary fuels.		
	C C	C104.5	Illustrate the types of energy resources.		
	<u> </u>	C105.1	Know the organization of digital Computer		
	uter E6151)	C105.2	Design C Programs for problems.		

S.NO	COURSE NAME		COURSE OUT COMES
5	C105 - Compi programming (G	C105.3	Write and execute C programs using Arrays and Strings for simple applications
	C105 . gramr	C105.4	Usage of Pointers and Function in C programming
	pro	C105.5	Design Programming using Structures and Union
	_	C106.1	Discuss about conics and orthographic views of engineering components
	eering 6152)	C106.2	Draw the projection of points, lines and planes
6	Engine ss (GE	C106.3	Classify solids and projection of solids at different positions
	C106 - Engineering Graphics (GE6152)	C106.4	Show sectioned view of solids and development of surface
	0	C106.5	Draw isometric projection and perspective views of an object/solid
	sec (	C107.1	Know about Data Manipulation in MS Office Packages
	C107 - Computer Practices Laboratory (GE6161)	C107.2	Apply good programming design methods for program development using Decision making and looping statements.
7	mpute ory (C	C107.3	Design and implement C programs using strings and arrays.
	7 - Co	C107.4	Design and implement C programs using functions and string functions.
	C10'	C107.5	Develop recursive functions and develop programs using structures and unions.
	ctices 2)	C108.1	Apply the knowledge of pipeline connections to household fittings and industrial buildings.
	ig Pra iE616	C108.2	Prepare the different joints in roofs, doors, windows and furniture.
8	ineering Practi ory (GE6162)	C108.3	Perform step turning operation in a lathe.
	C108 - Engineering Practices Laboratory (GE6162)	C108.4	Perform the various welding processes and know about its applications.
	C108	C108.5	Produce a funnel using sheet metal.
	nistry (3)	C109.1	Understand the concept of Laser and its diffraction for different usage
	Chen 3E616	C109.2	Able to find the velocity of ultrasonic waves in different liquid.
9	C109 - Physics and Chemistry Laboratory - I (GE6163)	C109.3	Apply principle of diffraction to determine the wavelength of visible spectrum.
	- Physi	C109.4	Understand the various parameter affecting the thermal conductivity of poor conductor
	C109 Lat	C109.5	Analyze the various modulus of elasticity of different types of materials.
		C110.1	Understand basic grammar and know to engage in conversation.
	nglist )	C110.2	Write and produce different types of technical write ups.
10	echnical Er (HS6251)	C110.3	Read and write different genres of technical texts.
	Technical English – II (HS6251)	C110.4	Create Job applications and Resume / E - Resume

S.NO	COURSE NAME		COURSE OUT COMES		
	C110 -	C110.5	Express opinions and initiate a discussion using appropriate communicative strategies		
		C111.1	Understand the concepts of Vector Calculus and their applications.		
	tics – J	C111.2	Interpret the Concepts of analytic functions and Conformal mapping.		
11	Mathemati (MA6251)	C111.3	Understand the integration concepts on Complex integration		
	C111 - Mathematics – II (MA6251)	C111.4	Demonstrate the main concepts on Laplace transformations and their applications		
	C11	C111.5	Use various techniques in solving differential equations.		
	II -	C112.1	Gain knowledge on the conducting materials and its properties		
	hysics –	C112.2	Acquire knowledge on the concepts of carrier concentration in intrinsic and extrinsic semiconductors and its determination using Hall effect.		
12	incering P (PH6251)	C112.3	Classify the different types of magnetic materials and know the properties of superconductors.		
	C112 - Engineering Physics – II (PH6251)	C112.4	Understands the basic concepts of dielectric materials and its usage in capacitors and transformers.		
	C112	C112.5	Able to classify the different modern engineering materials and its application in different fields.		
	51)	C113.1	Illustrate the types of electrochemical cell		
	ering	C113.2	Summarize the types of corrosion and corrosion prevention methods.		
13	Engine – II (C	C113.3	Explain the types of fuels and manufacturing of secondary fuels.		
	C113 - Engineering Chemistry – II (CY6251)	C113.4	Classify the types of alloys and understand the component present in the alloys.		
		C113.5	Analyze the sample using various spectroscopy.		
	onic )	C114.1	Illustrate the working principle of basic semiconductor and its characteristics		
	Electro	C114.2	Summarize the current controlled device and its relevant parameters		
14	C114 - EC6201 Electronic Devices (EC6201)	C114.3	Examine the classification of voltage controlled device and its modes of operation		
	14 - Eo Devic	C114.4	Infer the recent semiconductor devices used in industries		
	CI	C114.5	Demonstrate the high power devices and its applications		
	ory	C115.1	Relate the basics of electric circuits and its analysis		
	EE6201 Circuit Theory (EE6201)	C115.2	Explain the network reduction techniques and circuit theorems for DC/AC circuits		
15	201 Circa (EE6201)	C115.3	Illustrate the resonance phenomenon in coupled circuits		
	; EE620	C115.4	Analysis of transient response using conventional and Laplace transform methods		

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	C115	C115.5	Illustrate knowledge on three phase circuits in brief	
	stry (	C116.1	Analyze the various modulus of elasticity of different types of materials.	
	Chemis 3E6262	C116.2	Understand the various parameters affecting the band gap of semiconductor.	
16	C117 - Physics and Chemistry Laboratory - II (GE6262)	C116.3	Apply principle of diffraction to determine the parameters of optical prism.	
	7 - Phy aborat	C116.4	Analyze the co-efficient of viscosity of different liquids.	
	C117 La	C116.5	Apply the basic principles of optics to determine the thickness of thin materials.	
	vices	C117.1	Describe the characteristics of PN junction diode, semiconductor	
	d Dev 11)	C117.2	Design a voltage regulator using Zener diode	
17	Circuits and D Lab (EC6211)	C117.3	Describe elaborately about the voltage controlled and current controlled device	
	C117 - Circuits and Devices Lab (EC6211)	C117.4	Verify the theorems used for transient analyze	
	C117	C117.5	Design a rectifier and inverter using SCR and diodes.	
		C201.1	Apply various techniques in solving the partial differential equations.	
	nd Pa ations	C201.2	Evaluate the Fourier Series using the different methods of integral.	
18	C201 Transforms and Partial Differential Equations (MA6351)	C201.3	Analyze the application of partial differential equations in a large number of engineering subjects like heat conduction and wave equations	
		C201.4	Apply integration techniques to formulate the Fourier transforms.	
		C201.5	Apply Z - transforms and Difference equations to solve some of the engineering problems.	
	ering n	C202.1	Understand the concept of D.C machines, characteristic and their applications.	
1.0	C202 Electrical Engineering and Instrumentation (EE6352)	C202.2	Understand and draw the equivalent circuit of transformer and calculate regulation efficiency.	
19	ctrical En nstrumen (EE6352)	C202.3	Ability to know the basics of 3-phase induction motor and synchrons machine.	
	2 Ele and I	C202.4	Understand the basic measurement and instrumentation based devices.	
	C20	C202.5	Understand the relevance of digital instruments in measurements.	
	ed ata 1)	C203.1	Understand the concepts of object oriented programming using C++	
	Orient and D 3C630	C203.2	Demonstrate simple applications by using inheritance, polymorphism and classes	
20	C203 Object Oriented Programming and Data Structures (EC6301)	C203.3	Remember the different methods with help of abstract ADT, stack, queues and lists	
	7203 ( rograr Struct	C203.4	Apply the concepts of non linear data structures and their representation	
	P <sub>1</sub>	C203.5	Apply the sorting and searching method using data structures.	
	onics	C204.1	Understand the postulates and laws of number system, minterm, Maxterm and minimization techniques	

S.NO	COURSE NAME	COURSE OUT COMES		
	Electr 02)	C204.2	Design the combinational circuit using logic functions.	
21	gital I	C204.3	Design and implement flipflops, counters and shift registers	
	C204 Digital Electr (EC6302)	C204.4	Discuss the characteristics of memory, IC, logic family and implement digital function using PLD's.	
	Ü	C204.5	Design and implement synchronous and asynchronous sequential circuits.	
	sms	C205.1	Classify the signals or systems based on its characteristics	
	d Syste	C205.2	Appry Fourier and the Laplace transforms to analyze continuous-time Signals.	
22	gnals and (EC6303)	C205.3	Design continuous time LTI systems using Fourier and Laplace Transfor	
	C205 Signals and Systems (EC6303)	C205.4	Apply Z and Fourier transforms to analyze discrete-time Signals.	
	C20	C205.5	Design discrete time LTI systems using Fourier and Z Transforms	
	I -sı	C206.1	Understand the ac and dc load line, transistor circuits with different biasing and compensation methods.	
	Circui	C206.2	Design simple amplifier circuits of Bipolar Junction Transistor using small signal model.	
23	C206 Electronic Circuits- I (EC6304)	C206.3	Analyze the small signal equivalent circuits of Field Effect Transistor and MOSFETS.	
	6 Ele	C206.4	Understand the frequency response of transistor amplifiers.	
	C2(	C206.5	Design rectifier, voltage regulator and power supplies.	
	C207 Analog and Digital laboratory (EC6311)	C207.1	Determine the frequency response of CE/CC/CB/CS amplifiers.	
		C207.2	Observe the characteristics of Darlington and differential amplifier.	
24		C207.3	Analyze the bandwidth of single stage and multistage amplifiers.	
		C207.4	Design combinational circuits for arithmetic, code conversions and comparison operations.	
		C207.5	Simulate analog and digital circuits using simulation tool.	
	ata ory	C208.1	Sketch the C++ program using OOPS concept.	
	and E oorate [2]	C208.2	Use the concepts of classes in correct manner.	
25	OOPS and tures labor (EC6312)	C208.3	Investigate the appropriate data structure for given problems.	
	C208 OOPS and Data Structures laboratory (EC6312)	C208.4	Examine the practical applications of data structures.	
	C2 St	C208.5	Test the sorting functions using C++.	
	and	C209.1	Explain the basic concepts of probability and have the knowledge of standard distributions	
	ility a cesse 51)	C209.2	Understand the concepts of probability in two dimensional random variables	
26	Probabilit dom Proces (MA6451)	C209.3	Apply the concepts of stationary, Markov and Poisson process	
	C209 Probability and Random Processes (MA6451)	C209.4	Understand the concepts of Correlation and Spectral densities	
	S. H	C209.5	Interpret the response of linear time invariant system with random inputs	
	cuits	C210.1	Design feedback amplifiers and understand its characteristics	

S.NO	COURSE NAME		COURSE OUT COMES		
	c Cir 101)	C210.2	Construct RC, LC and Crystal Oscillators		
27	C210 Electronic Cir II (EC6401)	C210.3	Analyze the performance characteristics of tuned amplifiers.		
	) Elec II (	C210.4	Construct wave shaping and multivibrators circuits for given specification		
	C21(	C210.5	Understand the operation of blocking Oscillators and time base generators.		
	n	C211.1	Understand the concepts of generation and detection various AM Schemes		
	cation 402)	C211.2	Understand the concepts of modulation and demodulation of FM Waves.		
28	211 Communicati Theory (EC6402)	C211.3	Apply the concepts of random process to design of communication systems.		
20	Com cory (	C211.4	Analyze the noise performance of AM and FM systems.		
	C211 Communication Theory (EC6402)	C211.5	Apply the channel capacity and source coding theorem for various performance parameters.		
	ic	C212.1	Understand field potentials due to static changes and static magnetic fields.		
	agnet 403)	C212.2	Explain how materials affect electric and magnetic fields.		
29	C212 Electromagnetic Fields (EC6403)	C212.3	Interpret the relation between the fields under time varying situations.		
	2 Elec ields	C212.4	Understand the principles of propagation of uniform plane waves.		
	C212	C212.5	Understand the fundamental relations for electrostatic and magnetostatics field, boundary conditions and wave equations.		
	C213 Linear Integrated Circuits (EC6404)	C213.1	Understand the current mirror circuits, operational amplifier stages and internal circuit diagram of IC 741.		
		C213.2	Understand the applications of op-amp and able to design circuits using op-amp.		
30		C213.3	Demonstrate the analog multiplier using emitter coupled pair, Gilbert Multiplier cell, analyze PLL and its applications.		
		C213.4	Understand the operation of data converter circuits		
		C213.5	Understand special function ICs and waveform generators		
	1 (5)	C214.1	Identify the various control system components and their representations		
	C214 Control System Engineering (EC6405)	C214.2	Analyze the various time domain specifications for 1st order and 2nd order systems		
31	ontro ring (	C214.3	Analyze various frequency response plot and its system.		
	2214 C	C214.4	Apply the concepts of various system stability criterions		
	) E	C214.5	Analyze the various control system using state variable model.		
	tion	C215.1	Analyze various types of feedback amplifiers.		
	C215 Circuit and Simulation Integrated laboratory (EC6411)	C215.2	Design of oscillators, tuned amplifiers, wave-shaping circuits and multivibrators.		
32	cuit and S rated labor (EC6411)	C215.3	Demonstrate the oscillators and tuned amplifiers using SPICE Tool.		
	5 Circu ntegrat (E	C215.4	Demonstrate the wave-shaping circuits and multivibrators using SPICE Tool.		
	C21:	C215.5	Demonstrate the voltage and current time base circuits using SPICE Tool.		

S.NO	COURSE NAME	COURSE OUT COMES		
	ated y	C216.1	Design of oscillators and amplifiers using Op-Amp	
	ntegr rator 2)	C216.2	Design of filters using Op-Amp and analyze the frequency response.	
33	Jinear Inte uit labora (EC6412)	C216.3	Investigate the working of PLL and its frequency multiplier circuit.	
	C216 Linear Integrated Circuit laboratory (EC6412)	C216.4	Design of DC power supply circuit using ICs.	
	C21	C216.5	Analyze the performance of oscillators and multivibrators using PSPICE	
	and 36461)	C217.1	Classify the starters for various applications and test the characteristics of DC shunt machines under various conditions.	
	neering tory (EI	C217.2	Compute the transfer function of a DC shunt generator and the regulation of three phase alternator.	
34	C217 Electrical Engineering and Control System laboratory (EE6461)	C217.3	Analyze the performance of a single phase transformer and performance curves of AC machines.	
	' Electri	C217.4	Construct the bridge network circuit to measure the value of passive elements and analyze the stability of linear system through the simulation software.	
	C217 Contro	C217.5	Illustrate the effect of P, PI and PID controllers and design the Lead & Lag compensators.	
	ation	C301.1	Describe the basic concepts of sampling & quantization of signals.	
	munica  )	C301.2	Understand the various waveform coding schemes and their performance.	
35	C301 Digital Communication (EC6501)	C301.3	Design and implement baseband transmission schemes and their noise performance.	
		C301.4	Analyze the spectral characteristics of band pass signaling schemes and their noise performance.	
	C30	C301.5	Detect and correct the errors through various error control coding schemes.	
	ıf (2)	C302.1	Apply DFT for the analysis of digital signals & systems	
	oles o gnal CC65(	C302.2	Design Infinite impulse response filters for the given specification	
36	302 Principles Digital Signal cessing (EC65	C302.3	Design Infinite impulse response filters for the given specification	
	C302 Principles of Digital Signal Processing (EC6502)	C302.4	Understand the finite Word length effect on filters.	
	C.	C302.5	Understand multi-rate signal processing and its applications.	
	nes	C303.1	Understand the propagation of signals through transmission lines.	
	on Li iides )	C303.2	Analyze signal propagation at Radio frequencies.	
37	ansmissic Wave Gu (EC6503)	C303.3	Analyze the impedance matching using stubs in transmission lines.	
	3 Transmission Li and Wave Guides (EC6503)	C303.4	Design constant k and m-derived sections of low pass and high pass filters	
	C303 Transmission Lines and Wave Guides (EC6503)	C303.5	Understand the wave behavior in guiding structures and design cavity resonators	
	tal ring	C304.1	Understand the types ,characteristics of eco system and biodiversity.	
	nmen ginee 1)	C304.2	Explain the types of pollution and its causes.	
38	04 Environmental ace and Engineering (GE6351)	C304.3	Explain the importance of natural resources	
	04 En	C304.4	Understand the environmental problems.	

S.NO	COURSE NAME	COURSE OUT COMES		
	C3 Scie	C304.5	Understand the importance of women, child education and HIV /Aids.	
	sor er	C305.1	Understand the architecture of 8086 microprocessor.	
	roces ntroll 4)	C305.2	Understand the Bus structure of 8086 and execute programs based on 8086.	
39	Micropro Aicroconti (EC6504)	C305.3	Construct Memory Interfacing circuits.	
	C305 Microprocessor and Microcontroller (EC6504)	C305.4	Develop 8051 microcontroller based systems.	
	C3(	C305.5	Analyze I/O interfacing circuits based on 8051 microcontroller	
	essing )	C306.1	Design the various types of continuous signal and discrete signal.	
	C306 Digital Signal Processing laboratory (EC6511)	C306.2	Demonstrate their abilities towards DSP processor based implementation of DSP system.	
40	tal Sign atory (E	C306.3	Calculate and analyze the continuous and discrete signal using FFT algorithm.	
	Digit labor	C306.4	Analyze Finite word length effect on DSP systems.	
	C306	C306.5	Implement adaptive filters for various applications of DSP.	
	n 5512)	C307.1	Design the various types of continuous and discrete signals	
	icatio (EC6	C307.2	Design and verify various modulation and demodulation circuits	
41	C307 Communication System laboratory (EC6512)	C307.3	Demonstrate band pass and baseband digital signaling schemes through simulation of FSK, PSK, QPSK, QAM and DPSK.	
		C307.4	Apply various channel coding schemes and demonstrate their capabilities towards the improvement of noise performance of communication system	
	Syst	C307.5	Simulate and validate the various functional modules of a communication system	
	r and ratory	C308.1	Demonstrate and apply working of programs in 8086 microprocessor and 8051 microcontroller.	
	cessor labor 3)	C308.2	Explain various assembly language programs.	
42	C308 Microprocessor and Microcontroller laboratory (EC6513)	C308.3	Develop the basic knowledge of microprocessor and microcontroller interfacing and their application.	
	8 Mi rocor (	C308.4	Design the system using capabilities of stack program counter and status register and show how these are used to execute a machine code program.	
	C30 Mic	C308.5	Execute arithmetic, logical operations, unpacked BCD to ASCII using 8051.	
	1)	C309.1	Understand the concepts of management practices and its impacts in current scenario	
	les of 1G685	C309.2	Illustrate the concepts, process and importance of managerial skills like planning, decision making and its application in various management practices.	
43	incip ent (N	C309.3	Describe the basis and designs of organizations and its implementation in management effectiveness	
	C309 Principles of Management (MG6851)	C309.4	Illustrate the importance of directing and how it is attained by managerial skills like motivation and leadership	
	C Ma;	C309.5	Understand the needs, process and application of controlling and its influence in management processes.	
	t (03)	C310.1	Understand the basics of computer system, addressing modes and instruction formats.	
	Computer ure (CS630	C310.2	Apply fixed and floating point arithmetic methods and find solutions.	
44	Computer ture (CS6303)	C310.3	Analyze the data path of a processor and pipe lining concepts with its limitations.	

S.NO	COURSE NAME	COURSE OUT COMES		
	C310 Architec	C310.4	Understand the concepts of parallism, challenges and multicore processors.	
	Arc	C310.5	Analyze various memory technologies and their organization.	
	r 51)	C311.1	Explain the division of network functionalities into layers.	
	iputei SS65	C311.2	Outline the media access control and internetworking protocols.	
45	Corr ks (C	C311.3	Construct routing tables using various routing protocols.	
	C311 Computer Networks (CS6551)	C311.4	Demonstrate the congestion control mechanism in TCP.	
	9Ν	C311.5	Relate the protocols used in network applications.	
	n	C312.1	Understand the basics of CMOS circuits and CMOS technology	
	C312 VLSI Design (EC6601)	C312.2	Design the logic circuits of combinational devices and understand the concept of power dissipation.	
46	VLSI Do EC6601)	C312.3	Design and analysis of sequential logic circuits.	
	312	C312.4	Understand the building blocks of adder and multipliers. Circuits	
	C	C312.5	Design and Implement Full custom and Semicustom ICs.	
	/ave	C313.1	Describe the concepts of antenna and it's radiation parameters.	
	nd W C660	C313.2	Demonstrate the characteristics of aperture and slot antenna.	
47	C313 Antenna and Wave propagation (EC6602)	C313.3	Explain the operation of the array antenna.	
		C313.4	Analyze the various types of special antenna and measurement of its parameters.	
		C313.5	Analyze various modes of wave propagation and atmospheric structure	
	C314 Medical Electronics (EC6001)	C314.1	Understand the basics of cell biology and the bio-potentials.	
		C314.2	Interpret various biochemical processes.	
48		C314.3	Hustrate the working of assistive devices.	
	C314 Me	C314.4	Understand the uses of radiation for diagnostic andbio-telemetry	
	Ele	C314.5	Understand the recent instruments developed in medical fields	
	orks .)	C315.1	Computers.	
	15 Computer Netwo laboratory (EC6611)	C315.2	Elaborate the different protocols used in computer Communication.	
49	outer]	C315.3	Illustrate the Program using sockets	
	Comp	C315.4	Implement and compare the various routing algorithms	
	C315 Computer Networks laboratory (EC6611)	C315.5	Experiment the various simulation tools needed for Communication of computers	
		C316.1	Develop the HDL code for basic as well as advanced digital Integrated circuits	
	esign 26612	C316.2	Import the logic modules into FPGA Boards.	
50	LSI E y (EC	C316.3	Perform the Synthesization, Place and Route the digital IPs.	
	C316 VLSI Design laboratory (EC6612)	C316.4	Design, Simulate and Extract the layouts of Analog IC Blocks using EDA tools.	
	C31	C316.5	Simulate the modern chip manufacturing software tools.	

S.NO	COURSE NAME		COURSE OUT COMES		
	pun ,	C317.1	Take international examination such as IELTS and TOEFL		
	Communication and t Skills laboratory (GE6674)	C317.2	Make presentations and Participate in Group Discussions.		
51	ommunics Skills labor (GE6674)	C317.3	Successfully answer questions in interviews.		
	17 Communication a Soft Skills laboratory (GE6674)	C317.4	Develop felicity of expression and familiarity with technology enabled  Communication		
	C317 Sof	C317.5	Analyse, distinguish and Prepare their own resume and report		
	ring	C401.1	Design RF Network and understand the parameters of the network		
	RF and Enginee 6701)	C401.2	Design and analyze RF transistor amplifiers		
52	101 RF а1 vave Engii (EC6701)	C401.3	Explain the active and passive microwave devices and components		
	C401 RF and Microwave Engineering (EC6701)	C401.4	Generate microwave signals and microwave amplifiers		
	Mica	C401.5	Measure and analyze microwave signals		
	on and	C402.1	Understand the basic principles behind optical fiber transmission, different modes and configurations.		
	Optical Communication and Networks (EC6702)	C402.2	Analyze various signal degradation factors and their effects on optical fiber transmission.		
53	Optical Communicati Networks (EC6702)	C402.3	Understand the concepts of various optical sources and their coupling methods to a fiber.		
		C402.4	Explain the operation of fiber optic receiver and various measurement methods.		
	C02	C402.5	Analyze the various optical network and factors affecting system performance.		
	Real 03)	C403.1	Explain the fundamental concepts of designing Embedded and real time systems.		
	C403 Embedded and Real Time Systems (EC6703)	C403.2	Describe the computing required for real time embedded systems.		
54	bedde	C403.3	Summarize the concepts of scheduling in real time operating systems		
	Em] e Sys	C403.4	Analyze the techniques required to create a complex embedded systems		
	C403 Tim	C403.5	Apply the concepts of embedded system design in creating the model real time application		
	e	C404.1	Understand the fundamental concepts of a digital image processing system.		
	C404 Digital Image Processing (IT6005)	C404.2	Demonstrate the image enhancement techniques in spatial and frequency domain.		
55	ngital	C404.3	Apply image restoration and segmentation methods in images.		
	)4 D	C404.4	Apply the concepts of wavelets, compression techniques in images.		
	C4( Pro	C404.5	Represent the boundary using chain codes, signature and boundary descriptors, recognize using pattern based methods.		
	1 ure	C405.1	Evaluate the parameters of different architecture.		
	Advanced : Architecture :26009)	C405.2	Analyze the performance of different ILP techniques.		
56	Advan r Archit C6009)	C405.3	Apply the concept of data level parallelism and vector architecture.		

S.NO	COURSE NAME		COURSE OUT COMES		
	C405 Compute	C405.4	Understand thread level parallelism and memory architecture.		
	Con	C405.5	Identify cache and memory related issues in multi processors.		
	ic.	C406.1	Understand the concepts of solid state physics and wave nature of lights.		
	ctron: (016)	C406.2	Explain the concepts of display devices and laser.		
57	to Ele (EC6	C406.3	Understand the construction and working of optical detectors.		
	C406 Opto Electronic Devices (EC6016)	C406.4	Illustrate the concepts of modulators and optic devices.		
	C41	C406.5	Understand the concepts of integration process and guided wave devices		
	ıtory	C407.1	Understand to write a program in ARM 7 specific application.		
	labora 1)	C407.2	Understand the interfacing of the memory units and write the program for the memory related operations.		
58	C407 Embedded laboratory (EC6711)	C407.3	Understand the interfacing of A/D and D/A convertors and write the programs for the keyboard display, motor and sensor with ARM.		
	7 En	C407.4	Analyze the performance of the interrupt		
	C40	C407.5	Formulate a mini project using embedded systems.		
	Aicrowave 6712)	C408.1	Understand the characteristics of klystron and Gunn diode.		
		C408.2	Solve theoretical S – Parameter measurement with the Practical value.		
59	l and ]	C408.3	Implement S – Matrix characterization.		
	C408 Optical and Microwave laboratory (EC6712)	C408.4	Evaluate the radiation pattern, gain and directivity of any Antenna.		
		C408.5	Design fiber optic analog and digital link.		
	(108	C409.1	Understand the characteristics of wireless channels and fading concepts.		
	ess EC68	C409.2	Understand and implement various multiple access techniques and cellular architecture.		
60	C409 Wireless munication (ECC	C409.3	Design and implement different signaling schemes for fading channels.		
	409 unica	C409.4	Analyze the performance of various multipath mitigation techniques.		
	C409 Wireless Communication (EC6801)	C409.5	Implement system with transmit/receive diversity and MIMO systems		
	rks	C410.1	Comprehend on Wireless networks, protocol stack and is standards.		
61	Vetwo	C410.2	Analyze the network layer solutions for Wireless networks		
	Vireless N (EC6802)	C410.3	Outline the fundamentals of 3G Services, its protocols and applications		
	Wir. (EC	C410.4	Demonstrate the concept of internetworking of WLAN and WWAN		
	C410 Wireless Networks (EC6802)	C410.5	Develop prototypes for applications for smart phones and mobile devices with latest network strategies		
	(81	C411.1	Explain the various components of multimedia systems		

S.NO	COURSE NAME		COURSE OUT COMES		
	C411 Multimedia Compression and Communication (EC60	C411.2	Discuss the various compression principles and standards used in audio and video.		
62	Mult ressic zatior	C411.3	Identify the text and image compression techniques		
	C411 Comp nmunic	C411.4	Demonstrate the mechanism involved in VOIP communication.		
	Zomr C	C411.5	Explain the compression principles to be incorporated in making the multimedia networking effective.		
	57)	C412.1	Outline the dimensions and barriers regarding with Quality.		
	C412 Total Quality Management (GE67 <i>5</i> 7)	C412.2	Illustrate the TQM Principles and quality strategies		
63		C412.3	Demonstrate Tools utilization for quality improvement and quality concepts		
	7412 To mageme	C412.4	Illustrate the various quality concepts and techniques used to measure Quality.		
	Ma	C412.5	Apply various Quality Systems and auditing on implementation of TQM.		
	5811)	C413.1	Understand fundamental knowledge in various engineering subjects and applications.		
	(EC	C413.2	Identify the problem and do literature survey.		
64	C413 Project Work (EC6811)	C413.3	Design engineering solutions to complex problems utilizing a system approach.		
	3 Proje	C413.4	Create a model for specific application.		
	C413	C413.5	Evaluate the performance using parameters and conclude the project.		