R.M.K COLLEGE OF ENGINEERING AND TECHNOLOGY

RSM NAGAR, PUDUVOYAL-601206

DEPARTMENT OF MECHANICAL 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 utilise 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 Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
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	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 OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
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 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 OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
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 behaviour 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 Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
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
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.	**K3**
C105.4	Examine the programs with sub problems using 'Python' language.	**K2**
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 Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C105.1	K2	2	1	1	1											
C105.2	K2	2	1	1	1	1										
C105.3	K3	3	2	2	1	1										
C105.4	K2	2	1	1	1	1										
C105.5	K2	2	1	1	1	1										
C105.6	K3	3	2	2	1	1										
C105		**2**	**1**	**1**	**1**	**1**										

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 Out Comes	Level of CO	K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
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		1							3					
C106		**2**		**1**							**2**				**1**	

GE8161 – PROBLEM SOLVING AND PYTHON PROGRAMMING LAB
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	Develop the programs in basic C constructs	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 Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C107.1	K1	1	1	1	1											
C107.2	K3	3	2	2	1	1										
C107.3	K4	2	3	3	2	2										
C107.4	K3	3	2	2	1	1										
C107.5	K1	1	1	1	1	1										
C107.6	K3	3	2	2	1	1										
C107.7	A3								3							
C107.8	A3									3		3				
C107.9	A3										3					
C107.10	A2												3			
C107		2	2	2	1	1			3	3	3	3	3			

BS8161 – PHYSICS AND CHEMISTRY LAB
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C108.1	Assess optical fibre parameters using laser properties.	K2
C108.2	Measure the velocity of ultrasonic waves in a given liquid medium.	K2
C108.3	Compute the wavelength of mercury spectrum using properties of light	K2
C108.4	Compute the thermal conductivity of a bad conductor using Lee's method.	K2
C108.5	Determine the modulus of a material using Hooke's law.	K2
C108.6	Estimate water quality parameters such as dissolved oxygen content, chloride content of the water samples.	K2
C108.7	Estimate acids and bases quantitatively based on the conductance of the solution.	K2
C108.8	Estimate acids and bases quantitatively based on pH level of the solution.	K2
C108.9	Calculate molecular weight of a polymer using viscosity measurements.	K2
C108.10	Estimate iron content of the given water sample by spectral method.	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 Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
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 Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
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		3			
C109.6	A2										2		3			
C109										**3**	**2**		**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 Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
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**													

PH8251 – MATERIALS SCIENCE
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C111.1	Discuss on various phase diagrams and applications	K2
C111.2	Discuss the Iron Carbon phase diagram and the applications of ferrous alloys	K2
C111.3	Describe the mechanical properties of materials and their measurements	K2
C111.4	Summarize the properties of magnetic materials	K2
C111.5	Describe the properties of dielectrics and superconducting materials	K2
C111.6	Summarize the properties and applications of ceramics ,composites and nanomaterials	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C111.1	K2	2	1								2					
C111.2	K2	2	1								2					
C111.3	K2	2									2					
C111.4	K2	2									2					
C111.5	K2	2									2					
C111.6	K2	2									2					
C111		**2**	**1**								**2**					

BE8253 – BASIC ELECTRICAL, ELECTRONICS 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	Analyze the DC Electrical Circuits.	K3
C112.2	Analyze the AC Electrical Circuits.	K3
C112.3	Explain the working principle & Performance Characteristics of Electrical Machines.	K2
C112.4	Explain the Construction & Static Characteristics of Electronic devices and its Application.	K2
C112.5	Choose the Instrument for Electrical measurement for a specific application.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C112.1	K3	3	2	2												
C112.2	K3	3	2	2												
C112.3	K2	2	1	1												
C112.4	K2	2	1	1	1	1										
C112.5	K2	2	1	1	1											
C112		2	1	1	1	1										

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
C113.1	Summarize the values, threats, conservation of biodiversity and ecosystems	**K2**
C113.2	Discuss the sources, effects, control measures of different types of pollution, and solid waste management	**K2**
C113.3	Associate the effects of exploitation of Natural resources on environment	**K2**
C113.4	Summarize the water conservation methods and various environmental acts for environmental sustainability	**K2**
C113.5	Explain the effect of Human population and role of IT in environment and human health	**K2**
C113.6	Discuss scientific, technological, economic and social solutions to environmental problems	**K2**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C113.1	**K2**						2	3			2			1		
C113.2	**K2**	2					2	3			2			1		
C113.3	**K2**	2					2	3			2			1		
C113.4	**K2**						2	3			2			1		
C113.5	**K2**							3			2					
C113.6	**K2**	2	1				2	3			2					
C113		**2**	**1**				**2**	**3**			**2**			**1**		

GE8292 – ENGINEERING MECHANICS
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C114.1	Compute the resultant force for planar and spatial system of forces.	K2
C114.2	Estimate the force, moment for planar and spatial system of forces.	K2
C114.3	Compute the centroid, second moment of area, center of gravity, product moment of inertia and mass moment of inertia.	K2
C114.4	Compute the motion parameters like displacement, velocity, acceleration using dynamics.	K2
C114.5	Compute the reaction force by applying principles of friction and the motion parameters of rigid body.	K2
C114.6	Apply the concepts of mechanics and work in force analysis	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C114.1	K2	2	1												1	
C114.2	K2	2	1												1	
C114.3	K2	2	1												1	
C114.4	K2	2	1												1	
C114.5	K2	2	1												1	
C114.6	K3	3	2												2	
C114		2	1												1	

GE6162 – ENGINEERING PRACTICES LAB
COURSE OUTCOMES

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
C115.8	Exhibit ethical principles in engineering practices	A3
C115.9	Perform task as an individual and / or team member to manage the task in time	A3
C115.10	Express the Engineering activities with effective presentation and report.	A3
C115.11	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C115.1	K1	2		1		1										1
C115.2	K3	3	2													2
C115.3	K3	3	2													2
C115.4	K3	3	2	2	1	3									2	
C115.5	K3	3	2	2	1	3									2	
C115.6	K2	2	1		1	2				2	2	2			1	
C115.7	K3	3	2	2	1	3				3	3	3			2	
C115.8	A3								3							
C115.9	A3									3		3				
C115.10	A3										3					
C115.11	A2												3			
C108		3	2	2	1	2			3	3	3	3	3		2	2

BE8261 - BASIC ELECTRICAL, ELECTRONICS AND INSTRUMENTATION ENGINEERING LAB
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C116.1	Illustrate the performance, Characteristics and Load test on DC Shunt motor and DC Generator	K2
C116.2	Analyze the measurement of three phase power and explain the performance of induction motor & Transformer	K2
C116.3	Demonstrate the various electric circuits laws and theorems	K2
C116.4	Explain the various characteristics of different transducers	K2
C116.5	Apply the simple circuits based on diodes and transistors	K2
C116.6	Explain the study of CRO and measurement of AC Signals	K2
C116.7	Exhibit ethical principles in engineering practices	A3
C116.8	Perform task as an individual and / or team member to manage the task in time	A3
C116.9	Express the Engineering activities with effective presentation and report.	A3
C116.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C116.1	K2	2	1	1	1		1							1		
C116.2	K2	2	1	1	1		1							1		
C116.3	K2	2	1	1	1											1
C116.4	K2	2	1	1	1											1
C116.5	K2	2	1	1	1											1
C116.6	K2	2	1													1
C116.7	A3								3							2
C116.8	A3									3		3				2
C116.9	A3									3						2
C116.10	A2												3			1
C117		2	1	1	1		1		3	3	3	3	3	1	1	2

MA6351 – TRANSFORMS 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	Solve Linear Partial differential equations of first and second order.	**K3**
C201.2	Associate the concepts of Fourier series expansion for even and odd functions.	**K2**
C201.3	Apply the concepts of Fourier series in solving boundary value problems.	**K3**
C201.4	Discuss the Fourier transform, Fourier Sine and Cosine transform techniques.	**K2**
C201.5	Discuss the concepts of Z-Transform techniques for discrete time systems.	**K2**
C201.6	Apply transforms techniques in modeling physical processes like Heat Conduction, Communications systems and Electromagnetic Theory.	**K3**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C201.1	**K3**	3	2	2											2		
C201.2	**K2**	2	1	1											1		
C201.3	**K3**	3	2	2											2		
C201.4	**K2**	2	1	1											1		
C201.5	**K2**	2	1	1											1		
C201.6	**K3**	3	2	2	1										2		
C201		**3**	**2**	**2**	**1**										**2**		

CE6306 – STRENGTH OF MATERIALS
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C202.1	Compute the fundamentals of stress and strain concepts	**K2**
C202.2	Calculate stresses and deformations in beams subjected to different loadings	**K3**
C202.3	Estimate the effect of torsion in shafts and springs	**K2**
C202.4	Calculate the deflection in beams	**K3**
C202.5	Calculate the stresses and strains associated with thin and thick cylinder	**K3**
C202.6	Compare the deformation in members subjected to axial, flexural and torsional loads	**K3 & A2**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C202.1	K2	2	1												1	
C202.2	K3	3	2												2	
C202.3	K2	2	1												1	
C202.4	K3	3	2												2	
C202.5	K3	3	2												2	
C202.6	K3 & A2	3	2							2	2	2	3		2	
C202		3	2							2	2	2	3		2	

ME6301 – ENGINEERING THERMODYNAMICS
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C203.1	Explain the basic concepts and laws of thermodynamics.	K2
C203.2	Apply the concept of enthalpy and entropy in thermal systems	K3
C203.3	Calculate the properties of pure substance and explain the working of steam cycles	K3
C203.4	Distinguish the properties of ideal and real gases.	K2
C203.5	Solve problems in psychrometric processes and gas mixtures.	K3
C203.6	Apply thermodynamic laws for real time applications	K3 & A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C203.1	K2	2	1											1		
C203.2	K3	3	2		1									2		
C203.3	K3	3												2		
C203.4	K2	2	1											1		
C203.5	K3	3	2		1									2		
C203.6	K3 & A2	3	2							2	2	2	3	2		
C203		3	2		1					2	2	2	3	2		

CE6451 – FLUID MECHANICS AND MACHINERY
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C204.1	Calculate the fluid properties and flow characteristics	K3
C204.2	Calculate the flow of fluid in circular conduits	K3
C204.3	Discuss the importance of dimensional and model analysis	K2
C204.4	Discuss centrifugal and reciprocating pumps using velocity triangles	K2
C204.5	Estimate the performance of impulse and reaction turbines	K2
C204.6	Calculate the flow characteristics and performance of hydraulic machines for real time applications	K3 & A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C204.1	K3	3	2											2		
C204.2	K3	3	2											1		
C204.3	K2	2	1											1		
C204.4	K2	2	1											1		
C204.5	K2	2	1											1		
C204.6	K3 & A2	3	2		1					2	2	2	3	2		
C204		3	2		1					2	2	2	3	1		

ME6302 – MANUFACTURING TECHNOLOGY – I
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C205.1	Distinguish the various casting methods for product making with their merits and demerits.	K2
C205.2	Distinguish the various material joining process and associated defects with possible cause and cure.	K2
C205.3	Discuss various metal forming process with its application	K2
C205.4	Distinguish the various process involved in sheet metal forming with its applications and salient features	K2
C205.5	Explain the various process in making of plastic components for engineering / domestic applications.	K2
C205.6	Apply the manufacturing process suitable for making products.	K3 & A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C205.1	K2	2									2				1	
C205.2	K2	2									2				1	
C205.3	K2	2									2				1	
C205.4	K2	2									2				1	
C205.5	K2	2									2				1	
C205.6	K3 & A2	3		2						2	2	2	3		2	
C205		2		2						2	2	2	3		1	

EE6351 – ELECTRICAL DRIVES AND CONTROL
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C206.1	Associate the various electrical drive and its power rating for different loading conditions	K2
C206.2	Discuss the characteristics of DC and AC Machines	K2
C206.3	Distinguish the different braking mechanism of Electrical drives	K2
C206.4	Explain the starting method of DC and AC Machines	K2
C206.5	Discuss the conventional and solid state speed control of DC drives	K2
C206.6	Explain the conventional and solid state speed control of AC drives	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C206.1	K2	2	1								2			1		
C206.2	K2	2	1											1		
C206.3	K2	2	1								2			1		
C206.4	K2	2	1											1		
C206.5	K2	2									2			1		
C206.6	K2	2														
C206		2	1								2			1		

ME6311 – MANUFACTURING TECHNOLOGY LAB – I
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C207.1	Demonstrate the working of lathe machine	K3
C207.2	Identify various operations performed in Lathe machines.	K1
C207.3	Examine tool life, tool wear and forces in metal cutting	K3
C207.4	Identify suitable manufacturing techniques to manufacture different products	K1
C207.5	Utilize CNC Program for various machining process	K3
C207.6	Predict the necessary operation to complete the given exercise	K2
C207.7	Exhibit ethical principles in engineering practices	A3
C207.8	Perform task as an individual and / or team member to manage the task in time	A3
C207.9	Express the Engineering activities with effective presentation and report.	A3
C207.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C207.1	K3	3														2
C207.2	K1	1														1
C207.3	K3	3	2		1											2
C207.4	K1	1														1
C207.5	K3	3		2	1	3										2
C207.6	K2	2			1	2										1
C207.7	A3								3							2
C207.8	A3									3		3				2
C207.9	A3										3					2
C207.10	A2												3			1
C207		2	2	2	1	3			3	3	3	3	3			2

CE6461 – FLUID MECHANICS AND MACHINERY LAB
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C208.1	Apply Bernoulli's principle in determining the coefficient of discharge of various flow meters	K3
C208.2	Compute the friction factor for fluid flow through set of pipes.	K2
C208.3	Discuss the effect of change in pressure head, flow rate and the coefficient of discharge of flow meters	K2
C208.4	Explain the working and characteristics of hydraulic pumps	K2
C208.5	Explain the working and characteristics of hydraulic prime movers	K2
C208.6	Demonstrate the test on various fluid machinery	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 OUTCOME

Course Out Comes	Level of CO	K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C208.1	K3	3	2											2		
C208.2	K2	2	1											1		
C208.3	K2	2	1											1		
C208.4	K2	2												1		
C208.5	K2	2												1		
C208.6	K3	3	2		1									2		
C207.7	A3								3					2		
C207.8	A3									3		3		2		
C207.9	A3										3			2		
C207.10	A2												3	1		
C207		2	2		1				3	3	3	3	3	2		

EE6365 – ELECTRICAL ENGINEERING LAB
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C209.1	Explain the performance of dc shunt and series motor	K2
C209.2	Discuss the speed control methods for dc shunt motor	K2
C209.3	Demonstrate the load test of DC shunt and series generator	K3
C209.4	Demonstrate the load test of transformer	K3
C209.5	Examine the performance of induction motor and alternator.	K3
C209.6	Demonstrate the working of synchronous motor to draw V and inverted V curves.	K3
C209.7	Exhibit ethical principles in engineering practices	A3
C209.8	Perform task as an individual and / or team member to manage the task in time	A3
C209.9	Express the Engineering activities with effective presentation and report.	A3
C209.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C209.1	K2	2	1							2		2			1	
C209.2	K2	2	1							2					1	
C209.3	K3	3	2							3					2	
C209.4	K3	3	2							3		3			2	
C209.5	K3	3	2							3					2	
C209.6	K3	3	2		1					3					2	
C208.7	A3								3						2	
C208.8	A3									3		3			2	
C208.9	A3										3				2	
C208.10	A2												3		1	
C208		3	2		1					3		3			2	

MA6452 – STATISTICS AND NUMERICAL METHODS
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C210.1	Relate basic hypothesis testing and analysis of variance.	K2
C210.2	Explain the concepts of algebraic and transcendental equations	K2
C210.3	Compute the eigenvalues of a matrix numerically	K2
C210.4	Express an approximate interpolating polynomials for equal and unequal intervals.	K2
C210.5	Extending the concepts of numerical differentiation and integration to calculate velocity, acceleration and the area of the region bounded by curves.	K2
C210.6	Discuss ordinary and partial differential equations using numerical methods	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C210.1	K2	2	1	1	1											
C210.2	K2	2	1		1											
C210.3	K2	2	1													
C210.4	K2	2	1													
C210.5	K2	2	1													
C210.6	K2	2	1													
C210		2	1	1	1											

ME6401 – KINEMATICS OF MACHINERY
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C211.1	Explain the principles of kinematic pairs of planar mechanisms.	K2
C211.2	Compute velocity and acceleration in planar mechanisms.	K2
C211.3	Apply various motion principles to draw cam profiles	K3
C211.4	Compute the gear terminology suitable for given application	K2
C211.5	Discuss the effect of various types of friction in power transmission	K2
C211.6	Apply the concepts of kinematics in predicting motion mechanism for given application	K3 & A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C211.1	K2	2													1	
C211.2	K2	2	1	1											1	
C211.3	K3	3	1												2	
C211.4	K2	2	1	1											1	
C211.5	K2	2	1												1	
C211.6	K3 & A2	3	2	2						2	2	2	3		2	
C211		2	1	2						2	2	2	3		1	

ME6402 – MANUFACTURING TECHNOLOGY – II
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C212.1	Apply the theory of metal cutting for effective machining.	K3
C212.2	Discuss the working principles of various operations performed in a lathe machine.	K2
C212.3	Explain the working of special type machines.	K2
C212.4	Discuss multi – point machining machineries.	K2
C212.5	Apply NC codes to prepare machining program.	K3
C212.6	Apply suitable machine tool in machining of desired product.	K3 & A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C212.1	K3	3	2								2					2
C212.2	K2	2									2					1
C212.3	K2	2	1								2					1
C212.4	K2	2				2					2					1
C212.5	K3	3		2		3					2					2
C212.6	K3 & A2	3		2		3				2	2	2	3			2
C211		3	2	2		3				2	2	2	3			2

ME6403 – ENGINEERING MATERIALS AND METALLURGY
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C213.1	Explain various binary alloy systems with respective invariant reaction	K2
C213.2	Classify various heat treatment process and its significance	K3
C213.3	Discuss various Ferrous and non-ferrous metals with its application	K2
C213.4	Explain the various non-metallic materials with its applications	K2
C213.5	Compute the material properties by various material testing techniques	K2
C213.6	Apply the knowledge of material science on material selection for specific requirements	K3 & A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C213.1	K2	2									2				1	
C213.2	K3	3	2		1						2				2	
C213.3	K2	2		1							2				1	
C213.4	K2	2		1							2				1	
C213.5	K2	2				2					2				1	
C213.6	K3 & A2			2						2	2	2	3		2	
C213		2	2	1	1	2				2	2	2	3		1	

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
C214.1	Summarize the values, threats, conservation of biodiversity and ecosystems	**K2**
C214.2	Discuss various pollution control methods and waste management	**K2**
C214.3	Associate the effects of Natural resource exploitation on environment	**K2**
C214.4	Distinguish various environmental laws & regulation for environmental sustainability	**K2**
C214.5	Explain the effect of Human population and role of IT 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 Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C214.1	**K2**						2	3			2				1	
C214.2	**K2**	2					2	3			2				1	1
C214.3	**K2**	2					2	3			2				1	
C214.4	**K2**						2	3			2				1	
C214.5	**K2**							3			2					
C214.6	**K2**	2	1				2	3			2					
C214		**2**	**1**				**2**	**3**			**2**				**1**	**1**

ME6404 – THERMAL ENGINEERING
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C215.1	Explain the working principle of air standard cycles.	K2
C215.2	Classify the IC engines along with the working principle and combustion process.	K3
C215.3	Discuss the functionality of steam nozzles and steam turbines in power generation.	K2
C215.4	Explain the working of air compressor along with factors influencing its performance	K2
C215.5	Compute the cooling load for air conditioning and COP of refrigeration systems.	K2
C215.6	Use heat power engineering principles to IC Engine and R & AC applications	K3 & A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C215.1	K2	2	1											1		
C215.2	K3	3												2		
C215.3	K2	2	1	1										1		
C215.4	K2	2	1	1										1		
C215.5	K2	2	1		1									1		
C215.6	K3 & A2	3	2	2	1					2	2	2	3	2		
C215		2	1	1	1					2	2	2	3	1		

ME6411 – MANUFACTURING TECHNOLOGY LAB – II
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C216.1	Use specific milling machine to cut contour and gear teeth on the given work piece	K3
C216.2	Use gear generation methods to form gears	K3
C216.3	Use different machine tools for finishing operations	K3
C216.4	Produce cutting edges using tool and cutter grinder	K3
C216.5	Use CNC Programming for machining special contour	K3
C216.6	Apply suitable machining sequence to plan the process in producing a component	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 Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C216.1	K2	2	1	1												1
C216.2	K3	3	2	2												2
C216.3	K3	3	2													2
C216.4	K3	3	2	2												2
C216.5	K3					3										2
C216.6	K3	3	2	2		3										2
C216.7	A3								3							2
C216.8	A3									3		3				2
C216.9	A3										3					2
C216.10	A2												3			1
C216		3	2	2		3			3	3	3	3	3			2

ME6412 – THERMAL ENGINEERING LAB – I
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C217.1	Compute the performance of IC Engines.	K2
C217.2	Predict the characteristics of Fuels and Lubricates used in IC Engines.	K2
C217.3	Compute the Performance of steam generator and turbine.	K2
C217.4	Outline the valve timing diagram and port timing diagram of IC Engines.	K1
C217.5	Compute the heat distribution in an IC engine and steam generator	K2
C217.6	Predict the significant factors affecting the performance of IC engine and steam generators	K2
C217.7	Exhibit ethical principles in engineering practices	A3
C217.8	Perform task as an individual and / or team member to manage the task in time	A3
C217.9	Express the Engineering activities with effective presentation and report.	A3
C217.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C217.1	K2	2		1		2								1		
C217.2	K2	2												1		
C217.3	K2	2												1		
C217.4	K1	1												1		
C217.5	K2	2		1		2								1		
C217.6	K2	2	1	1										1		
C217.7	A3								3					2		
C217.8	A3									3		3		2		
C217.9	A3										3			2		
C217.10	A2												3	1		
C217		2	1	1		2			3	3	3	3	3	1		

CE6315 – STRENGTH OF MATERIALS LAB
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C218.1	Compute the tensile and shear properties of materials using UTM	K3
C218.2	Compute the torsion and impact strength using respective test setup	K3
C218.3	Compute the response of the beam by deflection method	K2
C218.4	Calculate the deflection of springs using tensile and compression tests	K3
C218.5	Infer the influence of heat treatment process in mechanical properties and micro structure	K2
C218.6	Apply specific testing methods for material characterization	K3
C218.7	Exhibit ethical principles in engineering practices	A3
C218.8	Perform task as an individual and / or team member to manage the task in time	A3
C218.9	Express the Engineering activities with effective presentation and report.	A3
C218.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C218.1	K3	3	1		1										2	
C218.2	K3	3	1		1										2	
C218.3	K2	2	1												1	
C218.4	K3	3	1												2	
C218.5	K2	2	1		1										1	
C218.6	K3	3	2		1	3									2	2
C218.7	A3								3						2	
C218.8	A3									3		3			2	
C218.9	A3										3				2	
C218.10	A2												3		1	
C218		3	1		1	3			3	3	3	3	3		2	2

ME6501 – COMPUTER AIDED DESIGN
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C301.1	Explain the basic concept of product design and 2D / 3D CAD manipulations.	K2
C301.2	Discuss the representation of curves, surface and solid modeling techniques for various real time applications	K2
C301.3	Summarize the visual realism techniques	K2
C301.4	Associate the concept of parametric design for mechanical assembly of parts	K2
C301.5	Discuss the various CAD standards	K2
C301.6	Apply the CAD concepts in component design	K3 & A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C301.1	K2	2				2					2			1	1	
C301.2	K2	2	1		1						2			1	1	
C301.3	K2	2				2					2				1	
C301.4	K2	2	1			2					2				1	
C301.5	K2	2	1			2					2				1	
C301.6	K3 & A2	3	2	2		3				2	2	2	3	2	2	2
C301		2	1	2	1	2				2	2	2	3	1	1	2

ME6502 – HEAT AND MASS TRANSFER
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C302.1	Explain the concept of one dimensional steady and transient heat conduction through various systems	K2
C302.2	Discuss the concept of convection with the flow of fluids in different elements.	K2
C302.3	Associate the significance of phase change with heat transfer in heat exchangers	K2
C302.4	Discuss the concept of radiation and application in heat transfer systems.	K2
C302.5	Explain the concept of mass transfer and its correlations.	K2
C302.6	Apply the conduction and convection principles in product application by real time study.	K3 & A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C302.1	K2	2	1											1		
C302.2	K2	2	1		1									1		
C302.3	K2	2	1		1									1		
C302.4	K2	2	1		1									1		
C302.5	K2	2	1											1		
C302.6	K3 & A2	3	2	2	1					2	2	2	3	2		
C302		2	1	2	1					2	2	2	3	1		

ME6503 – DESIGN OF MACHINE ELEMENTS
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C303.1	Compute the stress acting on various machine elements	K2
C303.2	Compute the dimensions, stress requirements of shaft and couplings based on various load conditions	K2
C303.3	Summarize about temporary and permanent joints based on application requirements	K2
C303.4	Compute the dimensions of the energy storing devices for specific applications	K2
C303.5	Predict appropriate bearing, from the standard catalog for varied applications	K2
C303.6	Apply the various design concepts on to real time product applications	K3 & A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		PO-1	PO1-21	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
C303.1	K2	2	1												1	
C303.2	K2	2	1												1	
C303.3	K2	2	1												1	
C303.4	K2	2	1												1	
C303.5	K2	2	1												1	
C303.6	K3 & A2	3	2	2	2					2	2	2	3		2	
C303		2	1	2	2					2	2	2	3		1	

ME6504 – METROLOGY AND MEASUREMENTS
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C304.1	Explain the fundamentals of Measuring system & Errors in Measurement.	K2
C304.2	Discuss the use of Linear and Angular Measurement instruments	K2
C304.3	Explain the working of Laser Interferometer and Coordinate Measuring Machine (CMM).	K2
C304.4	Distinguish the methods available for measuring various forms	K2
C304.5	Associate suitable measuring instruments to measure power, flow and temperature.	K2
C304.6	Utilize different measurement technologies to quantify varying parameters for real time applications	K3 & A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C304.1	K2	2									2				1	
C304.2	K2	2									2					
C304.3	K2	2				2					2					1
C304.4	K2	2									2			1	1	1
C304.5	K2	2	1								2			1		
C304.6	K3 & A2	3	2							2	2	2	3		2	
C304		2	2			2				2	2	2	3	1	1	1

ME6505 – DYNAMICS OF MACHINES
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C305.1	Discuss the forces required by various machine components to overcome inertia	K2
C305.2	Compute the unbalanced forces on reciprocating and rotating masses.	K2
C305.3	Distinguish the types of vibration and its effect on the system. .	K2
C305.4	Associate the system response an exposure to various forced vibrations	K2
C305.5	Explain the control mechanisms of governor and gyroscope with their applications.	K2
C305.6	Classify forces in mechanical system and related vibration issues to solve the problem	K3 & A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C305.1	K2	2	1											1	1	1
C305.2	K2	2		1	1									1	1	
C305.3	K2	2	1	1										1	1	
C305.4	K2	2	1												1	
C305.5	K2	2	1	1											1	
C305.6	K3 & A2	3		2	1					2	2	2	3	2	2	2
C305		2	1	1	1					2	2	2	3	1	1	2

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
C306.1	Illustrate the core values that enrich the ethical behavior of an engineer.	K2
C306.2	Discuss the importance of moral issues and theories of the profession.	K2
C306.3	Associate the code of ethics in real time application as responsible experimenters with various social issues.	K2
C306.4	Relate the suitable safety measures towards risk benefit analysis.	K2
C306.5	Explain the concepts of Professional rights, Employee rights, Confidentiality, conflicts of interest and IPR.	K2
C306.6	Explain the global ethical issues related to various work place situation.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C306.1	K2								2	2	2		3		1	
C306.2	K2						2	3	2	2	2		3		1	
C306.3	K2						2	3	2	2	2	2	3		1	
C306.4	K2						2	3	2	2	2		3		1	
C306.5	K2						2	3	2	2	2	2	3		1	
C306.6	K2						2	3	2		2		3		1	
C307							**2**	**3**	**2**	**2**	**2**	**2**	**3**		**1**	

ME6511 – DYNAMICS LAB
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C307.1	Explain the gear ratios of various types of gear trains	K2
C307.2	Compute the gyroscopic couple in gyroscope and centrifugal force in various governors	K2
C307.3	Distinguish the significance of the reciprocating and rotating mass systems.	K2
C307.4	Compute the parameters of vibration in the rotor systems	K2
C307.5	Discuss the kinematic working models of various mechanisms and cam profile.	K2
C307.6	Compute the critical speed of shafts	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

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C307.1	K2	2													1	
C307.2	K2	2													1	
C307.3	K2	2		1										1	1	
C307.4	K2	2												1	1	
C307.5	K2	2													1	
C307.6	K2	2	1												1	
C307.7	A3								3						2	
C307.8	A3									3		3			2	
C307.9	A3										3				2	
C307.10	A2												3		1	
C307		2	1	1					3	3	3	3	3	1	1	

ME6512 – THERMAL ENGINEERING LAB – II
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C308.1	Compute the conduction rate in one dimensional for the given plate and circular surfaces	K2
C308.2	Compute heat transfer coefficient for different types of convection.	K2
C308.3	Utilize thermal analysis of different heat exchanger to compare the actual and theoretical heat transfer rate.	K3
C308.4	Compute temperature distribution using heat transfer correlations for various apparatus.	K2
C308.5	Apply thermodynamics principles to find various parameters of air conditioning and refrigeration system	K3
C308.6	Demonstrate the fundamentals of heat transfer and predict the response of thermal system	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 Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C308.1	K2	2	1											1		
C308.2	K2	2	1											1		
C308.3	K3	3	2			3								2		
C308.4	K2	2	1			2								1		
C308.5	K3	3	2											2		
C308.6	K3	3	2		1									2		
C308.7	A3								3					2		
C308.8	A3									3		3		2		
C308.9	A3										3			2		
C308.10	A2												3	1		
C308		3	2		2	3			3	3	3	3	3	2		

ME6513 – METROLOGY AND MEASUREMENTS LAB
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C309.1	Demonstrate the correct methods for measurement and calibration of various measuring devices.	K3
C309.2	Explain the effective methods of measuring straightness, flatness, gear profile, screw threads.	K2
C309.3	Compute the internal bore diameter measurement by bore gauge and telescope gauge.	K2
C309.4	Compute the force and torque using suitable measuring devices	K2
C309.5	Compute the temperature measurement using thermocouple	K2
C309.6	Apply the different measurement tools and perform measurements in quality Inspection	K3
C309.7	Exhibit ethical principles in engineering practices	A3
C309.8	Perform task as an individual and / or team member to manage the task in time	A3
C309.9	Express the Engineering activities with effective presentation and report.	A3
C309.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C309.1	K3	3				3								2		2
C309.2	K2	2	1													1
C309.3	K2	2														1
C309.4	K2	2														1
C309.5	K2	2	1											1		1
C309.6	K3	3	2			3								2		2
C309.7	A3								3							2
C309.8	A3									3		3				2
C309.9	A3										3					2
C309.10	A2												3			1
C309		2	1			3			3	3	3	3	3	2		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
C310.1	Summarize the evolution of management thoughts and various challenges of managerial activities in a global business environment.	K2
C310.2	Explain the types of Planning and Decision making at various levels management in the Organizations.	K2
C310.3	Discuss various types of Organization structure.	K2
C310.4	List out the steps in Staffing process and stages in Career development.	K1
C310.5	Explain the elements in Direction.	K2
C310.6	Generalize various Controlling techniques to maintain standards in Organizations.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C310.1	K2								2	2	2	2				
C310.2	K2									2	2	2				
C310.3	K2										2	2				
C310.4	K1										2	1	1			
C310.5	K2									2	2	2				
C310.6	K2									2	2	2				
C310									2	2	2	2	1			

ME6601 – DESIGN OF TRANSMISSION SYSTEMS
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C311.1	Compute the design parameters of flexible transmission elements like belts, chains and wire ropes for given condition	K3
C311.2	Compute the spur and helical gear terminology considering strength and wear	K3
C311.3	Compute the required parameters in designing worm, bevel and double helical gear power transmission	K3
C311.4	Calculate the speed ratio and gear box parameters for the given application	K3
C311.5	Compute the parameters require to design cam, clutches and brakes for varied applications	K3
C311.6	Calculate the parameters to design power transmission elements using standard catalogue	K3 & A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C311.1	K3	3	2	2											2	
C311.2	K3	3	2	2											2	
C311.3	K3	3	2	2											2	
C311.4	K3	3	2	2											2	
C311.5	K3	3	2	2											2	
C311.6	K3 & A2	3	2	2						2	2	2	3		2	
C311		3	2	2						2	2	2	3		2	

ME6602 – AUTOMOBILE ENGINEERING
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C312.1	Distinguish the vehicle structure, engine components and accessories.	K2
C312.2	Discuss various engine auxiliary and emission control systems	K2
C312.3	Explain the working principle of various transmission and control systems	K2
C312.4	Discuss the functions of steering, brakes and suspension systems.	K2
C312.5	Explain the various energy sources available for vehicles based on trend, economic and pollution free condition.	K2
C312.6	Discuss the working of various components in automobile engineering	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C312.1	K2	2									2			1	1	
C312.2	K2	2	1								2				1	
C312.3	K2	2									2				1	
C312.4	K2	2									2				1	
C312.5	K2	2	1				2	3			2				1	
C312.6	K2	2									2				1	
C312		2	1								2			1	1	

ME6603 – FINITE ELEMENT ANALYSIS
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C313.1	Calculate the solution for BVP using numerical techniques.	**K3**
C313.2	Compute structural and thermal problems utilizing 1D problem formulation.	**K3**
C313.3	Use 2D scalar formulation for solving thermal and torsion problems	**K3**
C313.4	Use 2D vector formulation for solving plane stress, plane strain and axisymmetric problems	**K3**
C313.5	Use iso-parametric formulation for complex contour domain	**K3**
C313.6	Compute the real time primitive structural and thermal problems using finite element techniques.	**K3 & A2**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C313.1	K3	3	2												2	
C313.2	K3	3	2												2	
C313.3	K3	3	2		1										2	
C313.4	K3	3	2												2	
C313.5	K3	3	2												2	
C313.6	K3 & A2	3	2		1	3				2	2	2	3		2	
C313		**3**	**2**		**1**	**3**				**2**	**2**	**2**	**3**		**2**	

ME6604 – GAS DYNAMICS AND JET PROPULSION
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C314.1	Explain the significance of Mach number on compressible fluid flow	**K2**
C314.2	Compute the flow characteristics using Rayleigh and Fanno flow	**K3**
C314.3	Calculate the flow parameters across normal and oblique shock wave	**K3**
C314.4	Classify the propulsion performance in various aircraft engines	**K3**
C314.5	Compute the performance characteristics of space propulsion system	**K3**
C314.6	Apply gas dynamics principles in the jet and space propulsion	**K3**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C314.1	**K2**	2												1		
C314.2	**K3**	3	2											2		
C314.3	**K3**	3	2											2		
C314.4	**K3**	3												2		
C314.5	**K3**	3	2											2		
C314.6	**K3**	3	2		1									2		
C314		**3**	**2**		**1**									**2**		

ME6004 – UNCONVENTIONAL MACHINING PROCESSES
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C315.1	Explain the types, needs and application of unconventional machining process	K2
C315.2	Discuss the various mechanical energy based machining methods	K2
C315.3	Explain electrical energy based machining processes for specific application	K2
C315.4	Distinguish the chemical and electro chemical energy based machining processes.	K2
C315.5	Explain the principle and working of thermal energy based machining methods.	K2
C315.6	Examine the significance of various process parameters on MRR	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C315.1	K2	2									2					1
C315.2	K2	2									2					1
C315.3	K2	2									2					1
C315.4	K2	2									2					1
C315.5	K2	2									2					1
C315.6	K3	3	2		1						2					2
C315		2	2		1						2					2

ME6611 – CAD / CAM LAB
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C316.1	Utilize standard software tools to create part, assemblies and check for clearances.	K3
C316.2	Modify 2D drafting to 3D using modeling software.	K3
C316.3	Summarize the modern control in manufacturing systems (FANUC, SIEMENS)	K2
C316.4	Utilize the concepts of G and M codes and manual part programming for modern manufacturing technology.	K3
C316.5	Utilize CAPP in machining and turning centre	K3
C316.6	Apply modern tools in design, manufacture and planning	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 Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C316.1	K3	3	2	2	1	3									2	
C316.2	K3	3	2	2		3									2	
C316.3	K2	2													1	
C316.4	K3	3	2	2	1	3									2	
C316.5	K3	3	2	2		3									2	
C316.6	K3	3	2	2	1	3									2	
C316.7	A3								3						2	
C316.8	A3									3		3			2	
C316.9	A3										3				2	
C316.10	A2												3		1	
C316		3	2	2	1	3			3	3	3	3	3		2	

ME6612 – DESIGN AND FABRICATION PROJECT
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C317.1	Use the design principles and develop concept for the project	K3
C317.2	Estimate the time frame and cost for the project execution and completion	K3
C317.3	Analyze the project progress with remedial measures individual in a team	K4
C317.4	Examine the environmental impact of the project	K3
C317.5	Demonstrate the project functionality along with report and presentation	K3
C317.6	Apply the Engineering knowledge in design and economically manufacturing of components to support the society need.	K3
C317.7	Assess health, safety and legal relevant to professional engineering practices.	A3
C317.8	Comply the environmental needs and sustainable development.	A2
C317.9	Justify ethical principles in engineering practices	A3
C317.10	Perform multi-disciplinary task as an individual and / or team member to manage the project/task.	A3
C317.11	Comprehend the Engineering activities with effective presentation and report.	A3
C317.12	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C317.1	K3	3	2	2	2									2	2	2
C317.2	K3	3	2	2								3				2
C317.3	K4	3	3		2	3					3					
C317.4	K3	3					3	3	3				3	3	3	3
C317.5	K3	3	2									3				
C317.6	K3	3	2	2	2	3								2	2	2
C317.7	A3						3							2	2	2
C317.8	A2							3						1	1	1
C317.9	A3								3					2	2	2
C317.10	A3									3		3		2	2	2
C317.11	A3										3			2	2	2
C317.12	A2												3	1	1	1
C317		3	2	2	2	3	3	3	3	3	3	3	3	2	2	2

GE6674 – COMMUNICATION AND SOFT SKILLS LABORATORY
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C318.1	Listening sharply and reading keenly to understand and act aptly.	K2,A2
C318.2	Make effective presentations and to excel in Group Discussions.	K3,A3
C318.3	By employing the soft skills to become a Successful Leader.	K3,A2
C318.4	To write crisp resume and Job Application Letters employing appropriate language.	A2
C318.5	To successfully meet the requirements of International Exams in the language and skills.	A3
C318.6	To successfully get jobs by enhancing the Overall Personality.	A3
C318.7	Exhibit ethical principles in engineering practices	A3
C318.8	Perform task as an individual and / or team member to manage the task in time	A3
C318.9	Express the Engineering activities with effective presentation and report.	A3
C318.10	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C318.1	K2,A2									2	2		3			
C318.2	K3,A3									3	3		3			
C318.3	K3,A2										2		3			
C318.4	A2									2	2		3			
C318.5	A3									3	3		3			
C318.6	A3									3	3		2			
C318.7	A3								3							
C318.8	A3									3		3				
C318.9	A3										3					
C318.10	A2												3			
C318									3	3	2	3	3			

ME6701 – POWER PLANT ENGINEERING
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C401.1	Discuss the layout of thermal power plant and working principle of various types of boilers.	**K2**
C401.2	Explain the working of diesel and gas turbine power plant along with optimization technique	**K2**
C401.3	Discuss the various types of nuclear reactors used in nuclear power plant	**K2**
C401.4	Summarize the principles and working of various renewable energy power plants.	**K2**
C401.5	Explain the energy, economic and environmental issues of power plants	**K2**
C401.6	Paraphrase the different types of power plant, its function and issues related to them	**K2**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C401.1	K2	2												1		
C401.2	K2	2	1											1		
C401.3	K2	2												1		
C401.4	K2	2												1		
C401.5	K2	2	1					3						1		
C401.6	K2	2	1											1		
C401		**2**	**1**					**3**						**1**		

ME6702 – MECHATRONICS
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C402.1	Discuss the functions of sensors, actuators and associated control systems.	K2
C402.2	Explain the features of microprocessor and microcontroller	K2
C402.3	Discuss various programmable peripheral interface for specific applications	K2
C402.4	Summarize the functionality of Programmable Logic Controller.	K2
C402.5	Associate the mechatronics and actuator systems for real time applications	K2
C402.6	Discuss the influence of mechatronics systems(microprocessor, microcontroller & PLC) in industrial automation	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C402.1	K2	2									2			1		1
C402.2	K2	2				2					2			1		1
C402.3	K2	2	1	1		2					2			1		1
C402.4	K2	2				2					2					1
C402.5	K2	2	1			2					2			1		1
C402.6	K2	2	1	1		2					2			1		1
C402		2	1	1		2					2			1		1

ME6703 – COMPUTER INTEGRATED MANUFACTURING 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 CIM concepts and basic elements of an automated system.	K2
C403.2	Explain the concept of Computer aided process planning and material requirement planning	K2
C403.3	Discuss the concept of cellular manufacturing using Rank order clustering and Hollier method	K2
C403.4	Explain FMS planning and applications of Automated guided vehicle systems.	K2
C403.5	Explain the concepts of robot control system and part programming	K2
C403.6	Explain the applications of computer in planning, manufacturing and controlling	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C403.1	K2	2									2					1
C403.2	K2	2	1								2					1
C403.3	K2	2	1	1							2					1
C403.4	K2	2				2					2					1
C403.5	K2	2	1			2					2					1
C403.6	K2	2		1		2					2					1
C403		2	1	1		2					2					1

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
C404.1	Discuss various dimensions of product and service quality	**K2**
C404.2	Apply the TQM principles for quality improvement in organization	**K3**
C404.3	Distinguish various TQM tools and techniques used in Manufacturing and Service sectors	**K2**
C404.4	Use QFD tool to design and develop a new product as per customer requirements	**K3**
C404.5	Explain various ISO Standards and Quality systems practiced in various sector	**K2**
C404.6	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 Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C404.1	**K2**			1	1		2		2			2				
C404.2	**K3**									3		3				
C404.3	**K2**				1							2				
C404.4	**K3**			2	2		3			3		3		2	2	
C404.5	**K2**							3								
C404.6	**K2**			1						2		2				
C404				**1**	**1**		**2**	**3**	**2**	**3**		**2**		**2**	**2**	

ME6005 – PROCESS PLANNING AND COST ESTIMATION
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C405.1	Associate the knowledge of engineering fundamentals for process planning	**K2**
C405.2	Distinguish various process planning activities	**K2**
C405.3	Discuss the various elements involved in costing.	**K2**
C405.4	Estimate the product cost of job done by various manufacturing methods	**K2**
C405.5	Estimate the Machining time for various operations carried out in different machines	**K2**
C405.6	Apply the concept of Process planning and cost estimation for various production process	**K3**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C405.1	**K2**	2														1
C405.2	**K2**	2														1
C405.3	**K2**	2	1													1
C405.4	**K2**	2	1													1
C405.5	**K2**	2	1													1
C405.6	**K3**	3														2
C405		**2**	**1**													**1**

ME6012 – MAINTENANCE ENGINEERING
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 principles and practices of maintenance planning for an organization	K2
C406.2	Discuss maintenance policies with special reference to preventive maintenance	K2
C406.3	Predict appropriate condition monitoring (CM) techniques and instruments	K2
C406.4	Distinguish various repair methods for basic machine elements	K2
C406.5	Summarize repair methods for material handling equipment.	K2
C406.6	Explain various maintenance categories like PM, CM and repairs of machine elements to control failures, accidents, down time etc	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C406.1	K2	2														1
C406.2	K2	2	1													1
C406.3	K2	2	1			2										1
C406.4	K2	2	1			2										1
C406.5	K2	2	1			2										1
C406.6	K2	2	1	1		2										1
C406		2	1	1		2										1

ME6711 – SIMULATION AND ANALYSIS LAB
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C407.1	Apply the fundamentals concepts of finite element method in problem characterization	K3
C407.2	Compute the deflection and stress in 1D and 2D problem	K2
C407.3	Explain the effect of various load acting on 1D beam in real time problem	K2
C407.4	Examine the modal analysis for beam under various boundary conditions	K3
C407.5	Demonstrate the effects due to harmonic loading on structures	K3
C407.6	Examine the thermal effects on 2D structure	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 Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C407.1	K3	3	2			3								2	2	2
C407.2	K2	2				2									1	
C407.3	K2	2	1		1	2									1	
C407.4	K3	3			1	3									1	
C407.5	K3	3	2			3									2	
C407.6	K3	3	2			3									2	
C407.7	A3								3						2	
C407.8	A3									3		3			2	
C407.9	A3										3				2	
C407.10	A2												3		1	
C407		3	2		1	3			3	3	3	3	3	2	2	2

ME6712 – MECHATRONICS LAB
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C408.1	Summarize assembly language programming of 8085 for arithmetic operation	K2
C408.2	Operate programmable peripheral interface for stepper motor and traffic light	K3
C408.3	Demonstrate the speed control of DC motor by microcontroller	K3
C408.4	Prepare Hydraulic, Pneumatic and electro pneumatic circuits using software tool.	K3
C408.5	Examine various fluid power circuits.	K3
C408.6	Prepare PLC programs for controlling multiple cylinders using timers	K3
C408.7	Explain the image processing technique	K2
C408.8	Exhibit ethical principles in engineering practices	A3
C408.9	Perform task as an individual and / or team member to manage the task in time	A3
C408.10	Express the Engineering activities with effective presentation and report.	A3
C408.11	Interpret the findings with appropriate technological / research citation.	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C408.1	K2	2													1	
C408.2	K3	3													2	
C408.3	K3	3	2			3									2	
C408.4	K3	3	2			3									2	
C408.5	K3	3	2												2	
C408.6	K3			2											2	
C408.7	K2	2				2									2	
C408.8	A3								3						2	
C408.9	A3									3		3			2	
C408.10	A3										3				2	
C408.11	A2												3		1	
C408		3	2	2		3			3	3	3	3	3		2	

ME6713 – COMPREHENSION
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C409.1	Summarize the various thermodynamics laws to engineering application	K2
C409.2	Distinguish various power cycles and it's applications	K2
C409.3	Discuss various mechanism for design of mechanical system	K2
C409.4	Compute the properties and strength of engineering material	K2
C409.5	Point out various manufacturing process suitable for making products	K1
C409.6	Compute the fluid properties and flow characteristics	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C409.1	K2	2	1											1		
C409.2	K2	2	1											1		
C409.3	K2	2	1												1	
C409.4	K2	2	1												1	
C409.5	K1	1	1													1
C409.6	K2	2	1											1		
C409		2	1											1	1	1

MG6863 – ENGINEERING ECONOMICS
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C410.1	Summarize the basic concepts of economics and cost analysis related to engineering.	**K2**
C410.2	Associate the value engineering and its functions with engineering activities	**K2**
C410.3	Distinguish various methods of cash flow	**K2**
C410.4	Discuss various methods of Maintenance and Replacement policy	**K2**
C410.5	Explain the pro's and con's of various methods of depreciation	**K2**
C410.6	Associate economics, cost analysis to engineering functions for effective decisioning	**K2**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C410.1	K2	2														
C410.2	K2	2	1													1
C410.3	K2	2														
C410.4	K2	2														1
C410.5	K2	2														1
C410.6	K2	2	1													1
C410		**2**	**1**													**1**

MG6071 – ENTREPRENEURSHIP DEVELOPMENT
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C411.1	Discuss the types of entrepreneurship and the factors effecting entrepreneur	**K2**
C411.2	Discuss about competencies and motivation required to become an entrepreneur.	**K2**
C411.3	Extend the business concepts towards a start – up considering all factors	**K2**
C411.4	Explain the financial and accounting details needed for starting and running a small enterprise.	**K2**
C411.5	Summarize the various supports available to start a small enterprise.	**K2**
C411.6	Summarize the resources available and skills required to establish an enterprise	**K2**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C411.1	K2										2	2				
C411.2	K2							3			2		3			
C411.3	K2	2	1				2				2					1
C411.4	K2										2	3				1
C411.5	K2							3			2	2	3			1
C411.6	K2	2						3			2		3			1
C411		**2**	**1**				**2**	**3**			**2**	**2**	**3**			**1**

ME6016 – ADVANCED I.C ENGINES
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
C412.1	Discuss the various type of fuel injection and combustion chambers of Spark Ignition Engines.	K2
C412.2	Explain the various types of fuel injection system and combustion chambers of Compression Ignition Engines.	K2
C412.3	Discuss various types of pollutants formation, measurement and control.	K2
C412.4	Explain various sources of alternate fuels and necessary engine modification.	K2
C412.5	Discuss the recent trends taking place in automobile industries.	K2
C412.6	Distinguish the operating of different IC engines and its components along with its emission standards	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C412.1	K2	2									2			1		
C412.2	K2	2									2			1		
C412.3	K2	2	1								2			1		
C412.4	K2	2			1			3			2			1		
C412.5	K2	2									2		3		1	
C412.6	K2	2		1				3			2				1	
C412		2	1	1	1			3			2		3	1	1	

PRODUCT LIFE – CYCLE MANAGEMENT
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
PLMCO.1	Apply the concept of primitives to draw 2D sketches	**K3**
PLMCO.2	Develop the parts using Creo - 3D Modelling Tool	**K4**
PLMCO.3	Use options like Align, Mate etc. to assemble the parts	**K3**
PLMCO.4	Extend the 3D modelling to produce model change using flexible modelling.	**K2**
PLMCO.5	Allocate roles and responsibility for the members in the organization	**K3,A2**
PLMCO.6	Implement the change management and Data management in an organization	**K3, A2**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
PLMCO.1	**K3**	3				3										2	
PLMCO.2	**K4**	3				3										3	
PLMCO.3	**K3**	3				3										3	
PLMCO.4	**K2**	3				3										1	
PLMCO.5	**K3,A2**					3					2	2				3	
PLMCO.6	**K3, A2**	3				3					2	2				3	
PLM		**3**				**3**					**2**	**2**				**3**	

ME6811 – 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	Use literature to identify the objective, scope and the concept of the work.	K3
C413.2	Apply suitable methods and materials to carry out experiments by conserving eco-system	K3
C413.3	Develop a prototype/experimental set-up necessary to complete the project	K5
C413.4	Discuss the results obtained to derive conclusions	K2
C413.5	Defend the work by preparing a report as per the University format.	K5
C413.6	Compile the experimental information to publish in journals/conference	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 Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
C413.1	K3	3	2	2										2	2	2
C413.2	K3	3	2	2		3	3	3						2	2	2
C413.3	K5	3		3	3						3				3	3
C413.4	K2	2	1		3		2				2		3			
C413.5	K5	3	3								3		3			
C413.6	K6	3	3								3		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	2	2	3	3	3	3	3	3	3	3	3	2	2	2

SEMINAR RUBRICS
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
SCO.1	Comprehend the Engineering activities with effective presentation.	A2
SCO.2	Practice in utilizing quality information through various resources	A2
SCO.3	Effective use of modern presentation techniques.	K2
SCO.4	Perform within the stipulated duration	A2
SCO.5	Justify the presentation content individually to a group	A2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
SCO.1	A2										2					
SCO.2	A2												3			
SCO.3	K2					2										
SCO.4	A2											2				
SCO.5	A2									3						
SCO						2				3	2	2	3			

Attributes / Descriptors	1 Below Average	2 Scope to Improve	3 Average	4 Good	5 Excellent
SCO.1 Communication (PO10)	Inappropriate explanation of concepts	Explanation of concepts with little relevance	Explanation with insufficient description of technical information	Complete explanation of key concepts and insufficient description of technical information	Complete explanation of key concepts and strong description of technical information
SCO.2 Life Long Learning (PO12)	Information gathering only from non-electronic resources	Information gathering from limited resources	Information gathering from limited resources and utilizing appropriately	Information gathering from various resources and utilizing appropriately without citation	Information gathering from various resources and utilizing appropriately with proper citation
SCO.3 Modern Tool Usage (PO5)	Difficulty in coordinating with the modern tools	Use models with lack of explanation	Use Models to explain the concepts	Use ICT and Models to explain the technical concepts	Use ICT tools and Models to demonstrate the technical concepts.
SCO.4 Project Management (PO11)	Frequently late requires constant reminders	Requires reminding about deadlines	completes tasks with minimal need of reminders.	Completing tasks and assignments on time.	Completes tasks and assignments prior to the scheduled time & seldom requires reminder
SCO.5 Individual Work (PO9)	Difficulty in defending the audience	Able to defend the content	Defend the content with minimal justification	Defend the content with appropriate justification to few questions	Defend the content with appropriate justification to all questions

PROJECT RUBRICS
COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
PCO.1	Assess health, safety and legal relevant to professional engineering practices.	**A3**
PCO.2	Comply the environmental needs and sustainable development.	**A2**
PCO.3	Justify ethical principles in engineering practices	**A3**
PCO.4	Perform multi-disciplinary task as an individual and / or team member to manage the project/task.	**A3**
PCO.5	Comprehend the Engineering activities with effective presentation and report.	**A3**
PCO.6	Interpret the findings with appropriate technological / research citation.	**A2**

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
PCO.1	**A3**						3									
PCO.2	**A2**							3								
PCO.3	**A3**								3							
PCO.4	**A3**									3		3				
PCO.5	**A3**										3					
PCO.6	**A2**												3			
							3	**3**	**3**	**3**	**3**	**3**	**3**			

Attributes / Descriptors	1 Below Average	2 Scope to Improve	3 Average	4 Good	5 Excellent
PCO.1 **Engineering and Society** **(PO6)**	Does not visualize a role or need for science in human affairs.	Partially recognises a role or need for science in human affair	Recognizes the place of science in human affairs, but unable to communicate its roles.	Correctly describes the perspectives concerning the scientific aspects in Societal issue.	Develops and defends an informed position, integrating values, Science and technology in professional practice.
PCO.2 **Environmental Sustenance** **(PO7)**	Prevents waste, and Protects natural ecosystems.	Prevents waste, Protects natural ecosystems, Uses renewable energy sources.	Prevents waste, Protects natural ecosystems, Uses renewable energy sources, Uses inherently safe materials.	Prevents waste, Protects natural ecosystems, Uses renewable energy sources, Uses inherently safe materials and uses innovative technologies to achieve sustainability.	Prevents waste, Protects natural ecosystems, Uses renewable energy sources, Uses inherently safe materials, Incorporates environmental impact assessment tools and uses innovative technologies to achieve sustainability.

PCO.3 Ethics (PO8)	Aware of ethical code to some extent.	Understand the Ethical code and rarely follows.	Recognize Ethical code and tries to implement.	Implementing Ethical Code of Conduct with Staff and Peer. Unable to evaluate ethical perspectives.	Implementing Ethical code of conducts with Staff, Peer and situation. Evaluating ethical perspectives and concepts.
PCO.4 Individual & Team Work and Project Management and Finance (PO9 and PO11)	Does not work well with others. To be directed to do the assigned task in the group. Unable to handle the resources.	Occasionally helps to complete group goals. Sometime make fun of the group tasks and work of others. Finish individual task and not shows interest in the others task. Difficult in managing resources (Time / Money)	Occasionally helps to complete group goals. Sometime make fun of the group tasks and work of others. Finish individual task and not assist others. Perform some duties of assigned team role. Manages resources (Time / Money) to complete the task	Usually helps to complete group goals. Usually has a positive attitude about the tools and work of others. Assist team members in finishing project. Perform nearly all duties of assigned team role. Manages allotted resources (Time & Money) to complete the task	Works to complete all group goals. Always has positive attitudes about the task and work of others. All team members contribute equally. Perform all duties of assigned team role. Forecast and Manages resources (Time & Money) effectively to complete the task.

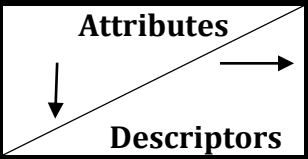|					
PCO.5 Communication (PO10)	Inappropriate explanation of concepts. Difficulty in defending the audience. Reluctant to write the report.	Explanation of concepts without little relevance. Able to defend the content. Finds difficult in writing a report.	Insufficient description of technical information. Defend the content with lack of justification. Tries to prepare a report.	Complete explanation of key concepts and insufficient description of technical information Defend the content with appropriate justification to few questions. Prepare non- structured report.	Complete explanation of key concepts and strong description of technical information Defend the content with appropriate justification to all questions. Prepare a structured report.
PCO.6 Life-Long Learning (PO12)	Irrelevant gathering of Information from non- electronic resources	Information gathering from limited resources and unable to utilize	Information gathering from limited resources and utilizing appropriately	Information gathering from various resources and utilizing appropriately for justification without citation	Information gathering from various resources and comparing appropriately for justification with proper citation

LABORATORY RUBRICS

COURSE OUTCOMES

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

CO No.	Course Outcomes	Highest Cognitive Level
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 OUTCOME

Course Out Comes	Level of CO	Program Outcomes												Program Specific Outcomes		
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	K4	K4	K4
		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
LCO.1	A3								3							
LCO.2	A3									3		3				
LCO.3	A3										3					
LCO.4	A2												3			
							3	3	3	3	3	3	3			

Attributes / Descriptors	1 Below Average	2 Scope to Improve	3 Average	4 Good	5 Excellent
LCO.1 **Ethics** **(PO8)**	Aware of ethical code to some extent.	Understand the Ethical code and rarely follows.	Recognize Ethical code and tries to implement.	Implementing Ethical Code of Conduct with Staff and Peer. Unable to evaluate ethical perspectives.	Implementing Ethical code of conducts with Staff, Peer and situation. Evaluating ethical perspectives and concepts.
LCO.2 **Individual & Team** **Work and Project** **Management &** **Finance** **(PO9 and PO11)**	Does not work well with others. To be directed to do the assigned task in the group. Never complete the task in time.	Occasionally helps to complete group goals. Sometime make fun of the group tasks and work of others. Finish individual task and not shows interest in the others task. Needs remainder to complete the task.	Occasionally helps to complete group goals. Sometime make fun of the group tasks and work of others. Finish individual task and not assist others. Perform some duties of assigned team role. Rarely completes the task in time	Usually helps to complete group goals. Usually has a positive attitude about the tools and work of others. Assist team members in finishing project. Perform nearly all duties of assigned team role. Mostly completes the task in time	Works to complete all group goals. Always has positive attitudes about the task and work of others. All team members contribute equally. Perform all duties of assigned team role. Always completes the task in time.

LCO.3 Communication (PO10)	Inappropriate explanation of concepts. Difficulty in defending the audience. Reluctant to write the report.	Explanation of concepts without little relevance. Able to defend the content. Finds difficult in writing a report.	Insufficient description of technical information. Defend the content with lack of justification. Tries to prepare a report.	Complete explanation of key concepts and insufficient description of technical information Defend the content with appropriate justification to few questions. Prepare non- structured report.	Complete explanation of key concepts and strong description of technical information Defend the content with appropriate justification to all questions. Prepare a structured report.
LCO.4 Life-Long Learning (PO12)	Irrelevant gathering of Information from non- electronic resources	Information gathering from limited resources and unable to utilize	Information gathering from limited resources and utilizing inappropriately	Information gathering from various resources and relating appropriately with the findings	Information gathering from various resources and comparing appropriately with the findings.

THE MAPPING OF COs WITH POs & PSOs OF ALL COURSES FOR ACADEMIC YEAR 2017 - 2018

Subject Code	Subject	SEM	Program Outcomes (POs)												Program Specific Outcomes		
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
HS8151	Communicative English	I									3	2		3			
MA8151	Engineering Mathematics – I	I	2	1													
PH8151	Engineering Physics	I	2	1								2					
CY8151	Engineering Chemistry	I	2	1								2					
GE8151	Problem Solving and Python Programming	I	2	1	1	1	1										
GE8152	Engineering Graphics	I	2		1							2				1	
GE8161	Problem solving and Python Programming Language	I	2	2	2	1	1			3	3	3	3	3			
BS8161	Physics And Chemistry Lab – I	I	2	1						3	3	3	3	3			
HS8251	Technical English	II									3	2		3			
MA8251	Engineering Mathematics – II	II	2	1													

Subject Code	Subject	SEM	Program Outcomes (POs)												Program Specific Outcomes		
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
PH8251	Material Science	II	2	1								2					
BE8253	Basic Electrical, Electronics, and Instrumentation Engineering	II	2	1	1	1	1										
GE8291	Environmental Science and Engineering	II	2	1				2	3			2				1	1
GE8292	Engineering Mechanics	II	2	1												1	
GE8261	Engineering Practices Lab	II	3	2	2	1	2			3	3	3	3	3		2	2
BE8261	Basic Electrical, Electronics, and Instrumentation Engineering Lab	II	2	1	1	1		1		3	3	3	3	3	1	1	2
MA6351	Transforms and Partial Differential Equations	III	3	2	2	1	-	-	-	-	-	-	-	-	2	-	-
CE6306	Strength of Materials	III	3	2	-	-	-	-	-	-	2	2	2	3	-	2	-
ME6301	Engineering Thermodynamics	III	3	2	-	1	-	-	-	-	2	2	2	3	2	-	-
CE6451	Fluid Mechanics and Machinery	III	3	2	-	1	-	-	-	-	2	2	2	3	1	-	-

Subject Code	Subject	SEM	Program Outcomes (POs)												Program Specific Outcomes		
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
ME6302	Manufacturing Technology – I	III	2	-	2	-	-	-	-	-	2	2	2	3	-	1	-
EE6351	Electrical Drives and Controls	III	2	1	-	-	-	-	-	-	-	2	-	-	1	-	-
ME6311	Manufacturing Technology Laboratory – I	III	2	2	2	1	3	-	-	3	3	3	3	3	-	-	2
CE6461	Fluid Mechanics and Machinery Laboratory	III	2	2	-	1	-	-	-	3	3	3	3	3	2	-	-
EE6365	Electrical Engineering Laboratory	III	3	2	-	1	-	-	-	-	3		3	-	-	2	-
MA6452	Statistics and Numerical Methods	IV	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-
ME6401	Kinematics of Machinery	IV	2	1	2	-	-	-	-	-	2	2	2	3	-	1	-
ME6402	Manufacturing Technology – II	IV	3	2	2	-	3	-	-	-	2	2	2	3	-	-	2
ME6403	Engineering Materials and Metallurgy	IV	2	2	1	1	2	-	-	-	2	2	2	3		1	
GE6351	Environmental Science and Engineering	IV	2	1	-	-	-	2	3	-	-	2	-	-	-	1	1
ME6404	Thermal Engineering	IV	2	1	1	1	-	-	-	-	2	2	2	3	1	-	-

Subject Code	Subject	SEM	Program Outcomes (POs)												Program Specific Outcomes		
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
ME6411	Manufacturing Technology Laboratory –II	IV	3	2	2	-	3	-	-	3	3	3	3	3	-	-	2
ME6412	Thermal Engineering Laboratory – I	IV	2	1	1	-	2	-	-	3	3	3	3	3	1	-	-
CE6315	Strength of Materials Laboratory	IV	3	1	-	1	3	-	-	3	3	3	3	3	-	2	2
ME6501	Computer Aided Design	V	2	1	2	1	2	-	-	-	2	2	2	3	1	1	2
ME6502	Heat and Mass Transfer	V	2	1	2	1	-	-	-	-	2	2	2	3	1	-	-
ME6503	Design of Machine Elements	V	2	1	2	2	-	-	-	-	2	2	2	3	-	1	-
ME6504	Metrology and Measurements	V	2	2	-	-	2	-	-	-	2	2	2	3	1	1	1
ME6505	Dynamics of Machines	V	2	1	1	1	-	-	-	-	2	2	2	3	1	1	2
GE6075	Professional Ethics in Engineering	V	-	-	-	-	-	2	3	2	2	2	2	3	-	1	-
ME6511	Dynamics Laboratory	V	2	1	1	-	-	-	-	3	3	3	3	3	1	1	-
ME6512	Thermal Engineering Laboratory – II	V	3	2	-	2	3	-	-	3	3	3	3	3	2	-	-

Subject Code	Subject	SEM	Program Outcomes (POs)												Program Specific Outcomes		
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
ME6513	Metrology and Measurements Laboratory	V	2	1	-		3	-	-	3	3	3	3	3	2	-	2
MG6851	Principles of Management	VI	-	-	-	-	-	-	-	2	2	2	2	1	-	-	-
ME6601	Design of Transmission Systems	VI	3	2	2	-	-	-	-	-	2	2	2	3	-	2	-
ME6602	Automobile Engineering	VI	2	1	-	-	-	-	-	-	-	2	-	-	1	1	-
ME6603	Finite Element Analysis	VI	3	2	-	1	3	-	-	-	2	2	2	3	-	2	-
ME6604	Gas Dynamics and Jet Propulsion	VI	3	2	-	1	-	-	-	-	-	-	-	-	2	-	-
ME6004	Unconventional Machining Process	VI	2	2	-	1	-	-	-	-	-	2	-	-	-	-	2
ME6611	C.A.D. / C.A.M. Laboratory	VI	3	2	2	1	3	-	-	3	3	3	3	3	-	2	-
ME6612	Design and Fabrication Project	VI	3	2	2	2	3	3	3	3	3	3	3	3	2	2	2
GE6563	Communication Skills Laboratory Based	VI	-	-	-	-	-	-	-	3	3	2	3	3	-	-	-
ME6701	Power Plant Engineering	VII	2	1	-	-	-	-	3	-	-	-	-	-	1	-	-

Subject Code	Subject	SEM	Program Outcomes (POs)												Program Specific Outcomes		
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
ME6702	Mechatronics	VII	2	1	1	-	2	-	-	-	-	2	-	-	1	-	1
ME6703	Computer Integrated Manufacturing Systems	VII	2	1	1	-	2	-	-	-	-	2	-	-	-	-	1
GE6757	Total Quality Management	VII	-	-	1	1	-	2	3	2	3	-	2	-	2	2	-
ME6005	Process Planning and Cost Estimation	VII	2	1	-	-	-	-	-	-	-	-	-	-	-	-	1
ME6012	Maintenance Engineering	VII	2	1	1	-	2	-	-	-	-	2	-	-	-	-	1
ME6711	Simulation and Analysis Laboratory	VII	3	2	-	1	3	-	-	3	3	3	3	3	2	2	2
ME6712	Mechatronics Laboratory	VII	3	2	2	-	3	-	-	3	3	3	3	3	-	2	-
ME6713	Comprehension	VII	2	1	-	-	-	-	-	-	-	-	-	-	1	1	1
MG6863	Engineering Economics	VIII	2	1	-	-	-	-	-	-	-	-	-	-	-	-	1
MG6071	Entrepreneurship Development	VIII	2	1	-	-	-	2	3	-	-	2	2	3	-	-	1
ME6016	Advanced I.C. Engines	VIII	2	1	1	1	-	-	3	-	-	2	-	3	1	1	-
	PLM		3	-	-	-	3	-	-	-	-	2	2	-	-	3	-
ME6811	Project Work	VIII	3	2	2	3	3	3	3	3	3	3	3	3	2	2	2