

AY: 20	21-22			Course Outcomes III Seme	
SNO	Course Code	Course Name	CO No.	Course Outcomes	Taxonomy
			COI	Handle technical communication effectively	Evaluate
			CO2	Use different types of professional correspondence	Analyze
		EFFECTIVE		Use various techniques of report writing	Understand

	Code	Course Name	No.	Course Outcomes	Taxonomy
			COI	Handle technical communication effectively	Evaluate
			CO2	Use different types of professional correspondence	Analyze
1	HS102EG	EFFECTIVE TECHNICAL COMMUNICAT	CO3	Use various techniques of report writing	Understand
		ION IN ENGLISH	CO4	Acquire adequate skills of manual writing	Remember
			CO5	Enhance their skills of information transfer and presentations	Apply
		CO6	Understand the aspects of data transfer and presentations	Apply	
			COI	Understand the financial and Accounting aspects of a business	Analyse
			CO2	Evaluate financial Performance of the business unit	Evaluate
	11010201	FINANCE AND	CO3	Understand about the financial system and markets	Evaluate
2	HS103CM	ACCOUNTING	CO4	Evaluate the viability of projects by using Capital budgeting Techniques.	Understand
			CO5	Analyse the overall financial functioning of an Enterprise	Evaluate
			CO6	Understand and take decision on procurement of finances.	Analyze
3	ES303EC	DIGITAL ELECTRONICS	COI	Explain the basic concepts related to number system and their conversion.	Creating

			CO2	Analyze the Boolean logic equations and simplify using K-map and tabular method.	Analyze
			000	Analyze the different combinational circuits and implement them using IC's.	Understand
				Explain the operation of flip flops and converting one flip flop to another.	Apply
			CO5	Analyze the concepts of sequential circuits.	Understand
			CO6	Design the counter using different IC's.	Create
			COI	Explain definitions of Probability, Axioms, Joint Probability, Conditional Probability, Total Probability, Bayes' Theorem, Independent Events, Random Variable, Conditions of a Random Variable.	Understand
			CO2	Apply the concepts, theorems to derive probability distribution & probability density functions. Expectations, Moments & characteristic functions of Random variable	Applying
4	ES304EC	Probability Theory and Stochastic Processes	CO3	Make use of Properties of distribution & density functions to solve Mean, Variance for - Binomial, Poisson, Uniform, Gaussian, Exponential, Rayleigh Distributions.	Applying
		Tiocesses	CO4	Explain Multiple random variables i.e Joint density, Joint distribution, Central Limit Theorem, expected values of Multiple random variables.	Understand
			CO5	Explain concepts of Random process, and its properties. Variance, co variance, correlation & auto correaltion. Power & cross power density spectrum and its properties.	Understand
			CO6	Examine different types of Noises and response to a random signal	Evaluating
	DC401EC	ELECTRONIC	COI	Understand the PN Diode V-I Characteristics and its applications.	Creating
5	PC401EC	DEVICES	CO2	Identify the merits and demerits of various Rectifier circuits with Calculation of Ripple	Understar

				Factor and %Efficiency.	
			СОЗ	Discriminate the BJT Configurations to recognize appropriate Transistor Configuration for any given application.	Analyze
			CO4	Design the the biasing circuits with good stability.	Understand
			CO5	Analyze, Compare and design of BJT Amplifiers.	Remember
			CO6	Distinguish the working principles of BJT and FET.	Remember
			COI	Identify different parameters for two-port networks	Understand
		CO2	Explain symmetrical and asymmetrical networks and their electrical properties	Creating	
			CO3	Design concepts of different filters	Creating
PCAODEC	NETWORK THEORY	CO4	Design different Types of Attenuator and Equalizers	Remember	
		CO5	Explain concepts of Network synthesis like Hurwitz polynomials, Positive real functions	Remember	
			CO6	Analyse LC, RC,RL Networks by synthesis	Remember
			COI	Understand characteristics of Diodes	Analyze
		CO2	Plot the characteristics of BJT in different configurations	Understand	
	ELECTRONIC	CO3	Record the parameters of BJT and FET amplifiers.	Creating	
7	PC451EC	DEVICES AND CIRCUITS LAB	CO4	Understand biasing techniques of BJT.	Remember
			CO5	Design and performance evaluation of full wave rectifiers	Understand
			CO6	Use the SPICE software for simulating electronic circuits	Evaluate
8	PC452EC	ELECTRONIC	COI	Use the basic electronic components and design	Creating

WORKSHOP LAB		circuits	
	CO2	Verify various parameters of the circuits by applying theorems	Analyze
	CO3	Verify the truth tables of combinational and sequential circuits	Apply
	CO4	Realize combinational and sequential circuits	Evaluate
	CO5	Understand the pin configuration of ICs and verify the operation of basic gates	Evaluate
	CO6	Design and verify the combinational and logic circuits	Understand

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AY: 2021-22

IV Semester

S.no	Course Code	Course Name	CO No.	Course Outcomes	Taxonomy
			COI	Differentiate various types of signals and systems in continuous and discrete time (TL:2)	Understand
			CO2	Importance of frequency domain analysis and apply Fourier series for continuous time signals (TL:4)	Analyzing
1	ES305EC	SIGNALS AND SYSTEMS	CO3	Apply the properties of Fourier transform for continuous time signals (TL:3)	Applying
			CO4	Relate Laplace transforms to solve differential equations and to determine the response of the CT- LTI Systems	Evaluating
			CO5	Apply Z-transforms for discrete time signals to solve Difference equations (TL:5)	Evaluating
			CO6	Determine Linear Convolution and Correlation of discrete time signals with graphical representation	Evaluating
			COI	Design and Analyse low, mid and high frequency response of small signal single and multistage BJT and FET amplifiers	Creating
	PC403EC	ANALOG ELECTRONIC	CO2	Identify the type of negative feedback, Analyse and design of negative feedback amplifiers.	Applying
2		CIRCUITS	CO3	Design Audio Frequency and Radio Frequency Oscillators	Creating
			CO4	Distinguish between the classes of Power Amplifiers and their design considerations	Evaluating

			CO5	Compare the performance of single and double tuned amplifiers	Understanding
			CO6	Overcome the problem of stability in RF amplifiers	Analyzing
3			COI	Perform mathematical operations on fixed and floating point digital data.	Understanding
			CO2	Illustrate the operation of a digital computer.	Analyze
			CO3	Understand I/O interfacing of a computer.	Analyze
	PC404EC COMPUTER ORGANISATION AND	CO4	Interface microprocessor with memory devices.	Apply	
		ARCHITECHTURE	CO5	Understand latest trends in microprocessors.	Evaluating
			CO6	Distinguish the organisation of various part of a system memory hierarchy	Creating
			COI	Understand the different coordinate systems, vector calculus, coulombs law and gauss law	Understanding
			CO2	Explain about amperes law in magneto static fields and rewrite the Maxwell equations	Evaluating
4			CO3	Distinguish the electromagnetic wave equations and study their characteristics propagated in different media	Understanding
			CO4	Analyze the reflection and refraction of electromagnetic waves propagated in normal and oblique incidences	Analyzing
	PC405EC	ELECTROMAGNE TIC THEORY AND TRANSMISSION LINES	CO5	Describes the transmission lines with equivalent circuit and explain their characteristics with various lengths.	Understanding
		23.120	CO6	Study the Smith Chart profile and stub matching features, and gain ability to	Remembering

				practically use the same for solving practical problems	
				Explain Linear and Non Linear wave shaping	
			COI	circuits, Analyse the response of linear wave	
			COI	shaping circuits to the different input signals	Understanding
			CO2	Analyse and design multivibrators and sweep circuits using transistors	Creating
5	PC406EC	PULSE AND LINEAR	CO3	Explain the op amp ideal characteristics, parameters and its applications	Applying
	T C400EC	INTEGRATED CIRCUITS	CO4	Analyse DC and AC characteristics for Single/Dual input Balanced/Unbalanced output configurations using BJTs	Analyzing
		ř	CO5	Explain 555 timer functional diagram and its applications	Applying
		,	CO6	Analyse the operation of the most commonly used D/A and A/D converter types	Analyzing
			COI	Identify various types of electronic instrument suitable for specific measurement.	Understanding
		ELECTRONIC MEASUREMENTS	CO2	Classify various errors present in measuring instruments.	Understanding and Analyzing
			CO3	Understand construction, working principle and types of oscilloscopes.	Understanding
	DCAO7FC	AND INSTRUMENTATI ON	CO4	Comprehend different types of signal generators and analyzers, their construction and operation.	Understanding evaluating
6			CO5	Describe the working principle, selection criteria and applications of various transducers used in measurement systems.	Analyzing
			CO6	Understanding of electronic instrumentation and measurement in the real time world	Understanding
			COI	Calculate gain and bandwidth of BJT, FET.	Understanding
		ANALOG	CO2	Study Feedback amplifier circuits.	Remembering
			CO3	Study oscillator circuits.	Creating
	PC453EC	ELECTRONIC	CO4	Demonstrate filter circuits.	Understanding
7		CIRCUITS LAB	CO5	Demonstrate power amplifier and OpAmp. Circuits	Understanding
			CO6	Design of regulator circuits	Creating
	PC454EC	PULSE AND	COI	Design and Analyze Linear and Non Linear	Creating

	LINEAR INTEGRATED		wave shaping circuits .	
	CIRCUITS LAB	CO2	Design Multivibrators by using BJT	Creating
		CO3	Study and performance of linear and non linear applications of op-amp	Remembering
8		CO4	Study and performance of various parameters of op-amp	Remembering
		CO5	Design and Analyze different filters & their frequency comparision	Creating
		CO6	Design different multivibrators and their comparision. (theoritical & practical) by using IC 555	Creating

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#### **Course Outcomes**

AY: 2021-22

#### V Semester

S.no	Course Code	Course Name	CO No.	Course Outcomes	Taxonomy
	Code		COI	Explain and analyze the various continuous modulation systems	Understanding
			CO2	Demonstrate and contrast the different Angle modulation schemes	Analyzing
			CO3	Illustrate and compare the pulse modulation systems	Applying
1	PC501EC	Analog Communication	CO4	Interpret with differentiate types of transmitters and receivers used for particular application.	Understanding
			CO5	Identify the noises present in continuous wave modulation systems and analyze Signal to Noise ratio in each system.	Analyzing
			CO6	Students able to Discriminate the design skills to illustrate the different modulation systems and method to implement different communication systems.	Applying
			COI	Identify the importance of DSP in real time processing	Applying
2	PC502EC	Digital Signal	CO2	Compute DFT & apply its properties in problem solutions, also optimize the calculation using FFT algorithm	Applying
	rC502EC	Processing	CO3	Design, evaluate& construct FIR filters to satisfy desired frequency response by hand	Creating
			CO4	Design, evaluate & construct IIR filters on the basis of an analogue design by hand	Creating
			CO5	Compute & comprehend sampling rate conversions & their applications	Evaluating

Applying analyzing  PC503EC  Automatic Control Systems  PC503EC  Automatic Control Systems  Automatic Control Systems  PC503EC  Automatic Control Systems  Automatic Control Systems  CO3  Automatic Control Systems  CO4  Automatic Control Systems  CO4  Automatic Control Systems  CO5  Automatic Control Systems  CO6  CO6  Automatic Control Systems  CO7  Automatic Control Systems  CO8  CO9  Applying an analyzing analy						
FC503EC  Automatic Control Systems  Automatic Control Systems  Automatic Control Systems  CO4  Automatic Control Systems  Students will be able to construct Routh Array/Hurwitz determinant and time response  Students will be able to construct Routh analyze system stability in time domain and time response  Students will be able to construct Root locus Technique and thus analyze system stability in time domain  CO4  Students will be able to construct Bode plots and thus analyze system stability in frequency domain  CO5  Students will be able to understand the digital control system and its importance  Students will be able to understand state space representation and hence determine stability, controllability and Observability of a system in state space domain  Determining				CO6	applications and also comprehend the architecture, addressing modes & instruction	Applying
Automatic Control Systems  Automatic Control Systems  Automatic Control Systems  Automatic Control Systems  CO3  Automatic Control Systems  CO4  Automatic Control Systems  CO4  Automatic Control Systems  CO5  Students will be able to construct Root locus Technique and thus analyze system stability in time domain  CO4  Students will be able to construct Bode plots and thus analyze system stability in frequency domain  CO5  Students will be able to understand the digital control system and its importance  Students will be able to understand state space representation and hence determine stability, controllability and Observability of a system in state space domain  Determining				CO1	fundamentals of control systems & able to apply the rules of block diagram and signal	Understanding/ Applying
Students will be able to construct Root locus Technique and thus analyze system stability in time domain  CO3  Students will be able to construct Bode plots and thus analyze system stability in frequency domain  CO4  Students will be able to understand the digital control system and its importance  Students will be able to understand state space representation and hence determine stability, controllability and Observability of a system in state space domain  Determining				CO2	Array/Hurwitz determinant and thus analyze system stability in time domain and time	Applying and analyzing
CO4  Students will be able to construct Bode plots and thus analyze system stability in frequency domain  Students will be able to understand the digital control system and its importance  Students will be able to understand state space representation and hence determine stability, controllability and Observability of a system in state space domain  Applying a analyzing  Understand  Determining	3	3 PC503FC	CO3	Students will be able to construct Root locus Technique and thus analyze system stability	Applying and analyzing	
CO5 digital control system and its importance  Students will be able to understand state space representation and hence determine stability, controllability and Observability of a system in state space domain  Understand			Control Systems	CO4	and thus analyze system stability in frequency	Applying and analyzing
space representation and hence determine stability, controllability and Observability of a system in state space domain				CO5		Understanding
Illustrate the basic principles of antennas and				CO6	space representation and hence determine stability, controllability and Observability of	Determining
CO1 learn the antenna terminology. Understand				COI	Illustrate the basic principles of antennas and learn the antenna terminology.	Understand
CO2 Design different types of wire antennas and make proficient in analytical skills for understanding practical antennas.				CO2	proficient in analytical skills for understanding	Apply
Antennas and wave CO3 Design different types of antennas for various frequency ranges and get updated with latest developments in the practical antennas.	4 I	PC504EC	wave	CO3	frequency ranges and get updated with latest	Create
Apply the principles of antennas, to design CO4 antenna arrays and measure various Analyse parameters of antennas.			propagation	CO4	antenna arrays and measure various	Analyse
CO5 Identify and understand the suitable modes of Radio Wave propagation used in current Evaluate practice.				CO5	Identify and understand the suitable modes of Radio Wave propagation used in current	Evaluate
CO6 Analyze the structure of atmosphere for the Analyse				CO6		Analyse

				wave propagation	
			COI	Explain the generalized architecture of microprocessors and microcontrollers. Learn about 8086 Microprocessor and 8051 Microcontroller- different types of addressing modes, instruction set and interrupts.	Understanding
			CO2	Build Interfacing diagram of memory, peripherals using 8086 Microprocessor and 8051 Microcontroller.	Applying
		Microprocessor	CO3	Apply 8086 Microprocessor and 8051 Microcontroller instruction set for writing simple assembly language programs.	Applying
5	PC505EC	and Microcontroller	CO4	Explain the algorithm and program for interfacing different peripherals to 8086 microprocessor and 8051 Microcontroller.	Analysing
			CO5	Write an Assembly/C language program for interfacing different peripherals by using different software tools to 8086 microprocessor and 8051 Microcontroller.	Evaluating
			CO6	Design Interfacing of real time applications like ADC, DAC, LCD and stepper motor with 8086 microprocessor and 8051 microcontroller.	Creating
			COI	Analyze and process signals in the discrete domain	Applying
			CO2		Understandir
6	PC551EC	Systems and Signal Processing Lab	соз	Chebyshev filters.	Analyzing
			CO4	Analyze and Observe Magnitude and phase characteristics (Frequency response Characteristics) of digital FIR filter using window techniques.	Analyzing

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			CO5	Design multi rate signal processing of signals through systems.	Creating		
			CO6	Develop and Implement DSP algorithms in software using a computer language such as C with TMS320C6713 floating point Processor	Creating		
			COI	Understand the architecture and its components of 8086 Microprocessor & 8051 Microcontrollers and develop algorithms for simple programs.	Understanding		
			CO2	Apply the instruction set of 8086 Microprocessor & 8051 Microcontrollers and develop simple programs.	Applying		
	PC552EC	Microprocessor and Microcontroller Lab	•	•	CO3	Explain the usage of Branching, string instructions and Assembler Directives of 8086 Microprocessor for String Manipulations.	Applying
7			CO4	Design and Develop interfacing applications by input/output, serial communication devices using 8086 Microprocessor	Evaluating		
			CO5	Design algorithms and different programs for SFRs using C cross compilers for 8051 Microcontroller	Analysing		
			CO6	Design and Develop interfacing application by input/output ports, serial communication devices using C cross compilers for 8051 Microcontroller	Creating		
			COI	Get Practical experience of software design and development, and coding practices within Industrial/R&D Environments.	Understanding		
		Mini Project	CO2	Gain working practices within Industrial/R&D Environments	Applying		
8	PC553EC		CO3	To encourage students to work on innovative and entrepreneurial ideas.	Understanding		
			CO4	Prepare reports and deliver effective presentation.	Applying		
			CO5	Demonstrate effective written and oral communication skills	Analyzing		

	CO6	Design, implement and test the prototype/algorithm in order to solve the conceived problem.	Creating
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#### Course Outcomes

AY: 2021-22

#### VI Semester

S.No.	Course Code	Course Name	CO No.	Course Outcomes	Taxonomy
	Code			Explain the concepts different types of digital modulation techniques PCM, DPCM, DM and ADM and compare their performance by SNR.	understanding
			CO2	Describe classification of channels and Source coding methods	Remembering
1			CO3	Analyze the different types of Error control codes along with their encoding/decoding algorithms	Analyzing
	PC601EC	Digital Communication	CO4	Analyze performance of different Digital Carrier Modulation schemes of Coherent and Non-coherent type based on Probability of error	Analyze
			CO5	Explain the base band modulation and matched filter concepts	understand
			CO6	Applying the generation of PN sequence using Spread Spectrum and characterize the Acquisition Schemes for Receivers to track the signals	Apply
			COI	verilog HDL code for the digital circuits in gate level and dataflow	Understanding
2	PC602EC	Digital System Design with	CO2	Write a verilog HDL code for the digital circuits in switch level and behavioral modeling	Applying
		Verilog HDL	CO3	t design symphronous	Analyzing

				Mealy FSM	
			CO4	Analyze the Asynchronous sequential circuits & describe the ASM chart for the digital circuits	Analyzing
			CO5	Explain SPLDS, CPLDs and Design various combinational circuits by using PLDs	Applying
			CO6	Explain FPGA and ASIC and describe ASIC / FPGA design flow	Evaluating
			COI	Understand the basic network infrastructure to learn the overall function of networking systems.	Understand
			CO2	Identify different tasks of computer communications networks and protocol architectures. Analyze and compare circuit switching and packet switching concepts.	Analysis
3	PC603EC	Data Communication and computer networking	CO3	Apply knowledge of different techniques of error detection and correction to detect and solve error bit during data transmissionand explain the MAC Protocols and IEEE standards.	Apply
			CO4	Compare various routing algorithm and select an appropriate one for a routing design and understand ATM network concepts.	Analysis
			CO5	Design a network routing for IP networks and Paraphrase the services & protocols of Transport layer.	Evaluate
			CO6	Comprehend the functionality of application layer and importance of network security	Understand
		ELECTRONIC MEASUREMENTS	COI	Identify various types of electronic instrument suitable for specific measurement.	Understanding
4	PC604EC	AND INSTRUMENTATION	CO2	Classify various errors present in	Understanding and Analyzing

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			CO3	Understand construction, working principle and types of oscilloscopes.	Understanding
			CO4	Comprehend different types of signal generators and analyzers, their construction and operation.	Understanding, evaluating
			CO5	Describe the working principle, selection criteria and applications of various transducers used in measurement systems.	Analyzing
			CO6	Understanding of electronic instrumentation and measurement in the real time world	Understanding
			COI	Explain architecture and design of IoT.	Understanding
			CO2	Describe the Different Sensors connected in IoT.	Applying
5	PE – I (PE674EC)	IOT Sensors	CO3	Understand the underlying Technologies.	Understanding
	(i Lor iLc)		CO4	Understand the platforms in IoT.	Understanding
			CO5	Understand cloud interface to IoT	Understanding
			CO6	Understand different applications with case studies.	Applying
	OF I		COI	Evaluate the environmental, social, cultural, economical, legal and organizational aspects influencing vulnerabilities and capacities to face disasters and to know different types of environmental hazards	Evaluating
6	OE – I (OE601CE)	Disaster Management	CO2	Examine different types of natural and man- made disasters, theoretically and practically in the processes of disaster management and relate their interconnections.	Analyzing
			CO3	Interprete endogenous and exogenous hazards and their harmful effects to the environment through case studies in India.	Understanding

			CO4	Organize strategies for mitigation in future scenarios with available risk reduction techniques.	Applying	
			CO5	Demonstrate different aspects of the emergencies and disaster events into the potential and limitations of science and its role in society and people's responsibility for how it is used.	Understanding	
			CO6	Understanding capacity building concepts and planning of disaster managements	Understanding	
			COI	Understand and simulate modulation and demodulation of AM and FM	Applying	
		Communication lab	CO2	Construct pre-emphasis and de- emphasis at the transmitter and receiver respectively	Creating	
	PC651EC		соз	Understand and simulate the PAM,PWM&PPM circuits	Applying	
7			CO4	Understand baseband transmission (i.e., PCM, DPCM, DM, and ADM) generation and detection	Analyzing	
			CO5	Understand and simulate digital modulation (i.e., ASK, FSK, BPSK, ) generation and detection	Analyzing	
			CO6	Generation and Detection of PCM and Digital modulation Schemes (ASK. FSK, BPSK) by using MATLAB	Applying	
			COI	Understand the working of various network topologies and circuit and packet switching.	Applying	
				CO2	Comprehend the role of data link layers and significance of MAC protocols.	Creating
0	PC652EC	DCCN Lab	CO3	Understand the networking protocols and the internet protocols.	Applying	
8	FC052EC	DCCN Lab	CO4	Understand the transport layer working with TCP, UDP and ATM protocols.	Analyzing	
	,		CO5	Comprehend the functionality of application layer and the importance of network security.	Analyzing	
			CO6	Understand various routing protocols and network security.	Applying	

			COI	Appreciate the constructs and conventions of the verilog HDL programming in gate level modeling	Applying
			CO2	Appreciate the constructs and conventions of the verilog HDL programming in data flow modeling.	Understanding
9	PC653EC	Digital System Design with Verilog Lab	CO3	Generalize combinational circuits in behavioral modeling and concepts of switch level modeling	Applying
			CO4	Design and analyze digital systems and finite state machines.	Analyzing
			CO5	Perform functional verification by writing appropriate test benches.	Analyzing
			CO6	Implement designs on FPGA/CPLD boards.	Applying
		Summer Internship	COI	Students can Able to select a Practical problem and find solution by using current technologies	Understanding
			CO2	Student can go through training for implementing the project	Applying
			соз	Students can Able to design/develop a small and simple product in hardware or software.	Creating
10	PC654EC		CO4	Students can Able to complete the task or realize a pre-specified target, with limited scope	Creating
			CO5	Students can Able to learn to find alternate viable solutions for a given problem and evaluate these alternatives with reference to pre-specified criteria	Applying
			CO6	Students can Able to implement the selected solution and document the same	Creating
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#### AY: 2021-22

#### Course Outcomes

VII Semester

S.no	Course Code	Course Title	CO No.	Course Outcome	TAXONOM Y
			COI	Explain the basic concepts of embedded systems, the selection procedure of Processors, characteristics, and design process in the embedded domain.	Understanding
			CO2	Differentiate architectural features of advanced controllers, instruction sets for programming embedded system design. Apply architectural features of ARM processor for embedded products.	Applying
1	PC 701	EMBEDD ED	CO3	Make use of serial, parallel bus protocols for developing of embedded system products. Also Apply network enabled protocols.	Applying
1	EC	SYSTEM	CO4	Analyze testing and hardware software co- design issues pertaining to design of an Embedded System. Examine all software development tools for embedded system.	Analyzing
			CO5	Assess the goal of embedded systems in real time design applications. Know about the RTOS based embedded system design concepts. Compare Testing methods and Debugging techniques.	Evaluating
			CO6	Design and develop embedded product in real time design applications by applying steps in design process for hardware and software of embedded product.	Creating
			COI	Understand various VLSI design styles, fabrication process of MOS, able to analyze the inverter characteristics, basic electrical properties and power dissipation of MOS transistor.	Analyzing
			CO2	Use Physical design rules to be followed for MOS designs, understand drawbacks of interconnects reliability issues and the effect of scaling on MOS devices.	Understanding
2	PC 702 EC	VLSI DESIGN	соз	Analyze and implement various MOS subsystems at gate level and transistor level.	Analyzing
			CO4	Analyze the operation of various arithmetic circuits and their testability.	Analyzing
			CO5	Design sequential logic circuits using MOS transistors.	Applying
			CO6	Understand the small signal model and characteristics of CMOS amplifiers.	Understanding
		MICROW	COI	Describe the propagation characteristics of Guided waves in different modes	Understanding , Analyzing
3	PC 703 EC	AVE TECHNIQ	CO2	Evaluate different characteristics for Rectangular & Circular Waveguides &Cavity Resonators.	Applying, Analyzing
		UES	CO3	Analyze microwave circuits using scattering parameters	Applying,

		1			Analyzing
			CO4	Design and analysis of microwave guides	Analyzing, Creating
			CO5	Understand the principle, operation and characteristics of microwave tubes and oscillators	Remembering, Analyzing
			CO6	Analyze the principle, operation and characteristics of microwave solid state devices including strip lines.	Analyzing, Evaluating
			COI	Illustrate the types of various business organizations, organization structures, functions of management and able to choose the proper plant layout.	Applying
		INDUSTR	CO2	Explain the concept of Work Study and apply work measurement techniques for the calculation of standard time, and the concept of performance rating factors.	Applying
	HS 707	IAL ADMINIS TRATION	CO3	Explain various concepts of Job evaluation, performance appraisal and wage payment system and able to apply these techniques.	Applying
4	ME ME	AND FINANCI AL	CO4	Demonstrate the concepts of Quality control, process control, material control and by use of control charts could evaluate whether the quality of a product or process in a plant.	Evaluating
		MANAGE MENT	CO5	Demonstrate techniques like Linear Programming, Assignment and Project management & Material Management techniques and able to apply these techniques for optimum utilization of the resources.	Applying
			CO6	Illustrate the different terminology used in Financial Management and able to apply various capital budgeting techniques and break even analysis.	Applying
		MOBILE	CO1	Understand the concept and implementation of frequency reuse and Handoff techniques	Understanding
		AND	CO2	Analyze interference and capacity enhancement	Analyzing
5	PE 721	CELLUL AR COMMU NICATIO N	CO3	Appreciate the factors influencing outdoor and indoor propagation systems	Evaluate
-	EC		CO4	Analyze various multiple access protocols	Analyzing
			CO5	Visualize the system architectures and implementation of GSM and CDMA	Creating
			CO6	Understand the concepts in various Mobile Technologies	Understanding
			CO1	Explain Indian Industrial Environment, Entrepreneurship and Economic growth, Small and Large Scale Industries, Types and forms of enterprises.	Understanding
6	OE 701	OE-II STARTU P ENTREP RENEUR SHIP	CO2	Identify the characteristics of entrepreneurs, Emergence of first generation entrepreneurs, Understand and Practice the conception and evaluation of ideas and their source and choice of technology.	Applying
	ME		CO3	Demonstrate the principles of project formulation, analysis of market demand, Financial and profitability analysis and Technical analysis and evaluate the technical feasibility and financial viability of a project.	Evaluate
			CO4	Apply the concepts of Project Management. CPM, PERT techniques and tax assessment burden	Applying

			CO5	aspects.	Applying
		-	CO6	- Programme Wanagement principles	Applying
			coı	Demonstrate about road accidents and its study objectives.  Prepare accident investigation reports and database based on data collected.	Understanding
		OE-III	CO2	with various types of traffic safety appurtenances/tools	Applying
7	OE 781 CE	SAFETY	CO3	Explain the road safety design operations, counter measures & characteristics to manage traffic including incident management	Understanding
		ENGINEE RING	CO4	Illustrate the concept of Road Safety Auditing its principles, procedures and code of good practice and checklists	Understanding
			CO5	Explain about design and working principles of road signs and traffic signals	Understanding
			CO6	incidents.	Understanding
			COI	Analyze frequency, Wave length, SWR and Impedance for Reflex klystron Oscillator by using its equation	Analyzing
			CO2	Evaluate of mode characteristics of Reflex klystron and V-I Characteristics of Gunn diode.	Evaluating
8	PC 751 EC	MICROW AVE LAB	СОЗ	Analyze of the characteristics of Circulator, Isolator, Directional Coupler, Tees like (Magic tee, E & H plane tees) using the Scattering parameters.	Analyzing
			CO4	To analyze the radiation pattern of antenna	Analyzing
			CO5	Generate the Radiation pattern of different antennas like Yagi- Uda and Horn Antenna and measure the gain of the antennas.	Analyzing
		1	CO6	Familiarize with the EM simulation software	Creating
			COI	Explain different architecture of ARM processor, its components and Concept of RTOS	Understanding
		ELECTR ONIC	CO2	Develop algorithms for simple programs based on RTOS using embedded C for ARM Processors	Analyzing
9	PC 752 EC	DESIGN AUTOMA	CO3	Design and Develop interfacing Real Time applications using in out pins, serial communication devices for ARM processors	Creating
		TION	CO4	Understand Layout design Rules	Understanding
		LAB	CO5	Developing the Verilog code for existing digital designs	Applying
			CO6	Design of Simple Gates using Layouts	Creating
			COI	Decision making on interested topic and subject area in the wide spectrum of course	Analyzing
			CO2	Identify the applicability of modern software tools and technology	Analyze
10	PW	PROJECT	CO3	Deliver presentation based on the preparation	Creating
10	761 EC	WORK-1	CO4	Develop communication skills and stage performance	Creating
			CO5	Present the results from the work comprehensively through presentation.	Creating
			CO6	Correct him to improve presentation skills.	Evaluating
				. Useh of the Der	partment

Dept Assessment Coordinator

( T. Sravan Kumar)

Hear of the Department HEAD OF THE DEPARTMENT DEPARTMENT OF ECE METHODIST COLLEGE OF ENGG. & TECH ABIOS, HYDERABAD.



#### AY: 2021-22

#### **Course Outcomes**

VIII Semester

S.no	Course Code	Course Title	CO No.	Course Outcome	TAXONOMY
			COI	Describe the Geography with reference to Satellite Orbits.	Understanding
		SATELLIT	CO2	Illustrate the Satellite Subsystems and Link Design.	Applying
1	PE 824 EC	E COMMUNI	CO3	Categorize the Satellite Multiple Access Techniques and Earth Station Technology.	Understanding
		CATIONS	CO4	Outline the Various Applications of Satellite.	Analyzing
			CO5	Illustrate the Basic Principles of Television.	Understanding
			CO6	Compare competitive satellite services	Understanding
			COI	Familiarize with the GNSS fundamentals and GPS architecture.	Understanding
		GLOBAL	CO2	Describe the different types of DOP"S	Applying
2	PE 832	NAVIGATI ONAL	CO3	Describe the different types of GNSS Signals and GNSS Datum.	Understanding
	EC	SATELLIT	CO4	Analyse the GPS errors and their modelling techniques	Analyzing
		E SYSTEMS	CO5	Understanding various GPS data processing and GPS integration techniques	Understanding
			CO6	Conceptualize the augmentation systems and regional navigation satellite systems.	Understanding
			COI	Demonstrate and understand the factors detecting the radar using radar range equation	Understanding
			CO2	Understand the performance characteristics of radars to enhance range prediction and their losses	Understanding
3	PE 843	RADAR	CO3	Illustrate various types of radars and their variation displays in radars	Analyzing
,	EC	SYSTEMS	CO4	Explain different types of MTI radars and Non coherent MTI radar	Analyzing
			CO5	Illustrate on radar tracking methods and differences among them.	Remembering
			CO6	Explain search radars and various antennas used in radars.	Understanding Analyzing
			CO1	Prepare abstract for given project by identifying the requirements and prospective solution	Analyzing
4	PW	PROJECT	CO2	collect latest information related to the project from various sources to analyse the project	Analyzing
4	961 EC	WORK-II	СОЗ	design the necessary module of the selected project as per specifications	Creating
			CO4	obtain and analyse the results of the designed module or circuit	Creating

CO5	develop a prototype of the project by distribution of tasks among the team	Creating
CO6	prepare a good report of the project as per the guidelines and present to the panel of experts	Evaluating

Dept Assessment Coordinator
(1-Syawan Kyman)

Head of the Department

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