

S. NO	SUBJECT NAME/ CODE	COURSE CREDIT	COURSE CODE	COURSE OUTCOMES	PROGRAMME OUTCOME (PO)												P O 1	P O 2							
					1	2	3	4	5	6	7	8	9	10	11	12									
1	HS8251 / Technical English	4	HS8251	Read technical texts and write area- specific texts effortlessly											√	√		√							
				Listen and 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.														√	√		√				
2	MA8251 / Engineering Mathematics II	4	MA8251	Eigen values 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 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.	√	√	√		√														√		
3	PH8253 / Physics For Electronics Engineering	3	PH8253	gain knowledge on classical and quantum electron theories, and energy band structures,	√	√	√		√		√								√						
				acquire knowledge on basics of semiconductor physics and its applications in various devices,	√	√	√		√		√											√			
				get knowledge on magnetic and dielectric properties of materials,	√	√	√		√		√											√			
				have the necessary understanding on the functioning of optical materials for optoelectronics,	√	√	√		√		√												√		
				understand the basics of quantum structures and their applications in spintronics and carbon electronics.	√	√	√		√		√												√		
4	BE8252/ Basic Civil and Mechanical Engineering	4	BE8252	appreciate the Civil and Mechanical Engineering components of Projects.				√		√															
				explain the usage of construction material and proper selection of construction materials				√		√															
				measure distances and area by surveying				√		√															
				identify the components used in power plant cycle				√		√															
				demonstrate working principles of petrol and diesel engine.				√		√															
				elaborate the components of refrigeration and Air conditioning cycle.				√		√															
5	EE8251/ Circuit Theory	3	EE8251	Ability to analyse electrical circuits	√	√	√	√	√											√					
				Ability to apply circuit theorems	√	√	√	√	√													√			
				Ability to analyse transients	√	√	√	√	√													√			

6	GE8291 / Environmental Science and Engineering	3	GE8291	Environmental Pollution or problems cannot be solved by mere laws. Public participation is an important aspect which serves the environmental Protection. 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 std. of living has lead to serious environmental disasters	√	√			√	√	√	√									√		
7	GE8261 / Engineering Practices Laboratory	2	GE8261	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.	√		√	√	√	√											√						
8	EE8261/ Electric Circuits Lab	2	EE8261	Understand and apply circuit theorems and concepts in engineering applications.	√		√	√	√	√								√		√			
				Simulate electric circuits.	√		√	√	√	√										√		√	

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1	MA8353/ Transform s and Partial Differenti al Equations	4	MA8353	Understand how to solve the given standard partial differential equations.	√	√			√								√					
				Solve differential equations using Fourier series analysis which plays a vital role in engineering applications.	√	√			√										√			
				Appreciate the physical significance of Fourier series techniques in solving one and two dimensional heat flow problems and one dimensional wave equations	√	√			√											√		
				Understand the mathematical principles on transforms and partial differential equations would provide them the ability to formulate and solve some of the physical problems of engineering.	√	√			√											√		
				Use the effective mathematical tools for the solutions of partial differential equations by using Z transform techniques for discrete time systems.	√	√			√											√		
2	EE8351/ Digital Logic Circuits	3	EE8351	Ability to design combinational and sequential Circuits				√	√													
				Ability to simulate using software package.				√	√													
				Ability to study various number systems and simplify the logical expressions using Boolean functions				√	√													
				Ability to design various synchronous and asynchronous circuits.				√	√													
				Ability to introduce asynchronous sequential circuits and PLDs				√	√													
3	EE8391/ Electroma gnetic Theory	3	EE8391	Ability to understand the basic mathematical concepts related to electromagnetic vector fields.	√	√	√	√	√					√		√						
				Ability to understand the basic concepts about electrostatic fields, electrical potential, energy density and their applications.	√	√	√	√	√					√		√						
				Ability to acquire the knowledge in magneto static fields, magnetic flux density, vector potential and its applications	√	√	√	√	√					√		√						
				Ability to understand the different methods of emf generation and Maxwell's equations	√	√	√	√	√					√		√						
				Ability to understand the basic concepts electromagnetic waves and characterizing parameters	√	√	√	√	√					√		√						
				Ability to understand and compute Electromagnetic fields and apply them for design and analysis of electrical equipment and systems	√	√	√	√	√					√		√						

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1	MA8491/ Numerical Methods	4	MA8491	Understand the basic concepts and techniques of solving algebraic and transcendental equations.	√	√	√											√						
				Appreciate the numerical techniques of interpolation and error approximations in various intervals in real life situations	√	√	√														√			
				Apply the numerical techniques of differentiation and integration for engineering problems	√	√	√															√		
				Understand the knowledge of various techniques and methods for solving first and second order ordinary differential equations	√	√	√															√		
				Solve the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications.	√	√	√															√		
2	EE8401 / Electrical Machines – II	3	EE8401	Ability to understand the construction and working principle of Synchronous Generator	√	√	√	√	√		√							√						
				Ability to understand MMF curves and armature windings.	√	√	√	√	√		√									√				
				Ability to acquire knowledge on Synchronous motor	√	√	√	√	√		√										√			
				Ability to understand the construction and working principle of Three phase Induction Motor	√	√	√	√	√		√										√			
				Ability to understand the construction and working principle of Special Machines	√	√	√	√	√		√										√			
				Ability to predetermine the performance characteristics of Synchronous Machines	√	√	√	√	√		√										√			
3	EE8402 / Transmission and Distribution	3	EE8402	To understand the importance and the functioning of transmission line parameters	√	√	√	√	√		√							√						
				To understand the concepts of Lines and Insulators.	√	√	√	√	√		√									√				
				To acquire knowledge on the performance of Transmission lines.	√	√	√	√	√		√										√			
				To understand the importance of distribution of the electric power in power system	√	√	√	√	√		√										√			
				To acquire knowledge on Underground Cables	√	√	√	√	√		√										√			
				To become familiar with the function of different components used in Transmission and Distribution levels of power system and modelling of these components.	√	√	√	√	√		√										√			
4	EE8403 / Measure ments and Instrumen tation	3	EE8403	To acquire knowledge on Basic functional elements of instrumentation	√	√	√	√	√									√						
				To understand the concepts of Fundamentals of electrical and electronic instruments	√	√	√	√	√											√				
				Ability to compare between various measurement techniques	√	√	√	√	√											√				
				To acquire knowledge on Various storage and display devices	√	√	√	√	√												√			
				To understand the concepts Various transducers and the data acquisition systems	√	√	√	√	√												√			
				Ability to model and analyze electrical and electronic Instruments and understand the operational features of display Devices and	√	√	√	√	√												√			

				Data Acquisition System.																					
5	EE8451 / Linear Integrated Circuits and Applicatio ns	3	EE8451	Ability to acquire knowledge in IC fabrication procedure	√	√	√	√																	
				Ability to analyze the characteristics of Op-Amp	√	√	√	√																	
				To understand the importance of Signal analysis using Op-amp based circuits.	√	√	√	√																	
				Functional blocks and the applications of special ICs like Timers, PLL circuits, regulator Circuits.	√	√	√	√																	
				To understand and acquire knowledge on the Applications of Op-amp	√	√	√	√																	
				Abilities to understand and analyse, linear integrated circuits their Fabrication and Application.	√	√	√	√																	
6	IC8451 / Control Systems	4	IC8451	Ability to develop various representations of system based on the knowledge of Mathematics, Science and Engineering fundamentals.	√	√	√	√	√											√					
				Ability to do time domain and frequency domain analysis of various models of linear system.	√	√	√	√	√													√			
				Ability to interpret characteristics of the system to develop mathematical model.	√	√	√	√	√														√		
				Ability to design appropriate compensator for the given specifications.	√	√	√	√	√															√	
				Ability to come out with solution for complex control problem.	√	√	√	√	√																√
				Ability to understand use of PID controller in closed loop system.	√	√	√	√	√																√
7	EE8411 / Electrical Machines Lab II	2	EE8411	Ability to understand and analyze EMF and MMF methods	√	√	√	√	√												√				
				Ability to analyze the characteristics of V and Inverted V curves	√	√	√	√	√														√		
				Ability to understand the importance of Synchronous machines	√	√	√	√	√															√	
				Ability to understand the importance of Induction Machines	√	√	√	√	√																√
				Ability to acquire knowledge on separation of losses	√	√	√	√	√																√
8	EE8461 / Linear and Digital Integrated Circuits Laborator y	2	EE8461	Ability to understand and implement Boolean Functions.	√		√	√							√	√	√								
				Ability to understand the importance of code conversion	√		√	√						√	√	√									
				Ability to Design and implement 4-bit shift registers	√		√	√						√	√	√									
				Ability to acquire knowledge on Application of Op-Amp	√		√	√						√	√	√									
				Ability to Design and implement counters using specific counter IC	√		√	√						√	√	√									
9	EE8412/ Technical Seminar	1	EE8412	Ability to review, prepare and present technological developments										√	√	√									
				Ability to face the placement interviews										√	√	√									

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1	EE8501 / Power System Analysis	3	EE8501	Ability to model the power system under steady state operating condition	√	√	√	√	√		√					√					
				Ability to understand and apply iterative techniques for power flow analysis	√	√	√	√	√		√							√			
				Ability to model and carry out short circuit studies on power system	√	√	√	√	√		√								√		
				Ability to model and analyze stability problems in power system	√	√	√	√	√		√								√		
				Ability to acquire knowledge on Fault analysis.	√	√	√	√	√		√								√		
				Ability to model and understand various power system components and carry out power flow, short circuit and stability studies.	√	√	√	√	√		√								√		
2	EE8551/ Microprocessors and Microcontrollers	3	EE8551	Ability to acquire knowledge in Addressing modes & instruction set of 8085 & 8051.	√		√		√			√	√		√	√					
				Ability to need & use of Interrupt structure 8085 & 8051.	√		√		√			√	√		√	√		√	√		
				Ability to understand the importance of Interfacing	√		√		√			√	√		√	√		√	√		
				Ability to explain the architecture of Microprocessor and Microcontroller.	√		√		√			√	√		√	√		√	√		
				Ability to write the assembly language programme.	√		√		√			√	√		√	√		√	√		
				Ability to develop the Microprocessor and Microcontroller based applications.	√		√		√			√	√		√	√		√	√		
3	EE8552 / Power Electronics	3	EE8552	Ability to analyse AC-AC and DC-DC and DC-AC converters.	√	√	√	√	√		√										
				Ability to choose the converters for real time applications.	√	√	√	√	√		√										
4	EE8591 / Digital Signal Processing	3	EE8591	Ability to understand the importance of Fourier transform, digital filters and DS Processors	√	√	√	√	√		√					√					
				Ability to acquire knowledge on Signals and systems & their mathematical representation	√	√	√	√	√		√							√			
				Ability to understand and analyze the discrete time systems.	√	√	√	√	√		√							√			
				Ability to analyze the transformation techniques & their computation.	√	√	√	√	√		√							√			
				Ability to understand the types of filters and their design for digital implementation.	√	√	√	√	√		√							√			
				Ability to acquire knowledge on programmability digital signal processor & quantization effects.	√	√	√	√	√		√							√			

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1	EE8601 / Solid State Drives	3	EE8601	Ability to understand and suggest a converter for solid state drive.	√	√	√	√	√		√											
				Ability to select suitability drive for the given application.	√	√	√	√	√		√											
				Ability to study about the steady state operation and transient dynamics of a motor load system	√	√	√	√	√		√											
				Ability to analyze the operation of the converter/chopper fed dc drive.	√	√	√	√	√		√											
				Ability to analyze the operation and performance of AC motor drives.	√	√	√	√	√		√											
				Ability to analyze and design the current and speed controllers for a closed loop solid state DC motor drive.	√	√	√	√	√		√											
2	EE8602 / Protection and Switchgear	3	EE8602	Ability to understand and analyze Electromagnetic and Static Relays.	√	√	√	√	√		√							√				
				Ability to suggest suitability circuit breaker.	√	√	√	√	√		√									√		
				Ability to find the causes of abnormal operating conditions of the apparatus and system.	√	√	√	√	√		√										√	
				Ability to analyze the characteristics and functions of relays and protection schemes.	√	√	√	√	√		√											√
				Ability to study about the apparatus protection, static and numerical relays.	√	√	√	√		√												√
				Ability to acquire knowledge on functioning of circuit breaker.	√	√	√	√		√												√
3	EE8691/ Embedded Systems	3	EE8691	Ability to understand and analyze Embedded systems.																		
				Ability to suggest an embedded system for a given application.																		
				Ability to operate various Embedded Development Strategies																		
				Ability to study about the bus Communication in processors.																		
				Ability to acquire knowledge on various processor scheduling algorithms.																		
				Ability to understand basics of Real time operating system.																		
4	EE8661/ Power Electronics and Drives Laboratory	2	EE8661	Ability to practice and understand converter and inverter circuits and apply software for engineering problems	√		√	√						√	√	√						
				Ability to experiment about switching characteristics various switches.	√		√	√					√	√	√							
				Ability to analyze about AC to DC converter circuits.	√		√	√					√	√	√							
				Ability to analyze about DC to AC circuits.	√		√	√					√	√	√							
				Ability to acquire knowledge on AC to AC converters	√		√	√					√	√	√							
				Ability to acquire knowledge on simulation software.	√		√	√					√	√	√							

5	EE8681 / Microprocessors and Microcontrollers Laboratory	2	EE8681	Ability to understand and apply computing platform and software for engineering problems	√		√	√						√	√	√		
				Ability to programming logics for code conversion.	√		√	√					√	√	√			
				Ability to acquire knowledge on A/D and D/A.	√		√	√					√	√	√			
				Ability to understand basics of serial communication.	√		√	√					√	√	√			
				Ability to understand and impart knowledge in DC and AC motor interfacing.	√		√	√					√	√	√			
				Ability to understand basics of software simulators.	√		√	√					√	√	√			
6	EE8611/ Mini Project	2	EE8611	On Completion of the mini project work students will be in a position to take up their final year project work and find solution by formulating proper methodology.	√		√	√					√	√	√			

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1	EE8701 / High Voltage Engineering	3	EE8701	Ability to understand Transients in power system.	√	√	√	√	√		√					√			
				Ability to understand Generation and measurement of high voltage.	√	√	√	√	√		√						√		
				Ability to understand High voltage testing.	√	√	√	√	√		√						√		
				Ability to understand various types of over voltages in power system.	√	√	√	√	√		√						√		
				Ability to measure over voltages	√	√	√	√	√		√						√		
				Ability to test power apparatus and insulation coordination	√	√	√	√	√		√						√		
2	EE8702 / Power System Operation and Control	3	EE8702	Ability to understand the day-to-day operation of electric power system.	√	√	√	√	√		√					√			
				Ability to analyze the control actions to be implemented on the system to meet the minute-to-minute variation of system demand.	√	√	√	√	√		√						√		
				Ability to understand the significance of power system operation and control	√	√	√	√	√		√						√		
				Ability to acquire knowledge on real power-frequency interaction	√	√	√	√	√		√						√		
				Ability to understand the reactive power-voltage interaction.	√	√	√	√	√		√						√		
				Ability to design SCADA and its application for real time operation.	√	√	√	√	√		√						√		
3	EE8703 / Renewable Energy Systems	3	EE8703	Ability to create awareness about renewable Energy Sources and technologies.	√	√	√	√	√		√					√			
				Ability to get adequate inputs on a variety of issues in harnessing renewable Energy	√	√	√	√	√		√						√		
				Ability to recognize current and possible future role of renewable energy sources.	√	√	√	√	√		√						√		
				Ability to explain the various renewable energy resources and technologies and their applications	√	√	√	√	√		√						√		
				Ability to understand basics about biomass energy.	√	√	√	√	√	√	√						√		
				Ability to acquire knowledge about solar energy.	√	√	√	√	√	√	√						√		
4	EE8711 / Power System Simulation Laboratory	2	EE8711	Ability to understand power system planning and operational studies.	√		√	√						√	√	√			
				Ability to acquire knowledge on Formation of Bus Admittance and Impedance Matrices and Solution of Networks.	√		√	√						√	√	√			
				Ability to analyze the power flow using GS and NR method	√		√	√						√	√	√			
				Ability to find Symmetric and Unsymmetrical fault	√		√	√						√	√	√			
				Ability to understand the economic dispatch.	√		√	√						√	√	√			
				Ability to analyze the electromagnetic transients.	√		√	√						√	√	√			

