R.M.K. COLLEGE OF ENGINEERING AND TECHNOLOGY

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

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE OUTCOMES

MAPPING COs WITH POs AND PSOs

HS8151 – COMMUNICATIVE ENGLISH – I

COURSE OUTCOMES

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

CO No.	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 OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
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**			

MA8151 – ENGINEERING MATHEMATICS - I

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C102.1	Compute the ideas of limits and continuity and an ability to calculate with them and apply them.	**K2**
C102.2	Associate differentiation to solve maxima and minima problems.	**K2**
C102.3	Discuss integrals using techniques of integration, such as substitution, partial fractions and integration by parts.	**K2**
C102.4	Discuss convergence/divergence of improper integrals and evaluate convergent improper integrals.	**K2**
C102.5	Associate integration to compute multiple integrals, area, volume, integrals in polar coordinates, in addition to change of order and change of variables.	**K2**
C102.6	Explain various techniques in solving differential equations.	**K2**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
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**													

PH8151 – ENGINEERING PHYSICS

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C103.1	Discuss the Young's modulus and Rigidity modulus of elasticity of materials and its determination through	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 OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
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**					

CY8151 – ENGINEERING CHEMISTRY

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C104.1	Summarize the water related problems in boilers and their treatment techniques.	K2
C104.2	Discuss the applications of adsorption in the field of water and air pollution abatement.	K2
C104.3	Discuss the types of catalysis and the mechanism of enzyme catalysis	K2
C104.4	Associate phase rule in the alloying and the behavior of one component and two component systems using phase diagram	K2
C104.5	Explain various types of fuels, their manufacturing processes and calculation of calorific theoretically	K2
C104.6	Summarize the principles and generation of energy in batteries ,nuclear reactors, solar cells, wind mills and fuel cells	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
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**					

GE8151 – PROBLEM SOLVING AND PYTHON PROGRAMMING I

COURSE OUTCOMES

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

CO No.	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 OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
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		**3**	**2**	**2**	**1**	**3**										

GE8152 – ENGINEERING GRAPHICS

COURSE OUTCOMES

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

CO No.	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 OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C106.1	**K2**	2									2					
C106.2	**K1**	1									1				1	
C106.3	**K3**	3									3					
C106.4	**K3**	3									3					
C106.5	**K1**	1									1					
C106.6	**K3**	3		2							3					
C106		**3**		**2**							**3**				**1**	

HS8151 – PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATOR

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C107.1	Write, test, and debug simple Python programs.	K1
C107.2	Apply the concept of conditionals and loops in Python programs.	K3
C107.3	Develop the Python programs step-wise by defining functions and calling them.	K4
C107.4	Use Python lists, tuples, dictionaries for representing compound data.	K3
C107.5	Read and write data from/to files in Python.	K1
C107.6	Apply the concept of Pygame.	K3
C107.7	Exhibit ethical principles in engineering practices	A3
C107.8	Perform task as an individual and / or team member to manage the task in time	A3
C107.9	Express the Engineering activities with effective presentation and report.	A3
C107.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C107.1	K1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-
C107.2	K3	3	2	2	1	3	-	-	-	-	-	-	-	-	-	-
C107.3	K4	3	3	3	2	3	-	-	-	-	-	-	-	-	-	-
C107.4	K3	3	2	2	1	3	-	-	-	-	-	-	-	-	-	-
C107.5	K1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-
C107.6	K3	3	2	2	1	3	-	-	-	-	-	-	-	-	-	-
C107.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C107.8	A3	-	-	-	-	-	-	-	-	3		3	-	-	-	-
C107.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C107.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C107		3	3	3	2	3			3	3	3	3	3			

BS8151 PHYSICS AND CHEMISTRY LABORATOR

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive
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	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
C108.11	Exhibit ethical principles in engineering practices	A3
C108.12	Perform task as an individual and / or team member to manage the task in time	A3
C108.13	Express the Engineering activities with effective presentation and report.	A3
C108.14	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific		
		K3	K4	K4	K5	K3,K5	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
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	-	-	-	-	-	-	-	-	-	-	-	-	-
C108.11	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C108.12	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C108.13	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C108.14	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C108		2	1						3	3	3	3	3			

HS8251 – TECHNICAL ENGLISH

COURSE OUTCOMES

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

CO No.	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 OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
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**	**3**		**3**			

MA8251 – ENGINEERING MATHEMATICS - II

COURSE OUTCOMES

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 OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
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**													

PH8253 – PHYSICS FOR ELECTRONICS ENGINEERING

COURSE OUTCOMES

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

CO No.	Course Outcomes	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 OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
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**					

BE8254 – BASIC ELECTRICAL AND INSTRUMENTATION ENGINEERING

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C112.1	Explain the operation of three phase power supply systems and power system	K2
C112.2	Analyze the working of transformer and to build its mathematical model	K3
C112.3	Outline the principles of DC electrical machines	K2
C112.4	Explain the operation of AC electrical machines	K3
C112.5	Summarize the characteristics of the measuring instruments and its errors.	K2
C112.6	Explain the working of different types of transducers, storage and display devices	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C112.1	K2	2	1	1												1
C112.2	K3	3	2	2	1									1		
C112.3	K2	2	1	1										1		
C112.4	K3	3	2	2	1									-		
C112.5	K2	2	1	1		1								1	1	
C112.6	K2	2	1	1		1								-	1	
C112		3	2	2	1	1								1	1	1

EC8201 – CIRCUIT ANALYSIS

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C113.1	Explain the basic circuit elements, fundamental laws applied for circuits.	K2
C113.2	Solve complex circuits using Mesh & Nodal Methods.	K3
C113.3	Deduce the complicated circuits into simple circuits using Theorems.	K3
C113.4	Understand the concept of resonant theory and coupled circuits.	K2
C113.5	Solve the RLC Transient circuits with DC and AC inputs	K3
C113.6	Compute the different types of two port parameters.	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C113.1	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C113.2	K3	3	2	2	-	-	-	-	-	-	-	-	-	1	1	-
C113.3	K3	3	2	2		-	-	-	-	-	-	-	-	1	1	-
C113.4	K2	2	1	-		-	-	-	-	-	-	-	-	1	1	-
C113.5	K3	3	2	2	-	-	-	-	-	-	-	-	-	1	1	-
C113.6	K3	3	2	2	-	-	-	-	-	-	-	-	-	1	1	-
C113		3	2	2										1	1	

EC8252 – ELECTRONIC DEVICES

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C114.1	Describe the principle and characteristics of semiconductor diode	K2
C114.2	Analyze various transistor configurations	K2
C114.3	Construct large signal modeling and small signal modeling of a transistor	K3
C114.4	Describe the principle of operation and characteristics of special Semiconductor diodes	K2
C114.5	Discuss the operation of various semiconductor photo devices and power electronic devices	K2
C114.6	Implement real time applications using electronic devices	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C114.1	K2	2	1	-	-	-	-	-	-	-	-	-	-	1	-	-
C114.2	K2	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C114.3	K3	3	2	-	-	-	-	-	-	-	-	-	-	2	-	-
C114.4	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C114.5	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C114.6	K3	3	2	2	-	-	3	-	-	-	2	-	-	1	-	-
C114		3	2	2			3				2			2		

EC8261 – CIRCUITS AND DEVICES LABORATORY

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C115.1	Identify the basic devices and its configurations	K2
C115.2	Analyze the resistive circuits with different sources	K3
C115.3	Obtain the resonance for different configurations of RLC	K2
C115.4	Explain the response of RLC circuit with different inputs	K3
C115.5	Understand the operation of basic solid state devices	K2
C115.6	Plot the response of wave shaping circuits	K3
C115.7	Exhibit ethical principles in engineering practices	A3
C115.8	Perform task as an individual and / or team member to manage the task in time	A3
C115.9	Express the Engineering activities with effective presentation and report.	A3
C115.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C115.1	K2	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
C115.2	K3	3	2	2	-	-	-	-	-	-	-	-	-	2	-	-
C115.3	K2	2	1	1	-	-	-	-	-	-	-	-	-	1	1	1
C115.4	K3	3	2	2	-	-	-	-	-	-	-	-	-	2	-	-
C115.5	K2	2	1	1	-	1	-	-	-	-	-	-	-	2	-	-
C115.6	K3	3	2	2	-	1	-	-	-	-	-	-	-	1	-	-
C115.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C115.8	A3	-	-	-	-	-	-	-	-	3	-	3		-	-	-
C115.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C115.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C115		3	2	2		1			3	3	3	3	3	2	1	1

GE8261 – ENGINEERING PRACTICES LABORATORY

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C116.1	Identify Tools and Techniques used for Sheet Metal Fabrication.	K1
C116.2	Use welding equipment to join the structures.	K3
C116.3	Demonstrate Plumbing requirements of domestic buildings.	K3
C116.4	Apply the skills of basic electrical engineering for house wiring practice	K3
C116.5	Measure various electrical quantities	K3
C116.6	Explain the working of electronic components and its utilization	K2
C116.7	Apply electronic principles to develop circuits for primitive application	K3
C116.8	Exhibit ethical principles in engineering practices	A3
C116.9	Perform task as an individual and / or team member to manage the task in time	A3
C116.10	Express the Engineering activities with effective presentation and report.	A3
C116.11	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C116.1	K1	1		1		1										
C116.2	K3	3	2													
C116.3	K3	3	2													
C116.4	K3	3	2	2	1	3										
C116.5	K3	3	2	2	1	3										
C116.6	K2	2	1		1	2				2	2	2		1		
C116.7	K3	3	2	2	1	3				3	3	3		1		
C116.8	A3								3							
C116.9	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C116.10	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C116.11	A2	-	-	-	-	-	-	-	-	-	-	-	3			
C116		3	2	2	1	3			3	3	3	3	3	1		

MA8352 – LINEAR ALGEBRA AND PARTIAL DIFFERENTIAL EQUATIONS

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C201.1	Relate the basic concepts of groups, rings and fields which will then be used to solve related problems.	K2
C201.2	Discuss the concepts of vector space, linear transformations and diagonalization.	K2
C201.3	Relate the concept of inner product spaces in orthogonalization	K2
C201.4	Solve Linear Partial differential equations of first and second order.	K2
C201.5	Express general Fourier series, sine and cosine series.	K2
C201.6	Associate the concepts of Fourier series in solving boundary value problems.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C201.1	K2	2	1	-	1	-	-	-	-	-	2	-	-	-	-	-
C201.2	K2	2	1	-	1	-	-	-	-	-	2	-	-	-	-	-
C201.3	K2	2	1	-	1	-	-	-	-	-	2	-	-	-	-	-
C201.4	K2	2	1	-	1	-	-	-	-	-	2	-	-	-	-	-
C201.5	K2	2	1	-	1	-	-	-	-	-	2	-	-	-	-	-
C201.6	K2	2	1	-	1	-	-	-	-	-	2	-	-	-	-	-
C201		**2**	**1**		**1**						**2**					

EC8393 – FUNDAMENTALS OF DATA STRUCTURES IN C

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C202.1	Understand the basic features of C Programming and their applications	K2
C202.2	Enumerate the structured data types and dynamic memory objects and apply for real world scenario	K3
C202.3	Implement various linear data structures operations in C	K3
C202.4	Implement various nonlinear data structures operations in C	K3
C202.5	Analyze the various searching and sorting algorithms and appropriately choose it for an given real world scenario	K2
C202.6	Suggest a new data structure for an application	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C202.1	K2	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-
C202.2	K3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-
C202.3	K3	3	1	2	-	-	-	-	-	-	-	-	-	-	-	-
C202.4	K3	3	1	2	-	-	-	-	-	-	-	-	-	-	-	-
C202.5	K2	3	1	2	-	-	-	-	-	-	-	-	-	-	-	-
C202.6	K2	3	1	2												
C202		**3**	**2**	**2**												

EC8351 – ELECTRONIC CIRCUITS 1

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C203.1	**Design** the amplifier circuits using various biasing methods.	K2
C203.2	**Analyze** the single stage and multistage BJT amplifiers using small signal equivalent model.	K3
C203.3	**Analyze** JFET amplifiers using small signal equivalent model.	K3
C203.4	**Analyze** MOSFET amplifiers using small signal equivalent model.	K3
C203.5	**Determine** the frequency response of single stage and multistage amplifiers.	K3
C203.6	**Design** and fault analyze dc power supplies.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C203.1	K2	2	1	-	-	-	-	-	-	-	-	-	-	1	-	-
C203.2	K3	3	2	2	2	-	-	-	-	-	-	-	-	2	2	-
C203.3	K3	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
C203.4	K3	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
C203.5	K3	3	2	2	2	-	-	-	-	-	-	-	-	2	2	3
C203.6	K2	2	1	-	-	-	-	-	-	-	-	-	-	1	1	-
C203		**3**	**2**	**2**	**2**									**2**	**2**	**3**

EC8352 – SIGNALS AND SYSTEMS

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C204.1	Understand the operations of signals	**K2**
C204.2	Analyze the Continuous time signals using Transforms	**K2**
C204.3	Examine the Continuous time LTI systems using Transforms	**K3**
C204.4	Illustrate the effect of aliasing through Baseband sampling theorem	**K2**
C204.5	Analyze the Discrete time signals using Transforms	**K2**
C204.6	Demonstrate the Discrete time LTI systems using Transforms	**K3**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C204.1	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	-	1	2
C204.2	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	-	1	2
C204.3	**K3**	3	2	-	-	-	-	-	-	-	-	-	-	-	2	3
C204.4	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	-	1	2
C204.5	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	-	1	2
C204.6	**K3**	3	2	2	1	-	-	-	-	-	-	-	-	-	2	3
C204		**3**	**2**	**2**	**1**										**2**	**3**

EC8392 – DIGITAL ELECTRONICS

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C205.1	Realize Boolean expression using logic gates.	**K2**
C205.2	Design Combinational circuits for a given functions using logic gates.	**K3**
C205.3	Implement synchronous and Asynchronous sequential circuits for a given application.	**K3**
C205.4	Design the combinational logic circuits using Programmable Logic Devices.	**K3**
C205.5	Summarize the types of memory devices.	**K2**
C205.6	Analyze the various logic families and their characteristics	**K3**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C205.1	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	1	1	-
C205.2	**K3**	3	2	-	-	-	-	-	-	-	-	-	-	2	2	3
C205.3	**K3**	3	2	1	1	-	-	-	-	-	-	-	-	2	-	3
C205.4	**K3**	3	2	-	-	-	-	-	-	-	-	-	-	2	-	-
C205.5	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	1	-	-
C205.6	**K3**	3	2	-	-	-	-	-	-	-	-	-	-	2	2	3
C205		**3**	**2**	**1**	**1**									**2**	**2**	**3**

EC8391 – CONTROL SYSTEMS ENGINEERING

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C206.1	Model a control system by its transfer function.	**K3**
C206.2	Describe methods to determine time response of a control system.	**K2**
C206.3	Describe methods to determine frequency response of a control system.	**K3**
C206.4	Design Compensation techniques to stabilize control system.	**K3**
C206.5	Test the stability of a control system.	**K3**
C206.6	Perform state variable analysis for control systems.	**K2**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C206.1	**K3**	3	2	-	-	-	-	-	-	-	-	-	-	-	2	-
C206.2	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	-	1	2
C206.3	**K3**	3	2	2	2	-	-	-	-	-	-	-	-	-	2	3
C206.4	**K3**	3	2	2	2	-	-	-	-	-	-	-	-	-	2	3
C206.5	**K3**	3	2	-	-	-	-	-	-	-	-	-	-	-	2	-
C206.6	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	-	1	-
C206		**3**	**2**	**2**	**2**										**2**	**3**

EC8381 – FUNDAMENTALS OF DATA STRUCTURES IN C LABORATORY

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C207.1	Apply the concepts of OOPS to write C++ programs	**K2**
C207.2	Implements ADTs in C++	**K3**
C207.3	Compare various File handling methods.	**K3**
C207.4	Implement simple Java applications.	**K3**
C207.5	Develop simple packages in Java	**K2**
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 OUTCOME

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

EC8361 – ANALOG AND DIGITAL CIRCUITS LABORATORY

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C208.1	Determine the frequency response of single stage amplifiers	K3
C208.2	Determine the frequency response of cascode and cascade amplifiers	K3
C208.3	Implement amplifier circuits using Spice simulation software.	K3
C208.4	Realize Combinational circuits using Logic gates.	K3
C208.5	Implement various counters using Flip-flops.	K2
C208.6	Realize shift registers using Flip-flops	K2
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 OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C208.1	K3	3	2	2	2	-	-	-	-	-	2	-	-	2	-	-
C208.2	K3	3	2	2	2	-	-	-	-	-	2	-	-	2	-	-
C208.3	K3	3	2	-	-	-	-	-	-	-	2	-	-	2	-	-
C208.4	K3	3	2	-	-	-	-	-	-	-	2	-	-	2	-	-
C208.5	K2	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C208.6	K2	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C208.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C208.8	A3	-	-	-	-	-	-	-	-	3	-	3		-	-	-
C208.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C208.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C208		3	2	2	2				3	3	3	3	3	2		

MA8451 – PROBABILITY AND RANDOM PROCESSES

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C209.1	Apply the fundamental probability concepts and random variables.	K2
C209.2	Apply the concepts of Standard distributions which can describe real life phenomena.	K2
C209.3	Interpret the concepts of covariance, correlation and regression.	K2
C209.4	Analyze the discrete and Markov chain in terms of a transition matrix and transition diagram.	K2
C209.5	Analyze various types of functions with spectral properties in the frequency domain.	K2
C209.6	Analyze the response of random inputs to linear time invariant systems.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C209.1	K2	2	1	-	1	-	-	-	-	-	2	-	-	-	-	-
C209.2	K2	2	1	-	1	-	-	-	-	-	2	-	-	-	-	-
C209.3	K2	2	1	-	1	-	-	-	-	-	2	-	-	-	-	-
C209.4	K2	2	1	-	1	-	-	-	-	-	2	-	-	-	-	-
C209.5	K2	2	1	-	1	-	-	-	-	-	2	-	-	-	-	-
C209.6	K2	2	1	-	1	-	-	-	-	-	2	-	-	-	-	-
C209		**2**	**1**		**1**						**2**					

EC8452 – ELECTRONIC CIRCUITS 2

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C210.1	Analyze the different types of Feedback Amplifier Circuits.	K3
C210.2	Design the different types of Oscillators for given specifications.	K3
C210.3	Analyze the performance of various Tuned Amplifiers.	K3
C210.4	Design the different types of Wave Shaping and Multivibrators.	K3
C210.5	Summarize the operation of Power Amplifiers.	K2
C210.6	Classify the types of DC Converters.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C210.1	K3	3	2	2	2	-	-	-	-	-	-	-	-	2	2	3
C210.2	K3	3	2	2	-	-	-	-	-	-	-	-	-	2	2	3
C210.3	K3	3	2	2	-	-	-	-	-	-	-	-	-	2	2	3
C210.4	K3	3	2	2	2	-	-	-	-	-	-	-	-	2	2	3
C210.5	K2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
C210.6	K2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
C210		3	2	2	2									2	2	3

EC8491 – COMMUNICATION THEORY

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C211.1	Describe the concepts of amplitude modulation system	K2
C211.2	Summarize the concepts of angle modulation system	K2
C211.3	Solve communication engineering problems by applying the concepts of random process.	K3
C211.4	Compare the noise performance of AM and FM systems	K3
C211.5	Understand the principles of Sampling and quantization	K2
C211.6	Design the PCM systems	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C211.1	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	2
C211.2	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	2
C211.3	K3	3	2	2	2	-	-	-	-	-	-	-	-	-	2	3
C211.4	K3	3	2	2	2	-	-	-	-	-	-	-	-	-	2	3
C211.5	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	2
C211.6	K3	3	2	2	2	-	-	-	-	-	-	-	-	-	-	2
C211		**3**	**2**	**2**	**2**										**2**	**3**

EC8451 – ELECTROMAGNETIC FIELDS

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C212.1	Apply vector calculus to electric-magnetic fields in different engineering situations.	K3
C212.2	Compute electric field and potential for different configurations.	K3
C212.3	Describe the behavior of dielectric and magnetic materials.	K2
C212.4	Solve problems requiring estimation of magnetic field quantities based on Amperes and Biot-Savart law	K3
C212.5	Examine the coupling between electric and magnetic fields through Maxwell's equations	K3
C212.6	Describe wave propagation in lossless and in lossy media	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C212.1	K3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	3
C212.2	K3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	3
C212.3	K2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	2
C212.4	K3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	3
C212.5	K3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	3
C212.6	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	2
C212		**3**	**2**	**2**												**3**

EC8453 – LINEAR INTEGRATED CIRCUITS

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C213.1	Describe the characteristics of operational amplifiers.	K2
C213.2	Design the various linear and non-linear applications of op-amp.	K3
C213.3	Apply the multiplier IC's and PLL in various applications	K3
C213.4	Compare the specifications of ADC and DAC.	K2
C213.5	Design oscillators and voltage regulators	K3
C213.6	Infer the applications of special function IC's.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C213.1	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C213.2	K3	3	2	2	2	1	-	-	-	-	-	-	-	2	2	3
C213.3	K3	3	2	2	2	1	-	-	-	-	-	-	-	2	2	3
C213.4	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	1	2
C213.5	K3	3	2	2	2	1	-	-	-	-	-	-	-	2	2	3
C213.6	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C213		**3**	**2**	**2**	**2**	**1**								**2**	**2**	**3**

GE8291 – ENVIRONMENTAL SCIENCE AND ENGINEERING

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C214.1	Summarize the values, threats, conservation of biodiversity and ecosystems	K2
C214.2	Identify various pollution control methods and waste management	K2
C214.3	Associate the effects of Natural resource exploitation on environment	K2
C214.4	Classify the various environmental laws & regulation for environmental sustainability	K2
C214.5	Explain the effect of Human population on environment	K2
C214.6	Discuss scientific, technological, economic and social solutions to environmental problems	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C214.1	K2	-	-	-	-	-	2	3	-	-	2	-	-	-	-	-
C214.2	K2	2	-	-	-	-	2	3	-	-	2	-	-	-	-	-
C214.3	K2	2	-	-	-	-	2	3	-	-	2	-	-	-	-	-
C214.4	K2	-	-	-	-	-	2	3	-	-	2	-	-	-	-	-
C214.5	K2	-	-	-	-	-	-	3	-	-	2	-	-	-	-	-
C214.6	K2	3	2	-	-	-	2	3	-	-	2	-	-	-	-	-
C214		**3**	**2**				**2**	**3**			**2**					

EC8461 – CIRCUITS DESIGN AND SIMULATION LABORATORY

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C215.1	Construct the different types of feedback amplifiers.	K3
C215.2	Implement RC & LC oscillator circuits for the given specifications.	K3
C215.3	Construct the wave shaping circuits	K2
C215.4	Implement the different types of Multivibrators	K2
C215.5	Simulate electronic circuits using SPICE	K3
C215.6	Determine the frequency response of tuned amplifiers	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 OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C215.1	K3	3	2	-	-	-	-	-	-	-	2	-	-	2	-	-
C215.2	K3	3	2	2	2	-	-	-	-	-	2	-	-	2	2	-
C215.3	K2	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C215.4	K2	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C215.5	K3	3	2	2	2	-	-	-	-	-	2	-	-	2	-	-
C215.6	K3	3	2	-	-	-	-	-	-	-	2	-	-	2	2	-
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	2	

EC8462 – LINEAR INTEGRATED CIRCUITS LABORATORY

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C216.1	Verify the operation of circuits using various Analog IC's.	K2
C216.2	Discuss the working of various function generating circuits using discrete elements and SPICE software.	K3
C216.3	Design Instrumentation amplifier using OP AMP and Frequency Multiplier PLL	K3
C216.4	Verify working of Multi vibrators using Analog IC's	K3
C216.5	Build first and second order practical active filters using Analog IC's	K3
C216.6	Test A/D and D/A convertors, Multipliers and Modulators using SPICE software.	K3
C216.7	Exhibit ethical principles in engineering practices	A3
C216.8	Perform task as an individual and / or team member to manage the task in time	A3
C216.9	Express the Engineering activities with effective presentation and report.	A3
C216.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C216.1	K2	2	1	1	1	1	-	-	-	-	2	-	-	1	1	2
C216.2	K3	3	2	2	2	1	-	-	-	-	2	-	-	2	2	3
C216.3	K3	3	2	2	2	1	-	-	-	-	2	-	-	2	2	3
C216.4	K3	3	2	2	2	1	-	-	-	-	2	-	-	2	2	3
C216.5	K3	3	2	2	2	1	-	-	-	-	2	-	-	2	2	3
C216.6	K3	3	2	2	2	1	-	-	-	-	2	-	-	2	2	3
C216.7	A3	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
C216.8	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C216.9	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C216.10	A2	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C216		3	2	2	2	1		3	3	3	3	3		2	2	3

EC6501 – DIGITAL COMMUNICATION

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C301.1	**Describe** the concepts of sampling and quantization	K2
C301.2	**Compare** the various source coding techniques	K2
C301.3	**Describe** the baseband transmission schemes	K2
C301.4	**Illustrate** the different modulation schemes and equalization techniques	K2
C301.5	**Examine** the PSD and BER of various modulation schemes	K3
C301.6	**Generate** different error control codes	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C301.1	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	1	2
C301.2	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C301.3	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	1	2
C301.4	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C301.5	K3	3	2	2	2	-	-	-	-	-	2	-	-	-	-	3
C301.6	K3	3	2	2	2	-	-	-	-	-	2	-	-	-	-	3
C301		**3**	**2**	**2**	**2**						**2**				**1**	**3**

EC8553 – DISCRETE TIME SIGNAL PROCESSING

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C302.1	Compute DFT for a given sequence	**K2**
C302.2	Compare the Discrete Fourier Transform (DFT) and Fast Fourier transform (FFT).	**K3**
C302.3	Design IIR digital filters.	**K3**
C302.4	Realize FIR digital filters for various specifications.	**K3**
C302.5	Illustrate various types of finite word length effects.	**K2**
C302.6	Summarize the architecture, addressing modes and instruction sets of DSP processors.	**K2**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C302.1	**K2**	2	1	1	1	-	-	-	-	-	-	-	-	-	1	2
C302.2	**K3**	3	2	2	2	-	-	-	-	-	-	-	-	-	2	3
C302.3	**K3**	3	2	2	2	-	-	-	-	-	-	-	-	-	2	3
C302.4	**K3**	3	2	2	2	-	-	-	-	-	-	-	-	-	2	3
C302.5	**K2**	2	1	1	1	-	-	-	-	-	-	-	-	-	1	2
C302.6	**K2**	2	1	1	1	-	-	-	-	-	-	-	-	-	1	2
C302		**3**	**2**	**2**	**2**										**2**	**3**

EC6503 – TRANSMISSION LINES AND WAVE GUIDES

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C303.1	Discuss the various types of transmission lines and propagation of signals.	K2
C303.2	Examine signal propagation for the given specifications	K3
C303.3	Explain impedance transformation and matching techniques.	K2
C303.4	Design transmission lines with stub matching using Smith chart.	K3
C303.5	Derive various types of passive filters.	K3
C303.6	Derive the radio propagation in guided systems and cavity resonator.	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C303.1	K2	2	1	-	-	-	-	-	-	-	-	-	-	2	-	2
C303.2	K3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	3
C303.3	K2	2	1	-	-	-	-	-	-	-	-	-	-	2	-	2
C303.4	K3	3	2	2	2	-	-	-	-	-	-	-	-	3	-	3
C303.5	K3	3	2	2	2	-	-	-	-	-	-	-	-	3	3	3
C303.6	K3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	3
C303		**3**	**2**	**2**	**2**									**3**	**3**	**3**

GE6351 – ENVIRONMENTAL SCIENCE AND ENGINEERING

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C304.1	Summarize the values, threats, conservation of biodiversity and ecosystems	K2
C304.2	Identify various pollution control methods and waste management	K2
C304.3	Associate the effects of Natural resource exploitation on environment	K2
C304.4	Classify the various environmental laws & regulation for environmental sustainability	K2
C304.5	Explain the effect of Human population on environment	K2
C304.6	Discuss scientific, technological, economic and social solutions to environmental problems	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C304.1	K2	-	-	-	-	-	2	3	-	-	2	-	-	-	-	-
C304.2	K2	2	-	-	-	-	2	3	-	-	2	-	-	-	-	-
C304.3	K2	2	-	-	-	-	2	3	-	-	2	-	-	-	-	-
C304.4	K2	-	-	-	-	-	2	3	-	-	2	-	-	-	-	-
C304.5	K2	-	-	-	-	-	-	3	-	-	2	-	-	-	-	-
C304.6	K2	3	2	-	-	-	2	3	-	-	2	-	-	-	-	-
C304		**3**	**2**				**2**	**3**			**2**					

EC6504 – MICROPROCESSOR AND MICROCONTROLLER

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C305.1	Explain the architecture and instruction set of Microprocessor	**K2**
C305.2	Discuss about System Bus Structure for Multiprocessor Configuration	**K2**
C305.3	Infer the functions of various interfacing IC'.	**K2**
C305.4	Explain the architectures and instruction set of Microcontroller	**K2**
C305.5	Illustrate the functions of various interfacing devices with Microcontroller	**K2**
C305.6	Build an assembly language program for interfacing	**K3**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C305.1	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C305.2	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C305.3	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	1	-	2
C305.4	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C305.5	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	1	-	2
C305.6	**K3**	3	2	2	2	1	-	-	-	-	2	-	-	2	-	-
C305		**3**	**2**	**2**	**2**	**1**					**2**			**2**		**2**

EC6511– DIGITAL SIGNAL PROCESSING LABORATORY

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C306.1	Plot the different types of signals	K2
C306.2	Analyse frequency response for the given system	K2
C306.3	Implement MultiMate filters in DSP	K3
C306.4	Apply adaptive filters in various applications of DSP	K3
C306.5	Implement DSP systems using DSP processor.	K3
C306.6	Develop DSP based systems for real-time applications.	K3
C306.7	Exhibit ethical principles in engineering practices	A3
C306.8	Perform task as an individual and / or team member to manage the task in time	A3
C306.9	Express the Engineering activities with effective presentation and report.	A3
C306.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C306.1	K2	2	1	1	-	-	-	-	-	-	1	-	-	-	1	2
C306.2	K2	2	1	1	-	-	-	-	-	-	1	-	-	-	1	2
C306.3	K3	3	2	1	-	-	-	-	-	-	2	-	-	-	2	3
C306.4	K3	3	2	1	-	-	-	-	-	-	2	-	-	-	2	3
C306.5	K3	3	2	1	-	1	-	-	-	-	2	-	-	-	2	3
C306.6	K3	3	2	1	-	1	-	-	-	-	2	-	-	-	2	3
C306.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C306.8	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C306.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C306.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C306			2	1		1			3	3	3	3	3		2	3

EC6512 – COMMUNICATION SYSTEM LABORATORY

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C307.1	Practice analog and digital modulation Schemes	K3
C307.2	Implement sampling theorem and Time Division Multiplexing	K3
C307.3	Implement Line Coding Schemes	K3
C307.4	Simulate Various modulation Schemes using Matlab.	K3
C307.5	Investigate the performance of Communication systems	K3
C307.6	Test Error Control Coding Schemes in Communication System	K3
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

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C307.1	K3	3	2	1	-	-	-	-	-	-	2	-	-	-	-	3
C307.2	K3	3	2	1	-	-	-	-	-	-	2	-	-	-	-	3
C307.3	K3	3	2	1	-	-	-	-	-	-	2	-	-	-	-	3
C307.4	K3	3	2	1	-	1	-	-	-	-	2	-	-	-	-	2
C307.5	K3	3	2	1	-	1	-	-	-	-	2	-	-	-	-	2
C307.6	K3	3	2	1	-	1	-	-	-	-	2	-	-	-	-	2
C307.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C307.8	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C307.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C307.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C307		3	2	1		1			3	3	3	3	3			3

EC6513 – MICROPROCESSOR AND MICROCONTROLLER LABORATORY

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C308.1	Write and execute ALP Program using Microprocessor K2	K2
C308.2	Interface different I/Os with microprocessor K3	K3
C308.3	Generate waveforms using Microprocessors K3	K3
C308.4	Execute Programs in 8051 Microcontroller K2	K2
C308.5	Develop a program to communicate Microprocessor with Personal Computer K3	K3
C308.6	Use a combination of hardware and software to solve a real time problem K3	K3
C308.7	Exhibit ethical principles in engineering practices	A3
C308.8	Perform task as an individual and / or team member to manage the task in time	A3
C308.9	Express the Engineering activities with effective presentation and report.	A3
C308.10	Interpret the findings with appropriate technological / research citation	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C308.1	K2	2	1	1	1	1	-	-	-	-	2	-	-	1	-	-
C308.2	K3	3	2	2	2	1	-	-	-	-	2	-	-	1	-	-
C308.3	K3	3	2	2	2	1	-	-	-	-	2	-	-	1	-	-
C308.4	K2	2	1	1	1	1	-	-	-	-	2	-	-	1	-	-
C308.5	K3	3	2	2	2	1	-	-	-	-	2	-	-	1	-	-
C308.6	K3	3	2	2	2	1	-	-	-	-	2	-	-	2	-	-
C308.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C308.8	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C308.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C308.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C308		3	2	2	2	1			3	3	3	3	3	2		

MG6851 – PRINCIPLES OF MANAGEMENT

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C309.1	Summarize the evolution of management thoughts and various challenges of managerial activities in a global	K2
C309.2	Explain the types of Planning and Decision making at various levels management in the Organizations..	K2
C309.3	Discuss various types of Organisation structure.	K2
C309.4	List out the steps in Staffing process and stages in Career development.	K2
C309.5	Explain the elements in Direction.	K2
C309.6	Generalize various Controlling techniques to maintain standards in Organizations.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C309.1	K2	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-
C309.2	K2	-	-	-	-	-	-	-	-	2	-	2	-	-	-	-
C309.3	K2	-	-	-	-	-	-	-	2	2	-	2	-	-	-	-
C309.4	K2	-	-	-	-	-	-	-	2	2	2	-	3	-	-	-
C309.5	K2	-	-	-	-	-	-	-	-	2	2	2	-	-	-	-
C309.6	K2	-	-	-	-	-	2	-	2	2	2	-	3	-	-	-
C309							**2**		**2**	**2**	**2**	**2**	**3**			

EC6303 – COMPUTER ARCHITECTURE

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C310.1	Identify and describe the major components of computer system	**K2**
C310.2	Distinguish various multiplication and division algorithms	**K3**
C310.3	Interpret and apply various addressing modes	**K2**
C310.4	Analyze pipelined control units and various types of hazards in the instructions	**K2**
C310.5	Compare properties of shared memory and distributed multiprocessor systems and cache coherency protocols.	**K3**
C310.6	Analyze the performance of memory using performance equation in a digital computer	**K2**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C310.1	**K2**	2	1	1	1	1	-	-	-	-	2	-	-	-	-	2
C310.2	**K3**	3	2	2	2	1	-	-	-	-	2	-	-	-	-	3
C310.3	**K2**	2	1	1	1	1	-	-	-	-	2	-	-	-	-	2
C310.4	**K2**	2	1	1	1	1	-	-	-	-	2	-	-	-	-	2
C310.5	**K3**	3	2	2	2	1	-	-	-	-	2	-	-	-	-	3
C310.6	**K2**	2	1	1	1	1	-	-	-	-	2	-	-	-	-	2
C310		**3**	**2**	**2**	**2**	**1**					**2**					**3**

EC6551 – COMPUTER NETWORKS

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C311.1	Describe the Internet architecture and link layer services	K2
C311.2	Compare various media access and internetworking protocols	K2
C311.3	Apply various routing protocols and algorithms for a given network along with IP addresses	K3
C311.4	Demonstrate the flow of information from one process to another process in the network	K2
C311.5	Summarize the various Application requirements	K2
C311.6	Discuss the various application layer protocols	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C311.1	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C311.2	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C311.3	K3	3	2	2	2	2	-	-	-	-	2	-	-	-	-	3
C311.4	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C311.5	K2	2	1	1	1	-	-	-	-	-	2	-	-	-	-	2
C311.6	K2	2	2	-	-	-	-	-	-	-	2	-	-	-	-	2
C311		3	2	2	2	2					2					2

EC6601 – VLSI DESIGN

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C312.1	Understand the basic concepts of linear and Non-linear behaviour of MOS transistors.	K2
C312.2	Realizethe various logic gates and functions using different logic families.	K3
C312.3	Design of memory elements in sequential circuits.	K2
C312.4	Understand the concepts of sequential circuits with different clocking schemes.	K2
C312.5	Analyze the critical path delay of various arithmetic building blocks.	K3
C312.6	Differentiate between Full custom and Semi-custom IC design.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C312.1	K2	2	1	-	-	-	-	-	-	-	-	-	-	1	-	2
C312.2	K3	3	2	2	2	-	-	-	-	-	-	-	-	2	-	3
C312.3	K2	2	1	-	-	-	-	-	-	-	-	-	-	1	-	2
C312.4	K2	2	1	-	-	-	-	-	-	-	-	-	-	1	-	2
C312.5	K3	3	2	2	2	-	-	-	-	-	-	-	-	2	-	3
C312.6	K2	2	1	-	-	-	-	-	-	-	-	-	-	1	-	2
C312		**3**	**2**	**2**	**2**									**2**		**3**

EC6602 – ANTENNA AND WAVE PROPAGATION

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C313.1	Illustrate the radiation characteristics of antennas	K3
C313.2	Determine the field components of aperture and slot antennas	K3
C313.3	Distinguish the radiation pattern of end fire and broad side arrays	K3
C313.4	Illustrate the principles of special antennas	K3
C313.5	Explain the various antenna measurement techniques	K3
C313.6	Discuss the characteristics of radio-wave propagation with respect to atmospheric layers	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C313.1	K3	3	2	2	2	-	-	-	-	-	-	-	-	-	-	3
C313.2	K3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	3
C313.3	K3	3	2	2	2	-	-	-	-	-	-	-	-	-	-	3
C313.4	K3	3	2	2		-	-	-	-	-	-	-	-	-	-	3
C313.5	K3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	3
C313.6	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C313		**3**	**2**	**2**	**2**											**3**

EC6001 – MEDICAL ELECTRONICS

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C3141.1	Discuss the characteristics of the bioelectric signals	K2
C3141.2	Describe the measurement techniques for various non-electrical parameters.	K2
C3141.3	Illustrate the working of human assist devices	K2
C3141.4	Discuss the operation of diathermy equipment.	K2
C3141.5	Describe the principle of Bio -Telemetry.	K2
C3141.6	Explain the recent trends in diagnosis & Therapy	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C3141.1	K2	2	1	1	-	-	-	-	-	-	-	-	-	1	-	-
C3141.2	K2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
C3141.3	K2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
C3141.4	K2	2	1	1	-	-	-	-	-	-	-	-	-	-	1	2
C3141.5	K2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
C3141.6	K2	3	2	1	1	-	-	-	-	-	-	-	-	-	-	-
C3141		**3**	**2**	**1**	**1**									**1**	**1**	**2**

EC6003 – ROBOTICS AND AUTOMATION

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C3142.1	Describe the basic concepts of robots and associated laws	K2
C3142.2	Analyze the function of sensors, drives and machine vision systems	K2
C3142.3	Apply the concepts of dynamics in constructing and controlling the manipulators and end effectors	K3
C3142.4	Apply the concepts of kinematics in determining the work envelop	K3
C3142.5	Discuss the various hill climb techniques and robot programming languages	K2
C3142.6	Explain the uses of robots in manufacturing and nonmanufacturing applications	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C3142.1	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C3142.2	K2	2	1	-	-	-	-	-	-	-	-	-	-	-	1	-
C3142.3	K3	3	2	2	2	-	-	-	-	-	-	-	-	1	-	-
C3142.4	K3	2	1	2	2	-	-	-	-	-	-	-	-	1	-	-
C3142.5	K2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
C3142.6	K2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
C3142		**3**	**2**	**2**	**2**						**2**			**1**	**1**	

EC6611 – COMPUTER NETWORKS LABORATORY

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C315.1	Build connection between desktop computers using Network topologies	K2
C315.2	Demonstrate Flow control and Error control Techniques	K3
C315.3	Develop Programs for client-server applications using sockets	K3
C315.4	Implement various routing algorithms for the given network	K3
C315.5	Implement Encryption/Decryption algorithm and various Error Detecting/Correcting codes	K3
C315.6	Apply CSMA CD/CA protocols and various Congestion Control Algorithms for given networks using simulation tool.	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

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C315.1	K2	2	1	1	1	1	-	-	-	-	2	-	-	-	-	2
C315.2	K3	3	2	2	2	1	-	-	-	-	2	-	-	-	-	3
C315.3	K3	3	2	2	2	1	-	-	-	-	2	-	-	-	-	3
C315.4	K3	3	2	2	2	1	-	-	-	-	2	-	-	-	-	3
C315.5	K3	3	2	2	2	1	-	-	-	-	2	-	-	-	-	3
C315.6	K3	3	2	2	2	1	-	-	-	-	2	-	-	-	-	3
C315.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C315.8	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C315.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C315.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C315		3	2	2	2	1			3	3	3	3	3			3

EC6612 – VLSI DESIGN LABORATORY

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C316.1	Design the combinational logic circuit using HDL code.	K3
C316.2	Differentiate the circuit using blocking and non-blocking assignment statements.	K2
C316.3	Analyze the Logic modules in terms of number of gates, floor plan and critical path delay.	K3
C316.4	Execute simple analog circuits using SPICE.	K2
C316.5	Design the sequential logic circuit using HDL code.	K3
C316.6	Execute and Extract the layouts of basic modules using MICROWIND tool.	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

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C316.1	K3	3	2	-	-	-	-	-	-	-	2	-	-	2	-	-
C316.2	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	-
C316.3	K3	3	2	2	2	-	-	-	-	-	2	-	-	2	-	-
C316.4	K2	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
C316.5	K3	3	2	-	-	-	-	-	-	-	2	-	-	2	-	-
C316.6	K3	3	2	-	-	-	-	-	-	-	2	-	-	-	-	-
C316.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C316.8	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C316.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C316.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C316		3	2	2	2				3	3	3	3	3	2		

EC6701 – RF AND MICROWAVE ENGINEERING

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C401.1	**Analyze** the S Parameters of two port networks.	K3
C401.2	**Design** impedance matching networks for RF amplifiers.	K3
C401.3	**Analyze** the S-parameters of passive microwave devices.	K3
C401.4	**Describe** the working principle of active microwave components.	K2
C401.5	**Compare** the efficiency of microwave amplifiers and oscillators.	K3
C401.6	**Describe** microwave signal measurement techniques.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C401.1	K3	3	2	2	2	1	-	-	-	-	2	-	-	2	-	3
C401.2	K3	3	2	2	2	1	-	-	-	-	2	-	-	2	-	3
C401.3	K3	3	2	-	-	-	-	-	-	-	2	-	-	-	-	3
C401.4	K2	2	1	-	-	-	-	-	-	-	2	-	-	1	-	2
C401.5	K3	3	2	-	-	-	-	-	-	-	2	-	-	2	-	3
C401.6	K2	2	1	-	-	-	-	-	-	-	2	-	-	1	-	2
C401		**3**	**2**	**2**	**2**	**1**					**2**			**2**		**3**

EC6702 – OPTICAL COMMUNICATION AND NETWORKS

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C402.1	Describe the basic principles of optical fiber communication	K2
C402.2	Summarize the different kind of signal degradation factors in optical fiber communication	K2
C402.3	Discuss the Characteristics of various fiber optical sources and detectors	K2
C402.4	Explain the various optical parameter measurement techniques	K3
C402.5	Compare the performance of optical networks based on Link Power budget and Rise Time budget	K3
C402.6	Compare the performance of various optical networks	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C402.1	K2	2	1	-	-	-	-	-	-	-	-	-	-		1	
C402.2	K2	2	1	1	1	-	-	-	-	-	-	-	-	-	1	
C402.3	K2	2	1	-	-	-	-	-	-	-	-	-	-		1	
C402.4	K3	3	2	1	1	-	-	-	-	-	-	-	-	-	1	
C402.5	K3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	
C402.6	K2	2	1	-	-	-	-	-	-	-	-	-	-			
C402		**3**	**2**	**1**	**1**										**1**	

EC6703 – EMBEDDED AND REAL TIME SYSTEMS

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C403.1	Explain the different embedded system technologies.	K2
C403.2	Describe the architecture and programming of ARM processor	K2
C403.3	Develop and analyze software modules for embedded system	K4
C403.4	Differentiate between the general purpose operating system and the real time operating system.	K4
C403.5	Apply system design flow to develop embedded systems	K3
C403.6	Implement real-time applications using embedded-system concepts	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C403.1	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C403.2	K2	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C403.3	K4	3	2	2	2	-	-	-	-	-	2	-	-	2	2	3
C403.4	K4	3	2	2	2	-	-	-	-	-	2	-	-	2	2	3
C403.5	K3	3	2	2	2	-	-	-	-	-	2	-	-	2	2	3
C403.6	K3	3	2	2	2	-	-	-	-	-	2	-	-	2	2	3
C403		**3**	**2**	**2**	**2**						**2**			**2**	**2**	**3**

IT6005 – DIGITAL IMAGE PROCESSING

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C404.1	Describe the fundamentals of digital image processing.	**K2**
C404.2	Distinguish the types of image enhancement techniques.	**K3**
C404.3	Describe the concepts of image segmentation techniques.	**K2**
C404.4	Analyze restoration filters for noise removal.	**K3**
C404.5	Compare the various image compression schemes.	**K3**
C404.6	Recognize the image patterns and represent the features of images.	**K2**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C404.1	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	1	1	2
C404.2	**K3**	2	1	1	1	-	-	-	-	-	-	-	-	-	2	3
C404.3	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	1	1	2
C404.4	**K3**	3	2	1	1	-	-	-	-	-	-	-	-	-	-	3
C404.5	**K3**	3	2	-	-	-	-	-	-	-	-	-	-	-	-	3
C404.6	**K2**	2	1	-	-	-	-	-	-	-	-	-	-	1	-	2
C404		**3**	**2**	**1**	**1**									**1**	**2**	**3**

EC6009 – ADVANCED COMPUTER ARCHITECTURE

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C405.1	Explain the fundamentals of computer design.	**K2**
C405.2	Make use of various instruction level parallelism techniques.	**K3**
C405.3	Compare the architectures under data level parallelism.	**K2**
C405.4	Relate the performance of symmetric and distributed shared memory architectures.	**K3**
C405.5	Identify cache and memory related issues in multiprocessors.	**K2**
C405.6	Discuss the I/O performance measures and memory Technology.	**K2**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C405.1	**K2**	2	1	1	1	1	-	-	-	-	2	-	-	-	-	2
C405.2	**K3**	3	2	2	2	1	-	-	-	-	2	-	-	-	-	3
C405.3	**K2**	2	1	1	1	1	-	-	-	-	2	-	-	-	-	2
C405.4	**K3**	3	2	2	2	1	-	-	-	-	2	-	-	-	-	3
C405.5	**K2**	2	1	1	1	1	-	-	-	-	2	-	-	-	-	2
C405.6	**K2**	2	1	1	1	1	-	-	-	-	2	-	-	-	-	2
C405		**3**	**2**	**2**	**2**	**1**					**2**					**3**

EC6014 – COGNITIVE RADIO

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C406.1	Explain the Concepts of Software Defined Radios	**K2**
C406.2	Classify the various processing resources required for radio applications	**K2**
C406.3	Describe the principles of self-aware Cognitive Radios	**K2**
C406.4	Compare various Artificial Intelligence techniques for radio applications	**K3**
C406.5	Design a cognitive architecture for radio applications	**K2**
C406.6	Illustrate the concepts of cognitive techniques for next generation wireless networks	**K3**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C406.1	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C406.2	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C406.3	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C406.4	**K3**	3	2	2	2	-	-	-	-	-	2	-	-	-	-	3
C406.5	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C406.6	**K3**	3	2	2	2	-	-	-	-	-	2	-	-	-	-	3
C406		**3**	**2**	**2**	**2**						**2**					**3**

EC6711 – EMBEDDED LABORATORY

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C407.1	Summarize about ARM Tiva Launch-pad TM4C123	K2
C407.2	Experiment with A/D and D/A convertors using ARM system	K3
C407.3	Implement communication protocols with ARM	K3
C407.4	Compare the interrupt performance of ARM and FPGA	K3
C407.5	Develop C programs for interfacing keyboard, display, motor and sensor.	K3
C407.6	Demonstrate a mini project using embedded 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

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C407.1	K2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-
C407.2	K3	3	2	2	2	1	-	-	-	-	-	-	-	-	2	-
C407.3	K3	3	2	2	2	1	-	-	-	-	-	-	-	-	-	3
C407.4	K3	3	2	2	2	1	-	-	-	-	-	-	-	-	-	-
C407.5	K3	3	2	2	2	1	-	-	-	-	-	-	-	-	-	3
C407.6	K3	3	2	2	2	1	-	-	-	-	-	-	-	-	-	3
C407.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C407.8	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C407.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C407.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C407		3	2	2	2	1			3	3	3	3	3		2	3

EC6712 – OPTICAL AND MICROWAVE LABORATORY

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C408.1	Illustrate the characteristics of microwave components	K3
C408.2	Analyze the performance of simple optical link by measurement of losses and Analyzing the mode characteristics of fiber	K3
C408.3	Analyze the Eye Pattern, Pulse broadening of optical fiber and the impact on BER	K3
C408.4	Examine the Wireless Channel Characteristics and the performance of Wireless Communication System	K4
C408.5	Calculate different losses in fiber optic cables	K4
C408.6	Determine modes and acceptance angle of fiber optic cables	K3
C408.7	Exhibit ethical principles in engineering practices	A3
C408.8	Perform task as an individual and / or team member to manage the task in time	A3
C408.9	Express the Engineering activities with effective presentation and report.	A3
C408.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C408.1	K3	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C408.2	K3	3	2	2	2	-	-	-	-	-	2	-	-	-	-	3
C408.3	K3	3	2	2	2	-	-	-	-	-	2	-	-	-	-	3
C408.4	K4	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C408.5	K4	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C408.6	K3	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C408.7	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C408.8	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C408.9	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C408.10	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C408		3	2	2	2				3	3	3	3	3			3

EC6801 – WIRELESS COMMUNICATION

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C409.1	Explain the Characteristics of fading in wireless channels	**K2**
C409.2	Describe the fundamentals of Cellular Architecture	**K2**
C409.3	Use various signaling schemes for wireless communication channels	**K3**
C409.4	Compare the performance of channel using various propagation models	**K3**
C409.5	Analyze the various mitigation techniques to address fading and interference in multipath propagation.	**K3**
C409.6	Design MIMO Systems in fading and nonfading channels	**K3**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C409.1	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C409.2	**K2**	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C409.3	**K3**	3	2	2	2	-	-	-	-	-	2	-	-	-	3	3
C409.4	**K3**	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C409.5	**K3**	3	2	2	2	-	-	-	-	-	2	-	-	-	3	3
C409.6	**K3**	2	1	-	-	-	-	-	-	-	2	-	-	-	-	2
C409		**3**	**2**	**2**	**2**						**2**				**3**	**3**

EC6802 – WIRELESS NETWORKS

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C410.1	Explain WIMAX and Wireless LAN protocols and standards.	K2
C410.2	Describe IP and routing strategies.	K3
C410.3	Infer the TCP enhancements for wireless protocols.	K2
C410.4	Explain Wireless WAN architectures, protocols and its features.	K2
C410.5	Analyze the latest wireless protocols for the problems associated with Wireless Networks.	K3
C410.6	Interpret the latest 4G networks and its architecture.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C410.1	K2	2	1	1	1	1	-	-	-	-	2	-	-	-	-	2
C410.2	K3	3	2	2	2	1	-	-	-	-	2	-	-	-	-	3
C410.3	K2	2	1	1	1	1	-	-	-	-	2	-	-	-	-	2
C410.4	K2	2	1	1	1	1	-	-	-	-	2	-	-	-	-	2
C410.5	K3	3	2	2	2	1	-	-	-	-	2	-	-	-	-	3
C410.6	K2	2	1	1	1	1	-	-	-	-	2	-	-	-	-	2
C410		**3**	**2**	**2**	**2**	**1**					**2**					**3**

GE6075 – PROFESSIONAL ETHICS IN ENGINEERING

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C411.1	Outline the core values that enrich the ethical behavior of an engineer.	K2
C411.2	Explain the perception in ethics towards the profession, various moral issues, and theories on moral development to handle dilemma situations	K2
C411.3	Associate the code of ethics in real time application as responsible experimenters and understand the various social issues	K2
C411.4	Aware of responsibilities of an engineer for safety and risk benefit analysis, professional rights and suggestion of suitable safety measures	K2
C411.5	Explain the concepts of Professional rights, Employee rights, Confidentiality, conflicts of interest and IPR.	K2
C411.6	Understand the global ethical issues related to various work place situation.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C411.1	K2	-	-	-	-	-	-	-	2	1	1	-	3	-	-	-
C411.2	K2	-	-	-	-	-	2	3	2	1	1	-	3	-	-	-
C411.3	K2	-	-	-	-	-	2	3	2	1	1	1	2	-	-	-
C411.4	K2	-	-	-	-	-	2	2	2	1	1	-	-	-	-	-
C411.5	K2	-	-	-	-	-	2	1	2	2	1	1	2	-	-	-
C411.6	K2	-	-	-	-	-	2	1	2	-	1	-	3	-	-	-
C411							**2**	**3**	**2**	**2**	**1**	**1**	**3**			

GE6757 – TOTAL QUALITY MANAGEMENT

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C412.1	Discuss various dimensions of product and service quality	K2
C412.2	Apply the TQM principles for quality improvement in organization	K3
C412.3	Distinguish various TQM tools and techniques used in Manufacturing and Service sectors	K2
C412.4	Use QFD tool to design and develop a new product as per customer requirements.	K3
C412.5	Explain various ISO Standards and Quality systems practiced in various sector	K2
C412.6	Summarize the basic concepts in total quality management relevant to manufacturing and service Sectors	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C412.1	K2	-	-	-	2	-	2	-	2	-	-	2	-	-	-	-
C412.2	K3	-	-	-	-	-	-	-	-	2	-	2	-	-	-	-
C412.3	K2	-	-	-	2	-	-	-	-	-	-	2	-	-	-	-
C412.4	K3	-	-	-	2	-	2	-	-	2	-	2	-	2	2	-
C412.5	K2	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
C412.6	K2	-	-	2	-	-	-	-	-	2	-	2	-	-	-	-
C412				2	2		2	2	2	2		2		2	2	

EC6811– PROJECT WORK

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C413.1	Demonstrate profound technical knowledge of the project.	K3
C413.2	Identify a real world problem, review literature and suggest its solution.	K4
C413.3	Demonstrate solutions to complex engineering problems utilizing a systems approach	K4
C413.4	Provide solutions to meet the specified needs of the society.	K5
C413.5	Create a system and validate its conformance	K6
C413.6	Perform data analysis, interpret and provide valid conclusions.	K6
C413.7	Assess health, safety and legal relevant to professional engineering practices.	A3
C413.8	Comply the environmental needs and sustainable development.	A2
C413.9	Justify ethical principles in engineering practices	A3
C413.10	Perform multi-disciplinary task as an individual and / or team member to manage the project/task.	A3
C413.11	Comprehend the Engineering activities with effective presentation and report.	A3
C413.12	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3,K5 K6	A3	A2	A3	A3	A3	A3	A2	K5	K5	K3
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C413.1	K3	3	2	2	1	1	-	-	-	-	-	-	-	2	2	3
C413.2	K4	3	3	3	2	1	-	-	-	-	-	-	-	2	2	3
C413.3	K4	3	3	3	2	1	-	-	-	-	-	-	-	2	2	3
C413.4	K5	3	3	3	3	2	-	-	-	-	-	-	-	2	2	3
C413.5	K6	3	3	3	3	3	-	-	-	-	-	-	-	2	2	3
C413.6	K6	3	3	3	3	3	-	-	-	-	-	-	-	2	2	3
C413.7	A3	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
C413.8	A2	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
C413.9	A3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C413.10	A3	-	-	-	-	-	-	-	-	3	-	3	-	-	-	-
C413.11	A3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
C413.12	A2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
C413		3	3	3	3	3	3	3	3	3	3	3	3	2	2	3