R.M.K. COLLEGE OF ENGINEERING AND TECHNOLOGY

R.S.M.NAGAR, PUDUVOYAL-601 206

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE OUTCOMES

COURSE OUTCOMES: HS8151/ COMMUNICATIVE ENGLISH

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C101.1	Enable the development in sharing information about family and friends.	K3,A2
C101.2	Strengthen general comprehending skills and present lucid skills in free writing.	K2,A2
C101.3	Understand the basic grammar techniques and utilize it in enhancing language development.	K4,A2
C101.4	Foster an environment for reading and develop good language skills.	A2
C101.5	Develop flair for any kind of writing with rich vocabulary and proper syntax.	A2
C101.6	Proficiency in writing technical articles and presenting papers on any topic of any genre.	A3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C101.1	K3,A2	-	-	-	-	-	-	-	-	-	2	-	3	-	-	-
C101.2	K2,A2	-	-	-	-	-	-	-	-	2	2	-	3	-	-	-
C101.3	K4,A2	-	-	-	-	-	-	-	-	-	2	-	3	-	-	-
C101.4	A2	-	-	-	-	-	-	-	-	-	2	-	3	-	-	-
C101.5	A2	-	-	-	-	-	-	-	-	-	2	-	3	-	-	-
C101.6	A3	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-
C101			-		-					3	2		3			

COURSE OUTCOMES: MA8151 ENGINEERING MATHEMATICS I
After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C102.1	Diagonalize symmetric matrices and similar matrices using Eigen values and Eigen vectors.	K2
C102. 2	Explain gradients, potential functions, and directional derivatives of functions of several variables.	K2
C102. 3	Compute line, surface and volume integral using Gauss divergence, Green's and stoke's theorem.	K2
C102. 4	Discuss analytic functions in heat and fluid flow.	K2
C102. 5	Extend the concept of contour integrals in evaluating Real integrals.	K2
C102. 6	Discuss Laplace Transform methods to solve initial value problems for constant coefficient linear ODEs.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C102.1	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C102.2	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C102.3	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C102.4	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C102.5	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C102.6	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C102		2	1	-	-	-	-	-	-	-	-	-	-	-	-	-

COURSE OUTCOMES: PH8151 –ENGINEERING PHYSICS

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C103.1	Discuss the Young's modulus and Rigidity modulus of elasticity of materials and its determination through experimental methods	K2
C103.2	Describe the characteristics of laser light and their application in semiconductor laser.	K2
C103.3	Discuss the principle behind the propagation of light through an optical fibre and its application in sensors.	K2
C103.4	Summarize the different modes of heat transfer.	K2
C103.5	Relate the quantum concepts in electron microscopes.	K2
C103.6	Describe the unit cell characteristics and the growth of crystals.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C103.1	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
C103.2	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
C103.3	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
C103.4	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
C103.5	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
C103.6	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
C103		2	1	-	-	-	-	-	-	-	2	-	-	-	-	-

COURSE OUTCOMES: CY8151/ ENGINEERING CHEMISTRY

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C104.1	Summarize the water related problems in boilers and their treatment techniques.	K 2
C104.2	Discuss the applications of adsorption in the field of water and air pollution abatement.	K 2
C104.3	Discuss the types of catalysis and the mechanism of enzyme catalysis	K 2
C104.4	Associate phase rule in the alloying and the behavior of one component and two component systems using phase diagram	K 2
C104.5	Explain various types of fuels, their manufacturing processes and calculation of calorific theoretically	K 2
C104.6	Summarize the principles and generation of energy in batteries ,nuclear reactors, solar cells, wind mills and fuel cells	K 2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C104.1	K2	2	1	-	-	-	-	-	-	-	2	-	-			
C104.2	K2	2	1	-			-	-	-	-	2	-	-			
C104.3	K2	2	-	-			-	-	-	-	2	-	-			
C104.4	K2	2	1	-			-	-	-	-	2	-	-			
C104.5	K2	2	1	-			-	-	-	-	2	-	-			
C104.6	K2	2	-	-			-	-	-	-	2	-	-			
C104		2	1								2					

COURSE OUTCOMES: GE8151/ PROBLEM SOLVING AND PYTHON ROGRAMMING

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C105.1	Discuss the logical solutions through Flowcharts, Algorithms and Pseudo code	K2
C105.2	Explain the syntax for python programming constructs.	K2
C105.3	Compute the flow of the program to obtain the programmatic solution.	K2
C105.4	Examine the programs with sub problems using 'Python' language.	K3
C105.5	Compute the compound data using Python lists, tuples, and dictionaries	K2
C105.6	Apply python programs to read and write data from/to files.	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C105.1	K2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-
C105.2	K2	2	1	1	1	2	-	-	-	-	-	-	-	-	-	-
C105.3	K2	2	1	1	1	2	-	-	-	-	-	-	-	-	-	-
C105.4	K3	3	2	2	1	3	-	-	-	-	-	-	-	-	-	-
C105.5	K2	2	1	1	1	2	-	-	-	-	-	-	-	-	-	-
C105.6	K3	3	2	2	1	3	-	-	-	-	-	-	-	-	-	-
C105		2	1	1	1	2	-	-	-	-	-	-	-	-	-	-

COURSE OUTCOMES: GE8152 – ENGINEERING GRAPHICS

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C106.1	Discuss about conics and orthographic views of engineering components	**K2**
C106.2	Draw the projection of points, lines and planes	**K1**
C106.3	Classify solids and projection of solids at different positions	**K3**
C106.4	Show sectioned view of solids and development of surface	**K3**
C106.5	Draw isometric projection and perspective views of an object/solid	**K1**
C106.6	Apply the concept of drawing in practical applications.	**K3**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C106.1	**K2**	2									2					
C106.2	**K1**	1									1					
C106.3	**K3**	3									3					
C106.4	**K3**	3									3					
C106.5	**K1**	1									1					
C106.6	**K3**	3		2							3					
C106		**2**		**2**							**2**					

COURSE OUTCOMES: GE8161/ PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C1O7.1	Write, test, and debug simple Python programs.	K1
C1O7.2	Apply the concept of conditionals and loops in Python programs.	K3
C1O7.3	Develop the Python programs step-wise by defining functions and calling them.	K4
C1O7.4	Use Python lists, tuples, dictionaries for representing compound data.	K3
C1O7.5	Read and write data from/to files in Python.	K1
C1O7.6	Apply the concept of Pygame.	K3
LCO.1	Exhibit ethical principles in engineering practices	A3
LCO.2	Perform task as an individual and / or team member to manage the task in time	A3
LCO.3	Express the Engineering activities with effective presentation and report.	A3
LCO.4	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C1O7.1	K1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-
C1O7.2	K3	3	2	2	1	3	-	-	-	-	-	-	-	-	-	-
C1O7.3	K4	3	3	3	2	3	-	-	-	-	-	-	-	-	-	-
C1O7.4	K3	3	2	2	1	3	-	-	-	-	-	-	-	-	-	-
C1O7.5	K1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-
C1O7.6	K3	3	2	2	1	3	-	-	-	-	-	-	-	-	-	-
LCO.1	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
LCO.2	A3	-	-	-	-	-	-	-	-	3		3	-	-	-	-
LCO.3	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
LCO.4	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C107		2	2	2	1	3	-	-	3	3	3	3	3	-	-	-

COURSE OUTCOMES: BS8161 PHYSICS & CHEMISTRY LABORATORY

After successful completion of the course, the students should be able to

Course Outcomes	Description	Knowledge Level
C108.1	Determine the Modulus of elasticity of materials and Coefficient of Viscosity of liquids	K2
C108.2	Determine the Thermal Conductivity of bad conductor using Lee's disc method	K2
C108.3	Calculate the Compressibility of liquids and velocity of ultrasonic waves in liquids	K2
C108.4	Measure the wavelength of prominent spectral lines of Mercury Spectrum and particle size of powder using diffraction phenomenon and thickness of thin materials using interference phenomenon,	K2
C108.5	Determine the band gap energy of a semiconductor	K2
C108.6	Calculate water quality parameters such as hardness, alkalinity of the given water sample.	K2
C108.7	Estimate the amount of the given acids using conductometric titrations.	K2
C108.8	Estimate the amount of the given acids using pH titrations	K2
C108.9	Determine the amount of iron content in the given substance using potentiometric titration	K2
C108.10	Determine the amount of chloride content in the given water sample.	K2
LCO.1	Exhibit ethical principles in engineering practices	A3
LCO.2	Perform task as an individual and / or team member to manage the task in time	A3
LCO.3	Express the Engineering activities with effective presentation and report.	A3
LCO.4	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C108.1	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C108.2	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C108.3	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C108.4	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C108.5	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C108.6	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C108.7	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C108.8	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C108.9	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C108.10	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
LCO.1	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
LCO.2	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
LCO.3	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
LCO.4	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C108		2	1	-	-	-			3	3	3	3	3	-	-	-

COURSE OUTCOMES: HS8251/ TECHNICAL ENGLISH

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C109.1	Breakdown the ideas in to its elementary constituents, analyze and act after a meaning full thought process.	K2,A2
C109.2	Analyze the phrase and passage and explicitly pass on the ideas meaning fully.	K3,A2
C109.3	Manage to interpret the given phrase or the graphical rendering and review the contents well individually or as a group.	K3,A2
C109.4	Concentrate on the communication aspect of complicated ideas and respond positively.	A2
C109.5	Debate the issues and find the rudiments of the problem individually and as a group.	A3
C109.6	Respond intelligently and seek clarification and understand completely.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C109.1	K2,A2	-	-	-	-	-	-	-	-	-	2	-	3	-	-	-
C109.2	K3,A2	-	-	-	-	-	-	-	-	2	2	-	3	-	-	-
C109.3	K3,A2	-	-	-	-	-	-	-	-	-	2	-	3	-	-	-
C109.4	A2	-	-	-	-	-	-	-	-	-	2	-	3	-	-	-
C109.5	A3	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-
C109.6	A2	-	-	-	-	-	-	-	-	-	2	-	3	-	-	-
C109		-	-	-	-	-				3	2		3	-	-	-

COURSE OUTCOMES: MA8251/ ENGINEEERING MATHEMATICS II

After successful completion of the course, the students should be able to

CO No.	Course Outcomes	Highest Cognitive Level
C110.1	Compute Eigen values and Eigen vectors of a matrix, diagonalize symmetric matrices and similar matrices	K2
C110. 2	Explain gradients, potential functions, and directional derivatives of functions of several variables.	K2
C110. 3	Compute line, surface and volume integral using Gauss divergence, Green's and stoke's theorem.	K2
C110. 4	Discuss analytic functions in heat and fluid flow.	K2
C110. 5	Extend the concept of contour integrals in evaluating Real integrals.	K2
C110. 6	Discuss Laplace Transform methods to solve initial value problems for constant coefficient linear ODEs.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C110.1	K2	2	1													
C110.2	K2	2	1													
C110.3	K2	2	1													
C110.4	K2	2	1													
C110.5	K2	2	1													
C110.6	K2	2	1													
C110		2	1													

COURSE OUTCOMES: PH8253/ PHYSICS FOR ELECTRONICS ENGINEERING:

After successful completion of the course, the students should be able to

	Description	Highest Cognitive Level
C111.1	Discuss about Electrical Conductivity, Thermal Conductivity and Density of Energy States in metals.	K2
C111.2	Explain electrical conductivity in semiconducting devices.	K2
C111.3	Summarize the properties of magnetic materials and their applications.	K2
C111.4	Summarize different polarization mechanisms in dielectric materials.	K2
C111.5	Discuss the working of Opto-electronic devices.	K2
C111.6	Summarize the basics of quantum structures and their applications in nano devices.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C111.1	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
C111.2	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
C111.3	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
C111.4	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
C111.5	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
C111.6	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
C111		2	1	-	-	-	-	-	-	-	2	-	-	-	-	-

COURSE OUTCOMES: BE8252/ BASIC CIVIL AND MECHANICAL ENGINEERING

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C112.1	Summarize various disciplines of Civil and Mechanical Engineering.	K2
C112.2	Explain the construction material and Surveying methods.	K2
C112.3	Discuss the various civil engineering structures like bridges, dams & railways.	K2
C112.4	Discuss the working principle and construction of components used in Power plant and IC engines.	K2
C112.5	Discuss the components of refrigeration and air conditioning system.	K2
C112.6	Associate civil and mechanical engineering concepts in practical applications	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C112.1	K2										2					
C112.2	K2	2									2					
C112.3	K2						2				2					
C112.4	K2	2									2					
C112.5	K2	2									2					
C112.6	K2	2									2					
C112		2					2				2					

COURSE OUTCOMES: EE8251/ CIRCUIT THEORY

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C113.1	Understand the basic knowledge in the analysis of Electric Networks	K2
C113.2	Discriminate the Mesh and Nodal analysis to illustrate the behavior of the circuit.	K2
C113.3	Solve the network theorems to find unknown voltage and current for the given circuit	K3
C113.4	Illustrate the Transient Response of RL, RC .	K2
C113.5	Explain the behavior of three phase circuits for balanced/unbalanced load condition in different star and delta configuration.	K3
C113.6	Explain the frequency response of various resonance circuits and behavior of coupled circuits	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C113.1	K2	2	-	-	-	-								2	-	
C113.2	K2	2	1	-	-	-								-	1	
C113.3	K3	3	2	-	-	3								-	1	
C113.4	K2	2	1	-	-	-								2	1	
C113.5	K3	3	2	-	-	-								2	1	
C113.6	K3	3	2	-	-	3								-	-	
C113		3	2			3								2	1	

COURSE OUTCOMES: GE8291/ ENVIRONMENTAL SCIENCE AND ENGINEERING

After successful completion the course, the students should be able to

CO No.	Course Outcomes	Highest Cognitive Level
C114.1	**Summarize** the values, threats, conservation of biodiversity and ecosystems	K2
C114.2	**Discuss** the sources, effects, control measures of different types of pollution, and solid waste management	K2
C114.3	**Associate** the effects of exploitation of Natural resources on environment	K2
C114.4	**Summarize** the water conservation methods and various environmental acts for environmental sustainability	K2
C114.5	**Explain** the effect of Human population and role of IT in environment and human health	K2
C114.6	**Discuss** scientific, technological, economic and social solutions to environmental problems	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C114.1	K2	-	-	-	-	-	2	3	-	-	2	-	-	-	-	-
C114.2	K2	2	-	-	-	-	2	3	-	-	2	-	-	-	-	-
C114.3	K2	2	-	-	-	-	2	3	-	-	2	-	-	-	-	-
C114.4	K2	-	-	-	-	-	2	3	-	-	2	-	-	-	-	-
C114.5	K2	-	-	-	-	-	-	3	-	-	2	-	-	-	-	-
C114.6	K2	2	1	-	-	-	2	3	-	-	2	-	-	-	-	-
C114		2	1	-	-	-	2	3	-	-	2	-	-	-	-	-

COURSE OUTCOMES: GE8261 / ENGINEERING PRACTICES LAB

After successful completion of the course, the students should be able to

CO No.	Course Outcomes	Highest Cognitive Level
C115.1	Identify Tools and Techniques used for Sheet Metal Fabrication.	**K1**
C115.2	Use welding equipment to join the structures.	**K3**
C115.3	Demonstrate Plumbing requirements of domestic buildings.	**K3**
C115.4	Apply the skills of basic electrical engineering for house wiring practice	**K3**
C115.5	Measure various electrical quantities	**K3**
C115.6	Explain the working of electronic components and its utilization	**K2**
C115.7	Apply electronic principles to develop circuits for primitive application	**K3**
LCO.1	Exhibit ethical principles in engineering practices	A3
LCO.2	Perform task as an individual and / or team member to manage the task in time	A3
LCO.3	Express the Engineering activities with effective presentation and report.	A3
LCO.4	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C115.1	K1	1		1		1										
C115.2	K3	3	2													
C115.3	K3	3	2													
C115.4	K3	3	2	2	1	3										
C115.5	K3	3	2	2	1	3										
C115.6	K2	2	1		1	2				2	2	2				
C115.7	K3	3	2	2	1	3				3	3	3				
LCO.1	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
LCO.2	A3	-	-	-	-	-	-	-	-	3		3	-	-	-	-
LCO.3	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
LCO.4	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C115		3	2	2	1	2			3	3	3	3	3			

COURSE OUTCOMES: EE8261/ ELECTRIC CIRCUIT LABORATORY
After successful completion of the course, the students should be able to

	COURSE OUTCOMES	HIGHEST COGNITIVE LEVEL
C116.1	Compute electrical circuit parameters through practical using KVL andKCL.	K3
C116.2	Demonstrate electrical circuit parameters through practical for various theorem	K3
C116.3	Illustrate the Analog and digital oscilloscopes and measurement of sinusoidal voltage, frequency and power factor through practically.	K2
C116.4	Interpret validation of R-C,RL, and RLC electric circuit transients through practical.	K3
C116.5	Design and Simulation of series and parallel resonance circuit.	K3
C116.6	Solve three phase balanced and unbalanced star, delta network circuits through practical.	K3
LCO.1	Exhibit ethical principles in engineering practices	A3
LCO.2	Perform task as an individual and / or team member to manage the task in time	A3
LCO.3	Express the Engineering activities with effective presentation and report.	A3
LCO.4	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C116.1	K3	3	-	-	-	-								2	-	
C116.2	K3	3	2	-	-	-								-	1	
C116.3	K2	2	2	-	-	3								-	1	
C116.4	K3	3	2	-	-	-								2	1	
C116.5	K3	3	2	-	-	-								2	1	
C116.6	K3	3	2	-	-	3								-	-	
LCO.1	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
LCO.2	A3	-	-	-	-	-	-	-	-	3		3	-	-	-	-
LCO.3	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
LCO.4	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C116		3	2			3			3	3	3	3	3	2	1	

COURSE OUTCOMES: MA8353- TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C201.1	Solve Linear Partial differential equations of first, second and higher order equations.	K2
C201.2	Relate the concepts of Fourier series expansion for even and odd functions.	K2
C201.3	Relate the concepts of Fourier series techniques in solving boundary value problems.	K2
C201.4	Explain the Fourier transform, Fourier Sine and Cosine transform techniques.	K2
C201.5	Relate the concepts of Z-Transform and Inverse Z-Transform techniques for discrete time systems.	K2
C201.6	Explain the solutions of difference equations by Z-Transform techniques for discrete time systems.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C201.1	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C201.2	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C201.3	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C201.4	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C201.5	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C201.6	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C201		2	1	1	-	-	-	-	-	-	-	-	-	-	-	-

COURSE OUTCOMES: EE8351-DIGITAL LOGIC CIRCUITS

After successful completion of the course, the students should be able to

	Course Outcomes	Highest Cognitive Level
C202.1	Explain various binary codes and their conversions.	K2
C202.2	Compare the various digital logic families	K2
C202.3	Apply the Boolean algebra, K-map and programmable logic devices to design combinational circuits	K3
C202.4	Develop synchronous sequential circuits	K3
C202.5	Develop asynchronous sequential circuits	K3
C202.6	Apply VHDL to design logic circuits	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	**PO-2**	**PO-3**	**PO-4**	**PO-5**	**PO-6**	**PO-7**	**PO-8**	**PO-9**	**PO-10**	**PO-11**	**PO-12**	**PSO-1**	**PSO-2**	**PSO-3**
		K3	**K4**	**K5**	**K5**	**K3,K5,K6**	**A3**	**A2**	**A3**	**A3**	**A3**	**A3**	**A2**	**K4**	**K3**	**K4**
C202.1	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C202.2	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C202.3	K3	3	2	1	2	-	-	-	-	-	-	-	-	-	1	-
C202.4	K3	3	2	1	2	-	-	-	-	-	-	-	-	-	1	-
C202.5	K3	3	2	1	2	-	-	-	-	-	-	-	-	-	1	-
C202.6	K3	3	2	1	2	2	-	-	-	-	-	-	-	-	2	-
C202		3	2	1	2	2	-	-	-	-	-	-	-	-	1	-

COURSE OUTCOMES: EE8391 Electromagnetic Theory

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C203.1	Explain the mathematical concepts related to electromagnetic vector fields for practical applications	K2
C203.2	Extend the concepts of electrostatics, electrical potential, energy density to various applications.	K2
C203.3	Interpret concepts to electrostatic, magneto static, and electromagnetic fields	K2
C203.4	Explain the concepts of Faraday's law, induced EMF and Maxwell's equations	K2
C203.5	Outline the concepts of electromagnetic waves and Pointing vector	K2
C203.6	Extend the basic mathematical concepts related to electromagnetic vector fields	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C203.1	K2	2	1	1	1	-	-	-	-	-	1	-	-	2	-	-
C203.2	K2	2	1	1	1	-	-	-	-	-	1	-	-	2	-	-
C203.3	K2	2	1	1	1	-	-	-	-	-	1	-	-	2	-	-
C203.4	K2	2	1	1	1	-	-	-	-	-	1	-	-	2	-	-
C203.5	K2	2	1	1	1	-	-	-	-	-	1	-	-	2	-	-
C203.6	K2	2	1	1	1	-	-	-	-	-	1	-	-	2	-	-
C203		2	1	1	1	-	-	-	-	-	1	-	-	2	-	-

COURSE OUTCOMES: EE8301 Electrical Machines-I

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C204.1	Summarize the magnetic materials used in magnetic circuits	K2
C204.2	Demonstrate the operation of transformer	K2
C204.3	Explain electromechanical energy conversion	K2
C204.4	Outline the operation of DC Generators & DC Motors	K2
C204.5	Experiment with DC machines to estimate its performance parameters	K3
C204.6	Classify the speed control methods of DC motors.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K4	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C204.1	**K2**	2	1	-	-	-	-	-	-	-	1	-	-	1	-	-
C204.2	**K2**	2	1	1	1	-	-	-	-	-	-	-	-	2	-	-
C204.3	**K2**	3	2	2	-	-	-	-	-	-	-	-	-	1	-	-
C204.4	**K2**	2	1	1	1	-	-	-	-	-	-	-	-	2	-	-
C204.5	**K3**	3	2	2	2	-	-	-	-	-	1	-	-	2	-	-
C204.6	**K2**	2	1	1	-	-	-	-	-	-	1	-	-	2	-	-
C204		3	2	2	2	-	-	-	-	-	1	-	-	2	-	-

COURSE OUTCOMES: EC8353 Electronic Devices and Circuits

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C205.1	Outline the characteristics and applications of semiconductor diodes.	K2
C205.2	Explain the operation of various transistor types.	K2
C205.3	Demonstrate the small signal model of transistor amplifier.	K2
C205.4	Demonstrate multistage amplifier.	K2
C205.5	Explain the negative feedback amplifier circuits.	K2
C205.6	Construct Oscillators for given specifications.	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course OutComes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C205.1	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C205.2	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C205.3	**K2**	3	2	-	-	-	-	-	-	-	2	-	-	-	-	-
C205.4	**K2**	2	1	1	-	-	-	-	-	-	2	-	-	-	-	-
C205.5	**K2**	2	1	1	-	-	-	-	-	-	2	-	-	-	-	-
C205.6	**K3**	3	2	2	-	-	-	-	-	-	2	-	-	-	-	-
C205		3	2	2	-	-	-	-	-	-	2	-	-	1	-	-

COURSE OUTCOMES: ME8792 Power Plant Engineering

After successful completion of the course, the students should be able to

CO No.	Course Outcomes	Highest Cognitive Level
C206.1	Explain the different blocks in coal based power plant	K2
C206.2	Summarize the working of diesel, gas turbine and combined cycle power plant	K2
C206.3	Explain the layout and various types of reactors in nuclear power plant	K2
C206.4	Illustrate the operation of various types of renewable power plant	K2
C206.5	Summarize the tariffs and performance parameters of the power plant	K2
C206.6	Illustrate the pollution control and waste disposal techniques	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C206.1	K2	2	-	1	-	-	-	-	-	-	2	-	-	-	-	-
C206.2	K2	2	-	-	-	-	-	-	-	-	2	-	-	-	-	-
C206.3	K2	2	-	-	-	-	-	-	-	-	2	-	-	-	-	-
C206.4	K2	2	-	-	-	-	-	-	-	-	2	-	-	-	-	2
C206.5	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	1
C206.6	K2	1	-	-	-	-	-	-	-	-	2	-	-	2	-	1
C206		2	1	1	-	-	-	-	-	-	2	-	-	2	-	2

COURSE OUTCOMES: EC6361 Electronics Lab

After successful completion of the course, the students should be able to

	Course Outcomes	Blooms Level
C207.1	Illustrate the operation of semiconductor devices with their characteristics for various applications	K2
C207.2	Construct amplifier and oscillator circuits for any frequency using BJT and determine the output responses	K3
C207.3	Compare the ripple factor of diode rectifiers with and without filters	K2
C207.4	Identify the performance of multivibrators and differential amplifier using FET	K3
C207.5	Build passive filters for particular cutoff frequencies	K3
C207.6	Exhibit ethical principles in engineering practices	A3
C207.7	Perform task as an individual and / or team member to manage the task in time	A3
C207.8	Express the Engineering activities with effective presentation and report.	A3
C207.9	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C207.2	K2	2	1	1	1	-	-	-	-	-	-	-	-	1	-	-
C207.2	K3	3	2	2	2	-	-	-	-	-	-	-	-	1	-	-
C207.3	K2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-
C207.4	K3	3	2	2	2	-	-	-	-	-	-	-	-	1	-	-
C207.5	K3	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-
C207.6	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C207.7	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C207.8	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C207.9	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C207		3	2	2	2	-	-	-	3	3	3	3	3	1	-	-

COURSE OUTCOMES: EE66411-Electrical Machines-I Laboratory

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C208.1	Analyze the characteristics of various types of D.C. machines	K4
C208.2	Experiments with D.C. shunt motor to perform speed control.	K3
C208.3	Analyze the operation of transformer to obtain its performance characteristics.	K4
C208.4	Experiment with parallel connected transformer.	K3
C208.5	Develop the equivalent circuit of transformer by testing it.	K3
C208.6	Experiment with various types of 3-phase transformer connections and d.c. motor starters.	K3
C208.7	Exhibit ethical principles in engineering practices	A3
C208.8	Perform task as an individual and / or team member to manage the task in time	A3
C208.9	Express the Engineering activities with effective presentation and report.	A3
C208.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C208.1	K4	2	3	-	-	-	-	-	-	-	-	-	-	1	-	-
C208.2	K3	3	2	2	-	-	-	-	-	-	-	-	-	2	-	-
C208.3	K4	2	3	2	-	-	-	-	-	-	-	-	-	1	-	-
C208.4	K3	3	2	2	-	-	-	-	-	-	-	-	-	2	-	-
C208.5	K3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-
C208.6	K3	3	2	2	-	-	-	-	-	-	-	-	-	1	-	-
C208.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C208.8	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C208.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C208.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C208		3	3	2	-	-	-	-	3	3	3	3	3	2	-	-

COURSE OUTCOMES: MA8491 Numerical Methods

After successful completion of the course, the students should be able to

CO No.	Course Outcomes	Highest Cognitive Level
C209.1	Explain the concepts of algebraic and transcendental equations	**K2**
C209.2	Show the eigen values of a matrix numerically	**K2**
C209.3	Infer approximate interpolating polynomials for equal and unequal intervals.	**K2**
C209.4	Extend the techniques of numerical differentiation to calculate velocity and acceleration.	**K2**
C209.5	Explain the techniques of numerical integration to calculate the area of the region bounded by curves.	**K2**
C209.6	Compare numerical methods with analytical solutions.	**K2**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C209.1	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C209.2	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C209.3	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C209.4	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C209.5	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C209.6	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C209	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-

COURSE OUTCOMES: EE8401 Electrical Machines II

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C210.1	Outline the constructional details and the performance of different types of synchronous generators.	K2
C210.2	Illustrate the Principle of operation and performance of synchronous motor.	K2
C210.3	Outline the construction, principle of operation and performance of induction machines.	K2
C210.4	Explain the starting and speed control of three-phase induction motors.	K2
C210.5	Demonstrate the construction, principle of operation and performance of single phase induction motors	K2
C210.6	Summarize with construction and working principle of special machines	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C210.1	K2	2	1	1	1	-	-	-	-	-	**2**	-	-	2	-	-
C210.2	K2	2	2	1	1	-	-	-	-	-	**2**	-	-	2	-	-
C210.3	K2	2	1	1	1	-	-	-	-	-	**2**	-	-	2	-	-
C210.4	K2	2	1	1	1	-	-	-	-	-	**2**	-	-	2	-	-
C210.5	K2	2	1	1	1	-	-	-	-	-	**2**	-	-	2	-	-
C210.6	K2	2	2	-	-	-	-	-	-	-	**2**	-	-	2	-	-
C210		2	2	1	1	-	-	-	-	-	**2**	-	-	2	-	-

COURSE OUTCOMES: EE8402 -Transmission and Distribution

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C211.1	Describe the structure of power system.	K1
C211.2	Discuss the importance and the functioning of transmission line parameters	K2
C211.3	Illustrate the performance of Transmission lines	K3
C211.4	Demonstrate the mechanical design of transmission line	K2
C211.5	Explain the design and performance of underground cables	K2
C211.6	Summarize the different substations and various voltage control devices	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C211.1	**K1**	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C211.2	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	1	-	1
C211.3	**K3**	3	2	1	-	-	-	-	-	-	-	-	-	2	-	1
C211.4	**K2**	2	1	1	-	-	-	-	-	-	-	-	-	2	-	1
C211.5	**K2**	2	1	1	-	-	-	-	-	-	-	-	-	2	-	1
C211.6	**K2**	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
C211		1	1	-	-	-	-	-	-	-	-	-	-	-	-	-

COURSE OUTCOMES: EE8403 Measurement & Instrumentation

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C212.1	Summarize the characteristics and errors of the instruments and the need for calibration.	K2
C212.2	Explain the operation of different measuring instruments.	K2
C212.3	Infer the values of electrical parameters using different bridge configurations.	K2
C212.4	Outline the interference problems and the different grounding techniques to eliminate them.	K2
C212.5	Explain the working of different types of storage and display devices.	K2
C212.6	Classify transducers and select appropriate transducer for specific applications.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C212.1	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	-	-	1
C212.2	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C212.3	**K2**	2	1	1	-	-	-	-	-	-	2	-	-	1	-	-
C212.4	**K2**	2	-	-	-	-	-	-	-	-	2	-	-	1	-	-
C212.5	**K2**	2	-	-	-	-	-	-	-	-	2	-	-	-	-	1
C212.6	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C212		2	1	1	-	-	-	-	-	-	2	-	-	1	-	1

COURSE OUTCOMES: IC8451 CONTROL SYSTEMS

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C214.1	Model the various systems by mathematical equations and find transfer function	K3
C214.2	Explain the basic components of feedback control systems and summarise the various errors	K2
C214.3	Identify the performance parameters of the system through time domain and frequency domain approach	K3
C214.4	Infer the stability of the system in time domain and frequency domain	K2
C214.5	Apply the different compensation techniques to improve the stability of the system.	K3
C214.6	Explain the state space variables in effect of state feedback of system	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C214.1	K3	3	2	-	-	1	-	-	-	-	1	-	-	0	1	-
C214.2	K2	3	2	1	-	-	-	-	-	-	-	-	-	1	-	-
C214.3	K3	2	1	1	-	-	-	-	-	-	-	-	-	1	-	-
C214.4	K2	3	2	1	-	-	-	-	-	-	-	-	-	2	-	-
C214.5	K3	2	1	1	1	-	-	-	-	-	-	-	-	0	-	-
C214.6	K2	2	1	1	1	-	-	-	-	-	-	-	-	1	-	-
C214		3	2	1	1	1	-	-	-	-	1	-	-	2	1	-

COURSE OUTCOMES: EE8411: Electrical Machines Laboratory II

After successful completion of the course, the students should be able to

CO No.	Course Outcomes	Highest Cognitive Level
C215.1	Identify the different types of synchronous and induction machines	K3
C215.2	Summarize the basic calculation on synchronous and induction performance.	K3
C215.3	predetermine the regulation of three–phase alternator by various methods	K3
C215.4	Perform various tests on Induction motor for assessing its performance.	K3
C215.5	Describe the starting and speed control of three-phase induction motors.	K3
C215.6	Illustrate the areas of application of synchronous and induction machines	K3
C215.7	Exhibit ethical principles in engineering practices	A3
C215.8	Perform task as an individual and / or team member to manage the task in time	A3
C215.9	Express the Engineering activities with effective presentation and report.	A3
C215.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C215.1	K2	2	1	-	-	-	-	-	-	-	-	-	-	1	-	-
C215.2	K2	2	2	-	-	-	-	-	-	-	-	-	-	2	-	-
C215.3	K2	2	2	-	-	-	-	-	-	-	-	-	-	2	-	-
C215.4	K2	3	2	-	-	-	-	-	-	-	-	-	-	2	-	-
C215.5	K2	2	1	-	-	-	-	-	-	-	-	-	-	1	-	-
C215.6	K3	3	2	-	-	-	-	-	-	-	-	-	-	2	-	-
C215.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C215.8	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C215.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C215.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C215		3	2	-	-	-	-	-	3	3	3	3	3	2	-	-

COURSE OUTCOMES: EE8461 Linear and Digital Integrated Circuits Laboratory

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C215.1	Develop combinational circuits	K3
C215.2	Identify the operation of sequential digital circuits	K3
C215.3	Explain the operation of operational amplifier.	K2
C215.4	Identify operational amplifier for different applications	K3
C215.5	Understand the circuit operation of the 555 timer IC.	K2
C215.6	Analyze the characteristics of PLL and VCO	K2
C215.7	Exhibit ethical principles in engineering practices	A3
C215.8	Perform task as an individual and / or team member to manage the task in time	A3
C215.9	Express the Engineering activities with effective presentation and report.	A3
C215.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C215.1	K3	3	2	2	2	-	-	-	-	-	-	-	-	-	2	-
C215.2	K3	3	2	2	2	-	-	-	-	-	-	-	-	-	2	-
C215.3	K2	2	1	1	-	-	-	-	-	-	-	-	-	-	1	-
C215.4	K3	3	2	2	-	-	-	-	-	-	-	-	-	-	2	-
C215.5	K2	2	1	1	-	-	-	-	-	-	-	-	-	-	1	-
C215.6	K2	2	1	1	-	-	-	-	-	-	-	-	-	-	1	-
C215.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C215.8	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C215.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C215.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C215		3	2	2	2	-	-	-	3	3	3	3	3	-	2	-

Course Outcome: EE 8501 - POWER SYSTEM ANALYSIS

After successful completion of the course, the students should be able to

CO No.	Course Outcomes	Highest C Lev
C301.1	Explain the nature of the modern power system and the behavior of the constituent components.	K2
C301.2	Demonstrate per phase and per unit analysis for all power system components	K2
C301.3	Illustrate the formation of Z bus and Y bus	K2
C301.4	Solve power flow problem in an electrical power network using Numerical Methods	K3
C301.5	Interpret the Power system network under different faulty conditions	K2
C301.6	Explain the importance of stability analysis and different solution for swing equation	K2

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program S Outcor	
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO 2
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3
C301.1	K2	2	--	-	-	-	-	-	-	-	2	-	-	2	-
C301.2	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	1
C301.3	K2	2	1	-	-	2	-	-	-	-	2	-	-	-	1
C301.4	K3	3	2	-	-	-	-	-	-	-	2	-	-	2	1
C301.5	K2	2	1	-	-	-	-	-	-	-	2	-	-	2	1
C301.6	K2	3	2	-	-	3	-	-	-	-	2	-	-	-	-
Average		3	2	-	-	3	-	-	-	-	2	-	-	2	1

COURSE OUTCOMES: EE8551 MICROPROCESSOR & MICROCONTROLLER

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C302.1	Outline the functional blocks of 8085 microprocessor	K2
C302.2	Develop an simple assembly language program of 8085 microprocessor	K3
C302.3	Explain the architecture of 8051 microcontroller	K2
C302.4	Interpret the data transfer information through serial and parallel ports.	K2
C302.5	Illustrate how the different peripherals are interfaced with Microprocessor and microcontroller	K2
C302.6	Develop a program for various application of 8051	K3

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C302.1	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
C302.2	K3	3	2	-	-	-	-	-	-	-	2	-	-	1	-	-
C302.3	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
C302.4	K2	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C302.5	K2	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C302.6	K3	3	2	2	-	2	-	-	-	-	2	-	-	2	2	-
C302		**3**	**2**	**2**	-	**2**	-	-	-	-	**2**	-	-	**2**	**2**	-

COURSE OUTCOMES: EE8552 POWER ELECTRONICS

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C303.1	Summarize different types of power semiconductor devices and their switching characteristics.	K2
C303.2	Explain the operation, characteristics, performance parameters and applications of controlled rectifiers	K2
C303.3	Explain the operation, switching techniques, basics topologies and applications of DC-DC switching regulators.	K2
C303.4	Illustrate the operation, characteristics, performance parameters and applications of DC-AC inverter	K2
C303.5	Compare the different modulation techniques of pulse width modulated inverters used to reduce harmonics	K2
C303.6	Outline the operation of AC voltage controller, various configurations and its applications.	K2

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C303.1	K2	2	1	0	1	-	-	-	-	-	2	-	-	2	-	1
C303.2	K2	2	2	2	2	-	-	-	-	-	2	-	-	1	-	3
C303.3	K2	2	2	2	2	-	-	-	-	-	2	-	-	1	-	3
C303.4	K2	2	1	2	2	-	-	-	-	-	2	-	-	1	-	2
C303.5	K2	2	1	2	2	-	-	-	-	-	2	-	-	–	-	3
C303.6	K2	2	1	1	1	-	-	-	-	-	2	-	-	2	-	2
C303		2	2	2	2	-	-	-	-	-	2	-	-	2	-	3

COURSE OUTCOMES: EE8591- DIGITAL SIGNAL PROCESSING

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C304.1	Classify the different types of Signals and Systems.	K2
C304.2	Explain the LTI systems with different inputs using Z transform.	K2
C304.3	Show DFT & FFT techniques to filter the signals.	K2
C304.4	Develop FIR filters using windowing and frequency sampling techniques.	K3
C304.5	Demonstrate IIR Filters using different types of approximation.	K2
C304.6	Classify the DSP processors and its architectures for different applications.	K2

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												PSO		
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2			
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO1	PSO2	PSO3
C304.1	K2	2	1	1	1	1	-	-	-	-	1	-	-	2	2	-
C304.2	K2	2	1	1	1	1	-	-	-	-	1	-	-	3	3	-
C304.3	K2	2	1	1	1	1	-	-	-	-	1	-	-	-	2	-
C304.4	K3	3	2	2	2	1	-	-	-	-	1	-	-	3	3	-
C304.5	K2	3	2	2	2	1	-	-	-	-	1	-	-	-	2	-
C304.6	K2	2	1	1	1	1	-	-	-	-	1	-	-	-	-	-
C304		3	2	2	2	1	-	-	-	-	1	-	-	3	3	-

COURSE OUTCOMES: CS8392 -OBJECT ORIENTED PROGRAMMING

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C305.1	Understand the basic concepts of C++	K2
C305.2	Describe the basic characteristics of Object Oriented Programming	K2
C305.3	Apply the OOP concepts and develop real world applications	K3
C305.4	Understand the basic concepts of Java	K2
C305.5	Develop more efficient coding in Java using exception handling concepts	K3

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K4	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C305.1	K2	2	1	1	-	-	-	-	-	-	-	-	-	3	-	-
C305.2	K2	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
C305.3	K3	3	2	2	-	-	-	-	-	-	-	-	-	2	-	-
C305.4	K2	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
C305.5	K3	3	2	2	-	-	-	-	-	-	-	-	-	2	-	-
C305		3	2	2	-	-	-	-	-	-	-	-	-	3	-	-

COURSE OUTCOMES: EE8511-CONTROL & INSTRUMENTATION LABORATORY

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C307.1	Compute frequency and time domain specifications of different systems using MATLAB.	K3
C307.2	Explain the performance of various control system components.	K3
C307.3	Explain the performance of different types of sensors and transducers.	K2
C307.4	Illustrate the improvement in the response using various types of controllers.	K3
C307.5	Examine Resistance, Inductance and capacitance using AC and DC bridges	K2
C307.6	Demonstrate the conversion of data from Analog to Digital and Digital to Analog	K2
C307.7	Exhibit ethical principles in engineering practices	A3
C307.8	Perform task as an individual and / or team member to manage the task in time	A3
C307.9	Express the Engineering activities with effective presentation and report.	A3
C307.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C307.1	K3	3	2	-	-	1	-	-	-	-	-	-	-	-	1	-
C307.2	K3	3	2	1	-	-	-	-	-	-	-	-	-	1	-	-
C307.3	K2	2	1	1	-	-	-	-	-	-	-	-	-	1	-	-
C307.4	K3	3	2	1	-	-	-	-	-	-	-	-	-	2	-	-
C307.5	K2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-
C307.6	K2	2	1	1	1	-	-	-	-	-	-	-	-	1	-	-
C307.7	**A3**	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C307.8	**A3**	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C307.9	**A3**	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C307.10	**A2**	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
		3	2	1	1	1	-	-	3	3	3	3	3	2	1	-

COURSE OUTCOMES: HS8581 PROFESSIONAL COMMUNICATION

After successful completion of the course, the students should be able to

Course Outcomes	Description	Highest Cognitive Level
C308.1	To classify the content material and make effective presentations.	K2
C308.2	Employ adequate soft skills to successfully execute the job on hand.	A3
C308.3	To respond favourably to the values of others opinion and manage difficult situations in group discussions wisely.	K3,A2
C308.4	To execute various skills in grooming for any profession.	A3
C308.5	To display the body language in a very pleasant manner and react to even tough situations with ease.	A2
C308.6	To perform intelligently during job interviews and be successful.	K3,A2

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C308.1	K2	-	-	-	-	-	-	-	-	2	2	-	2	-	-	-
C308.2	A3	-	-	-	-	-	-	-	-	3	2	-	3	-	-	-
C308.3	K3,A2	-	-	-	-	-	-	-	-	2	3	-	3	-	-	-
C308.4	A3	-	-	-	-	-	-	-	-	3	2	-	3	-	-	-
C308.5	A2	-	-	-	-	-	-	-	-	2	2	-	3	-	-	-
C308.6	K3,A2	-	-	-	-	-	-	-	-	2	3	-	2	-	-	-
C308										2	2		3			

COURSE OUTCOMES: CS8383 OBJECT ORIENTED PROGRAMMING LABORATORY

After successful completion of the course, the students should be able to

Course Outcomes	Course Outcomes	Blooms Level
C309.1	Apply the concepts of OOPS to write C++ programs	K3
C309.2	Implements ADTs in C++	K3
C309.3	Compare various File handling methods	K3
C309.4	Implement simple Java applications and develop simple packages	K3
C309.5	Create Java simple Applications by applying threading and Exception handling concepts	K3
C309.6	Exhibit ethical principles in engineering practices	A3
C309.7	Perform task as an individual and / or team member to manage the task in time	A3
C309.8	Express the Engineering activities with effective presentation and report.	A3
C309.9	Interpret the findings with appropriate technological / research citation.	A2

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C309.1	K3	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-
C309.2	K3	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-
C309.3	K3	2	3	2	2	-	-	-	-	-	-	-	-	-	-	-
C309.4	K3	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-
C309.5	K3	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-
C309.6	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C309.7	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C309.8	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C309.9	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C309		3	2	2	2	-	-	-	3	3	3	3	3	3	-	-

COURSE OUTCOMES: EE6601: SOLID STATE DRIVES

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C310.1	Describe the stable steady-state operation and transient dynamics of a motor-load system.	K2
C310.2	Illustrate the operation of the converter / chopper fed dc drive.	K2
C310.3	Compare the operation of both classical and modern induction motor drives.	K2
C310.4	Differentiate between synchronous motor drive and induction motor drive.	K2
C310.5	Determine the suitable drive for permanent magnet synchronous motor.	K2
C310.6	Evaluate the current and speed controllers for a closed loop solid-state DC motor drive.	K3

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C310.1	**K2**	2	2	-	-	-	-	-	-	-	**2**	-	-	2	-	-
C310.2	**K2**	2	1	-	-	-	-	-	-	-	**2**	-	-	2	-	-
C310.3	**K2**	2	2	-	-	-	-	-	-	-	**2**	-	-	1	-	-
C310.4	**K2**	2	1	-	-	-	-	-	-	-	**2**	-	-	2	-	-
C310.5	**K2**	3	1	-	-	-	-	-	-	-	**2**	-	-	2	-	-
C310.6	**K3**	3	1	-	-	-	-	-	-	-	**2**	-	-	2	-	-
C310		3	2	-	-	-	-	-	-	-	**2**	-	-	2	-	-

COURSE OUTCOMES: EE6702 Protection and Switchgear

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C311.1	Explain the various faults and protective schemes in the Power Systems.	K2
C311.2	Summarize the operation of various protection relays in the power systems.	K2
C311.3	Infer the need and procedure of apparatus protection.	K2
C311.4	Demonstrate about static and numerical relays.	K2
C311.5	Illustrate the problems associated with circuit interruption	K2
C311.6	Identify the feasible protection systems needed for the main parts of a power system.	K3

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C311.1	K2	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C311.2	K2	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C311.3	K2	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C311.4	K2	2	1	1	-	-	-	-	-	-	2	-	-	2	-	-
C311.5	K2	3	2	-	-	-	-	-	-	-	2	-	-	2	1	-
C311.6	K3	3	2	1	-	-	-	-	-	-	2	-	-	2	1	-
C311		3	2	1	-	-	-	-	-	-	2	-	-	2	1	-

COURSE OUTCOMES: EE6602 EMBEDDED SYSTEMS

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C312.1	Outline the essentials of function and Blocks of Embedded system	K2
C312.2	Explain the different communication network strategies of embedded systems	K2
C312.3	Demonstrate the different phases of embedded product development life cycle (EDLC)	K2
C312.4	Interpret the issues, modeling and computational models in Embedded design	K2
C312.5	Explain the basic concepts and compare the features of real time operating systems (RTOS)	K2
C312.6	Summarize the concepts of Embedded Systems in real time applications	K2

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C312.1	K2	2	-	-	-	-	-	-	-	-	2	-	-	-	1	-
C312.2	K2	2	1	-	1	-	-	-	-	-	2	-	-	-	2	-
C312.3	K2	2	1	-	1	-	-	-	-	-	2	-	-	-	1	-
C312.4	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	1	-
C312.5	K2	2	1	-	-	1	-	-	-	-	2	-	-	-	2	-
C312.6	K2	2	1	1	1	1	-	-	-	-	2	-	-	-	2	-
C312		2	1	1	1	1	-	-	-	-	2	-	-	-	2	-

COURSE OUTCOMES: EE6611 POWER ELECTRONICS AND DRIVES LABORATORY

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C315.1	Understand the characteristics and switching behavior of Power electronic circuits practically.	K2
C315.2	Identify, formulate and analyze power converters.	K3
C315.3	Understand the concepts of SMPS	K2
C315.4	Understand and implement power converters, DC-DC and AC voltage controller with the help of MATLAB simulation.	K2
C315.5	Demonstrate the various modulating signals using inverters	K3
C315.6	Develop the pulse generation for various circuits in converters	K3
C315.7	Exhibit ethical principles in engineering practices	A3
C315.8	Perform task as an individual and / or team member to manage the task in time	A3
C315.9	Express the Engineering activities with effective presentation and report.	A3
C315.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C315.1	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C315.2	K3	3	2	1	-	-	-	-	-	-	-	-	-	1	-	-
C315.3	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C315.4	K2	2	1	1	-	1	-	-	-	-	-	-	-	2	1	-
C315.5	K3	3	2	1	1	-	-	-	-	-	-	-	-	1	-	-
C315.6	K3	3	2	1	1	-	-	-	-	-	-	-	-	1	-	-
C315.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C315.8	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C315.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C315.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C315		3	2	1	1	1	-	-	3	3	3	3	3	2	1	-

Course outcomes: EE6612-MICROPROCESSOR AND MICROCONTROLLER LABORATORY

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C316.1	Describe the fundamentals of assembly level programming of 8085 microprocessor and 8051 microcontroller.	K2
C316.2	Demonstrate their programming proficiency using the various addressing modes, stack pointer and data transfer instructions of the 8085 microprocessor.	K3
C316.3	Explain about the standard 8051 microcontroller real time interfaces including serial ports, digital to analog converters and analog to digital converters.	K2
C316.4	Understand the problems to interface the hardware with software using 8051 kit.	K2
C316.5	Apply knowledge of the microprocessor operations by use of a PC based microprocessor simulator.	K3
C316.6	Experiment the machine code that will provide solutions real world control problems such as Traffic light control, stepper motor speed control, temperature control.	K3
C316.7	Exhibit ethical principles in engineering practices	A3
C316.8	Perform task as an individual and / or team member to manage the task in time	A3
C316.9	Express the Engineering activities with effective presentation and report.	A3
C316.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C316.1	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C316.2	K3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
C316.3	K2	2	1	-	-		-	-	-	-	-	-	-	-	-	-
C316.4	K2	2	1	-	-	2	-	-	-	-	-	-	-	-	1	-
C316.5	K3	3	2	-	-	2	-	-	-	-	-	-	-	-	2	-
C316.6	K3	3	2	-	-	2	-	-	-	-	-	-	-	-	2	-
C316.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C316.8	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C316.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C316.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C316		3	2	-	-	2	-	-	3	3	3	3	3	-	2	-

COURSE OUTCOMES: EE8701- HIGH VOLTAGE ENGINEERING

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C401.1	Explain the Causes of overvoltage's and protection against over voltages.	**K2**
C401.2	Outline the various breakdown mechanism of solid, liquid and gaseous dielectric medium.	**K2**
C401.3	Summarize the Generation of high voltages and high currents	**K2**
C401.4	Explain the measurement of high voltages and high currents	**K2**
C401.5	Illustrate the testing of high voltage electrical power apparatus	**K2**
C401.6	Show the importance of Insulation Co-ordination	**K2**

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C401.1	**K2**	**2**	**--**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**-**	**-**	**2**	**-**	**-**
C401.2	K2	**2**	**1**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**-**	**-**	**-**	**1**	**-**
C401.3	**K2**	**2**	**1**	**-**	**-**	**2**	**-**	**-**	**-**	**-**	**1**	**-**	**-**	**-**	**1**	**-**
C401.4	**K2**	**2**	**1**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**-**	**-**	**2**	**1**	**-**
C401.5	**K2**	**2**	**1**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**-**	**-**	**2**	**1**	**-**
C401.6	**K2**	**2**	**1**	**-**	**-**	**2**	**-**	**-**	**-**	**-**	**1**	**-**	**-**	**2**	**-**	**-**
Average		***2***	***1***	**-**	**-**	***2***					***1***			***2***	***1***	**-**

COURSE OUTCOMES: EE8702 POWER SYSTEM OPERATION AND CONTROL

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C402.1	Understand the generator, turbine, speed Governor modeling and system Load	K2
C402.2	Explain the operation of steady state and dynamic performance of Single area LFC and Two Area LFC	K2
C402.3	Identify the steady state and dynamic performance of Excitation System	K2
C402.4	Explain reactive power control in transmission lines and compensation of reactive Power	K2
C402.5	Proficient in Unit Commitment Problem and Assess various methods (Lambda iteration Method) to obtain the economic operation with different Constrains	K2
C402.6	Understand the interconnection of power systems networks and analyze the function of the SCADA and EMS	K2

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C402.1	**K2**	2	-	-	-	-	-	-	-	-	**2**	-	-	2	-	-
C402.2	**K2**	2	1	-	-	2	-	-	-	-	**2**	-	-	-	2	-
C402.3	**K2**	2	-	-	-	-	-	-	-	-	**2**	-	-	-	-	-
C402.4	**K2**	2	1	-	-	-	-	-	-	-	**2**	-	-	2	-	-
C402.5	**K2**	2	1	-	-	2	-	-	-	-	**2**	-	-	-	2	-
C402.6	**K2**	2	-	-	-	-	-	-	-	-	**2**	-	-	-	-	-
C402		2	1	-	-	2	-	-	-	-	**2**	-	-	2	2	-

COURSE OUTCOMES: EE8703 RENEWABLE ENERGY SYSTEMS

After successful completion of the course, the students should be able to

Course Outcomes		Highest Cognitive Level
C403.1	Explain the importance, types and limitations of Renewable Energy Sources.	K2
C403.2	Acquire the knowledge about working of differnt types of Wind Power Plant and its grid issues.	K2
C403.3	Explain the types of PV system, its characteristics and applications.	K2
C403.4	Explain the basics about Biomass energy.	K2
C403.5	Explain various Renewable Energy Sources such as Tidal Energy and Wave Energy.	K2
C403.6	Illustrate the working of Fuel Cell.	K2

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C403.1	K2	2	1	1	-	-	-	-	-	-	-	-	-	1	-	1
C403.2	K2	2	1	1	-	-	-	-	-	-	-	-	-	1	-	1
C403.3	K2	2	1	1	-	-	-	-	-	-	-	-	-	1	-	1
C403.4	K2	2	1	1	-	-	-	-	-	-	-	-	-	1	-	1
C403.5	K2	2	1	1	-	-	-	-	-	-	-	-	-	1	-	1
C403.6	K2	2	1	1	-	-	-	-	-	-	-	-	-	1	-	1
C403		2	1	1	-	-	-	-	-	-	-	-	-	1	-	1

Course Outcomes: EE8711 – POWERSYSTEMSIMULATIONLABORATORY

CO No.	Course Outcomes	Highest Cognitive Level
C407.1	Modeling of Transmission Lines with available Parameters	K3
C407.2	Make use of Bus data and line Parameters to Form the Bus Admittance and Impedance Matrices	K3
C407.3	Experiment with the help of Numerical methods solve the power flow problem in an electrical power network	K3
C407.4	Examine the Power system network under different faulty conditions	K4
C407.5	Identify the SS and Transient stability analysis of SMIB and Multi machine Power Systems	K3
C407.6	Solve Economic dispatch and load frequency dynamics of multi-machine power system	K3
C407.7	Exhibit ethical principles in engineering practices	A3
C407.8	Perform task as an individual and / or team member to manage the task in time	A3
C407.9	Express the Engineering activities with effective presentation and report.	A3
C407.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C407.1	K3	3	--	-	-	-	-	-	-	-	2	-	-	2	-	-
C407.2	K3	3	2	-	-	-	-	-	-	-	-	-	-	-	1	-
C407.3	K3	3	2	-	-	3	-	-	-	-	1	-	-	-	1	-
C407.4	K4	3	1	-	-	-	-	-	-	-	-	-	-	2	1	-
C407.5	K3	3	2	-	-	-	-	-	-	-	-	-	-	2	1	-
C407.6	K3	3	2	-	-	3	-	-	-	-	1	-	-	-	-	-
C407.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C407.8	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C407.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C407.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C407		3	2	-	-	3	-	-	3	3	2	3	3	2	1	-

Course Outcomes: EE8712 RENEWABLE ENERGY SYSTEMS LABORATORY

Course Outcomes		Highest Cognitive Level
C408.1	Make use of simulation study to demonstrate various Renewable Energy Systems	K3
C408.2	Identify the performance of Micro Wind Energy Generation	K3
C408.3	Experiment with Hybrid (Solar-Wind) power system to analyze the performance	K3
C408.4	Identify the performance characteristics of Fuel Cell	K3
C408.5	Make use of simulation study to understand the performance of Intelligent Controllers on Hybrid Systems	K3
C408.6	Exhibit ethical principles in engineering practices	A3
C408.7	Perform task as an individual and / or team member to manage the task in time	A3
C408.8	Express the Engineering activities with effective presentation and report.	A3
C408.9	Interpret the findings with appropriate technological / research citation.	A2

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
		K3	K4	K5	K5	K3,K5,K6	A3	A2	A3	A3	A3	A3	A2	K4	K3	K4
C408.1	K3	3	2	1	-	2	-	-	-	-	-	-	-	2	-	2
C408.2	K3	3	2	1	-	-	-	-	-	-	-	-	-	2	-	2
C408.3	K3	3	2	1	-	-	-	-	-	-	-	-	-	2	-	2
C408.4	K3	3	2	1	-	-	-	-	-	-	-	-	-	2	-	2
C408.5	K3	3	2	1	-	2	-	-	-	-	-	-	-	2	-	2
C408.6	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C408.7	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C408.8	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C408.9	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C408		3	2	1	-	2	-	-	3	3	3	3	3	2	-	2

COURSE OUTCOMES: EE8811 Project Work

After successful completion of the course, the students should be able to

C411.1	Apply the relevant knowledge and skills, which are acquired within the electrical engineering field, to a given problem	K3
C411.2	Within given constraints, independently analyze and discuss inquiries/problems and solve larger problems on the basic level within the area related to electrical and electronics engineering	K4
C411.3	Reflect on, evaluate, and critically assess one's own and others' scientific results	K5
C411.4	Be able to identify one's need for further knowledge and continuously develop one's own knowledge for the benefit of humankind	K3
C411.5	Assess health, safety and legal relevant to professional engineering practices.	A3
C411.6	Comply the environmental needs and sustainable development.	A2
C411.7	Justify ethical principles in engineering practices	A3
C411.8	Perform multi-disciplinary task as an individual and / or team member to manage the project/task.	A3
C411.9	Comprehend the Engineering activities with effective presentation and report.	A3
C411.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPINGOF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
		K3	**K4**	**K4**	**K5**	**K3,K5,K6**	**A3**	**A2**	**A3**	**A3**	**A3**	**A3**	**A2**	**K4**	**K3**	**K4**
C411.1	K3	3	3	3	3	3	1	2	3	-	3	3	3	3	1	3
C411.2	K4	3	3	3	3	3	1	3	3	1	3	3	3	3	3	3
C411.3	K5	3	3	3	3	3	2	3	3	2	3	3	3	3	3	2
C411.4	K3	3	3	3	3	3	3	3	3	2	3	3	2	2	3	3
C411.5	A3	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
C411.6	A2	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
C411.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C411.8	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C411.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C411.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C411		**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	3	**3**	**3**	**3**