



Indra Ganesan

COLLEGE OF ENGINEERING

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai
Accredited by NAAC with 'B+' Grade, 2(f) & 12B Status Institution by UGC

IG Valley, Madurai Main Road, Manikandam, Tiruchirappalli - 620012

NAAC DOCUMENTS

QUALITY INDICATOR FRAME WORK

CRITERION – 2

TEACHING-LEARNING AND EVALUATION

SUBMITTED BY

IQAC

INTERNAL QUALITY ASSURANCE CELL
INDRA GANESAN COLLEGE OF ENGINEERING





Indra Ganesan
COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai
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Criteria 2	Teaching-Learning and Evaluation	350
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Key Indicator-2.6 Student Performances and Learning Outcome (90)

2.6.1 Programme Outcomes (POs) and Course Outcomes (COs) for all programmes offered by the institution are stated and displayed on website

DEPARTMENT OF MECHANICAL
RG-2013

INDRA GANESAN COLLEGE OF ENGINEERING

**IG Valley, Manikandam, Tiruchirappalli, Tamil Nadu – 620 012, India
(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)**

DEPARTMENT OF MECHANICAL ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

2013 Regulation

COURSE OUTCOMES MAPPING COs

WITH POs AND PSOs

ME6501 – COMPUTER AIDED DESIGN

COURSE OUTCOMES

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

CO No.	Course Outcomes	POs	PSOs
C301.1	Explain the basic concept of product design and 2D / 3D CAD manipulations.	1,2,4,5,6,10,11	1,2
C301.2	Discuss the representation of curves, surface and solid modeling techniques for various real time applications	1,2,4,6,10	1,2
C301.3	Summarize the visual realism techniques	1,5,10	2
C301.4	Associate the concept of parametric design for mechanical assembly of parts	1,2,5,10	2
C301.5	Discuss the various CAD standards	1,2,3,4,6,10,11,12	2
C301.6	Apply the CAD concepts in component design	1,2,3,5,10	1,2,3

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	POs	PSOs
C302.1	Explain the concept of one dimensional steady and transient heat conduction through various systems	1,2	1
C302.2	Discuss the concept of convection with the flow of fluids in different elements.	1,2,4,	1
C302.3	Associate the significance of phase change with heat transfer in heat exchangers	1,2,4	1
C302.4	Discuss the concept of radiation and application in heat transfer systems.	1,2,4	1
C302.5	Explain the concept of mass transfer and its correlations.	1,2,	1
C302.6	Apply the conduction and convection principles in product application by real time study.	1,2,3,4,9,10,11,12	1

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	POs	PSOs
C303.1	Compute the stress acting on various machine elements	1,2	2
C303.2	Compute the dimensions, stress requirements of shaft and couplings based on various load conditions	1,2	2
C303.3	Summarize about temporary and permanent joints based on application requirements	1,2	2
C303.4	Compute the dimensions of the energy storing devices for specific applications	1,2	2
C303.5	Predict appropriate bearing, from the standard catalog for varied applications	1,2	2
C303.6	Apply the various design concepts on to real time product applications	1,2,3,5,9,10,11,12	2,

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	POs	PSOs
C304.1	Explain the fundamentals of Measuring system & Errors in Measurement.	1,2,3,4,6,10,11,12	1,2
C304.2	Discuss the use of Linear and Angular Measurement instruments	1,2,3,4,6,10,11,12	1,2
C304.3	Explain the working of Laser Interferometer and Coordinate Measuring Machine (CMM).	1,2,3,4,6,10,11,12	1,2
C304.4	Distinguish the methods available for measuring various forms	1,2,3,4,6,10,11,12	1,2
C304.5	Associate suitable measuring instruments to measure power, flow and temperature.	1,2,3,4,6,10,11,12	1,2
C304.6	Utilize different measurement technologies to quantify varying parameters for real time applications	1,2,3,4,6,10,11,12	1,2

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	POs	PSOs
C305.1	Discuss the forces required by various machine components to overcome inertia	1,2,3,4,6,10,11,12	1,2
C305.2	Compute the unbalanced forces on reciprocating and rotating masses.	1,2,3,4,6,10,11,12	1,2
C305.3	Distinguish the types of vibration and its effect on the system. .	1,2,3,4,6,10,11,12	1,2
C305.4	Associate the system response an exposure to various forced vibrations	1,2,3,4,6,10,11,12	1,2
C305.5	Explain the control mechanisms of governor and gyroscope with their applications.	1,2,3,4,6,10,11,12	1,2
C305.6	Classify forces in mechanical system and related vibration issues to solve the problem	1,2,3,4,6,10,11,12	1,2

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	POs	PSOs
C306.1	Illustrate the core values that enrich the ethical behavior of an engineer.	1,2,3,4,6,10,11,12	1,2
C306.2	Discuss the importance of moral issues and theories of the profession.	1,2,3,4,6,10,11,12	1,2
C306.3	Associate the code of ethics in real time application as responsible experimenters with various social issues.	1,2,3,4,6,10,11,12	1,2
C306.4	Relate the suitable safety measures towards risk benefit analysis.	1,2,3,4,6,10,11,12	1,2
C306.5	Explain the concepts of Professional rights, Employee rights, Confidentiality, conflicts of interest and IPR.	1,2,3,4,6,10,11,12	1,2
C306.6	Explain the global ethical issues related to various work place situation.	1,2,3,4,6,10,11,12	1,2

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	3		1		
C306.4	K2						2	3	2	2	2	3		1		
C306.5	K2						2	3	2	2	2	3		1		
C306.6	K2						2	3	2	2	2	3		1		
C307							2	3	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	POs	PSOs
C307.1	Explain the gear ratios of various types of gear trains	1,2,3,4,6,10,11,12	1,2
C307.2	Compute the gyroscopic couple in gyroscope and centrifugal force in various governors	1,2,3,4,6,10,11,12	1,2
C307.3	Distinguish the significance of the reciprocating and rotating mass systems.	1,2,3,4,6,10,11,12	1,2
C307.4	Compute the parameters of vibration in the rotor systems	1,2,3,4,6,10,11,12	1,2
C307.5	Discuss the kinematic working models of various mechanisms and cam profile.	1,2,3,4,6,10,11,12	1,2
C307.6	Compute the critical speed of shafts	1,2,3,4,6,10,11,12	1,2
C307.7	Exhibit ethical principles in engineering practices		
C307.8	Perform task as an individual and / or team member to manage the task in time		
C307.9	Express the Engineering activities with effective presentation and report.		
C307.10	Interpret the findings with appropriate technological / research citation.		

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	POs	PSOs
C308.1	Compute the conduction rate in one dimensional for the given plate and circular surfaces	1,2,3,4,6,10,11,12	1,2
C308.2	Compute heat transfer coefficient for different types of convection.	1,2,3,4,6,10,11,12	1,2
C308.3	Utilize thermal analysis of different heat exchanger to compare the actual and theoretical heat transfer rate.	1,2,3,4,6,10,11,12	1,2
C308.4	Compute temperature distribution using heat transfer correlations for various apparatus.	1,2,3,4,6,10,11,12	1,2
C308.5	Apply thermodynamics principles to find various parameters of air conditioning and refrigeration system	1,2,3,4,6,10,11,12	1,2
C308.6	Demonstrate the fundamentals of heat transfer and predict the response of thermal system	1,2,3,4,6,10,11,12	1,2
C308.7	Exhibit ethical principles in engineering practices		
C308.8	Perform task as an individual and / or team member to manage the task in time		
C308.9	Express the Engineering activities with effective presentation and report.		
C308.10	Interpret the findings with appropriate technological / research citation.		

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	POs	PSOs
C309.1	Demonstrate the correct methods for measurement and calibration of various measuring devices.	1,2,3,4,6,10,11,12	1,2
C309.2	Explain the effective methods of measuring straightness, flatness, gear profile, screw threads.	1,2,3,4,6,10,11,12	1,2
C309.3	Compute the internal bore diameter measurement by bore gauge and telescope gauge.	1,2,3,4,6,10,11,12	1,2
C309.4	Compute the force and torque using suitable measuring devices	1,2,3,4,6,10,11,12	1,2
C309.5	Compute the temperature measurement using thermocouple	1,2,3,4,6,10,11,12	1,2
C309.6	Apply the different measurement tools and perform measurements in quality Inspection	1,2,3,4,6,10,11,12	1,2
C309.7	Exhibit ethical principles in engineering practices		
C309.8	Perform task as an individual and / or team member to manage the task in time		
C309.9	Express the Engineering activities with effective presentation and report.		
C309.10	Interpret the findings with appropriate technological / research citation.		

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	POs	PSOs
C310.1	Summarize the evolution of management thoughts and various challenges of managerial activities in a global business environment.	1,2,3,4,6,10,11,12	1,2
C310.2	Explain the types of Planning and Decision making at various levels management in the Organizations.	1,2,3,4,6,10,11,12	1,2
C310.3	Discuss various types of Organization structure.	1,2,3,4,6,10,11,12	1,2
C310.4	List out the steps in Staffing process and stages in Career development.	1,2,3,4,6,10,11,12	1,2
C310.5	Explain the elements in Direction.	1,2,3,4,6,10,11,12	1,2
C310.6	Generalize various Controlling techniques to maintain standards in Organizations.	1,2,3,4,6,10,11,12	1,2

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	POs	PSOs
C311.1	Compute the design parameters of flexible transmission elements like belts, chains and wire ropes for given condition	1,2,3,4,6,10,11,12	1,2
C311.2	Compute the spur and helical gear terminology considering strength and wear	1,2,3,4,6,10,11,12	1,2
C311.3	Compute the required parameters in designing worm, bevel and double helical gear power transmission	1,2,3,4,6,10,11,12	1,2
C311.4	Calculate the speed ratio and gear box parameters for the given application	1,2,3,4,6,10,11,12	1,2
C311.5	Compute the parameters require to design cam, clutches and brakes for varied applications	1,2,3,4,6,10,11,12	1,2
C311.6	Calculate the parameters to design power transmission elements using standard catalogue	1,2,3,4,6,10,11,12	1,2

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	POs	PSOs
C312.1	Distinguish the vehicle structure, engine components and accessories.	1,2,3,4,6,10,11,12	1,2
C312.2	Discuss various engine auxiliary and emission control systems	1,2,3,4,6,10,11,12	1,2
C312.3	Explain the working principle of various transmission and control systems	1,2,3,4,6,10,11,12	1,2
C312.4	Discuss the functions of steering, brakes and suspension systems.	1,2,3,4,6,10,11,12	1,2
C312.5	Explain the various energy sources available for vehicles based on trend, economic and pollution free condition.	1,2,3,4,6,10,11,12	1,2
C312.6	Discuss the working of various components in automobile engineering	1,2,3,4,6,10,11,12	1,2

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	POs	PSOs
C313.1	Calculate the solution for BVP using numerical techniques.	1,2,3,4,6,10,11,12	1,2
C313.2	Compute structural and thermal problems utilizing 1D problem formulation.	1,2,3,4,6,10,11,12	1,2
C313.3	Use 2D scalar formulation for solving thermal and torsion problems	1,2,3,4,6,10,11,12	1,2
C313.4	Use 2D vector formulation for solving plane stress, plane strain and axisymmetric problems	1,2,3,4,6,10,11,12	1,2
C313.5	Use iso-parametric formulation for complex contour domain	1,2,3,4,6,10,11,12	1,2
C313.6	Compute the real time primitive structural and thermal problems using finite element techniques.	1,2,3,4,6,10,11,12	1,2

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	POs	PSOs
C314.1	Explain the significance of Mach number on compressible fluid flow	1,2,3,4,6,10,11,12	1,2
C314.2	Compute the flow characteristics using Rayleigh and Fanno flow	1,2,3,4,6,10,11,12	1,2
C314.3	Calculate the flow parameters across normal and oblique shock wave	1,2,3,4,6,10,11,12	1,2
C314.4	Classify the propulsion performance in various aircraft engines	1,2,3,4,6,10,11,12	1,2
C314.5	Compute the performance characteristics of space propulsion system	1,2,3,4,6,10,11,12	1,2
C314.6	Apply gas dynamics principles in the jet and space propulsion	1,2,3,4,6,10,11,12	1,2

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	POs	PSOs
C315.1	Explain the types, needs and application of unconventional machining process	1,2,3,4,6,10,11,12	1,2
C315.2	Discuss the various mechanical energy based machining methods	1,2,3,4,6,10,11,12	1,2
C315.3	Explain electrical energy based machining processes for specific application	1,2,3,4,6,10,11,12	1,2
C315.4	Distinguish the chemical and electro chemical energy based machining processes.	1,2,3,4,6,10,11,12	1,2
C315.5	Explain the principle and working of thermal energy based machining methods.	1,2,3,4,6,10,11,12	1,2
C315.6	Examine the significance of various process parameters on MRR	1,2,3,4,6,10,11,12	1,2

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	POs	PSOs
C316.1	Utilize standard software tools to create part, assemblies and check for clearances.	1,2,3,4,6,10,11,12	1,2
C316.2	Modify 2D drafting to 3D using modeling software.	1,2,3,4,6,10,11,12	1,2
C316.3	Summarize the modern control in manufacturing systems (FANUC, SIEMENS)	1,2,3,4,6,10,11,12	1,2
C316.4	Utilize the concepts of G and M codes and manual part programming for modern manufacturing technology.	1,2,3,4,6,10,11,12	1,2
C316.5	Utilize CAPP in machining and turning centre	1,2,3,4,6,10,11,12	1,2
C316.6	Apply modern tools in design, manufacture and planning	1,2,3,4,6,10,11,12	1,2
C316.7	Exhibit ethical principles in engineering practices		
C316.8	Perform task as an individual and / or team member to manage the task in time		
C316.9	Express the Engineering activities with effective presentation and report.		
C316.10	Interpret the findings with appropriate technological / research citation.		

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	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	POs	PSOs
C317.1	Use the design principles and develop concept for the project	1,2,3,4,6,10,11,12	1,2
C317.2	Estimate the time frame and cost for the project execution and completion	1,2,3,4,6,10,11,12	1,2
C317.3	Analyze the project progress with remedial measures individual in a team	1,2,3,4,6,10,11,12	1,2
C317.4	Examine the environmental impact of the project	1,2,3,4,6,10,11,12	1,2
C317.5	Demonstrate the project functionality along with report and presentation	1,2,3,4,6,10,11,12	1,2
C317.6	Apply the Engineering knowledge in design and economically manufacturing of components to support the society need.	1,2,3,4,6,10,11,12	1,2
C317.7	Assess health, safety and legal relevant to professional engineering practices.		
C317.8	Comply the environmental needs and sustainable development.		
C317.9	Justify ethical principles in engineering practices		
C317.10	Perform multi-disciplinary task as an individual and / or team member to manage the project/task.		
C317.11	Comprehend the Engineering activities with effective presentation and report.		
C317.12	Interpret the findings with appropriate technological / research citation.		

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	POs	PSOs
C318.1	Listening sharply and reading keenly to Learned and act aptly.	1,2,3,4,6,10,11,12	1,2
C318.2	Make effective presentations and to excel in Group Discussions.	1,2,3,4,6,10,11,12	1,2
C318.3	By employing the soft skills to become a Successful Leader.	1,2,3,4,6,10,11,12	1,2
C318.4	To write crisp resume and Job Application Letters employing appropriate language.	1,2,3,4,6,10,11,12	1,2
C318.5	To successfully meet the requirements of International Exams in the language and skills.	1,2,3,4,6,10,11,12	1,2
C318.6	To successfully get jobs by enhancing the Overall Personality.	1,2,3,4,6,10,11,12	1,2
C318.7	Exhibit ethical principles in engineering practices		
C318.8	Perform task as an individual and / or team member to manage the task in time		
C318.9	Express the Engineering activities with effective presentation and report.		
C318.10	Interpret the findings with appropriate technological / research citation.		

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	POs	PSOs
C401.1	Discuss the layout of thermal power plant and working principle of various types of boilers.	1,2,3,4,6,10,11,12	1,2
C401.2	Explain the working of diesel and gas turbine power plant along with optimization technique	1,2,3,4,6,10,11,12	1,2
C401.3	Discuss the various types of nuclear reactors used in nuclear power plant	1,2,3,4,6,10,11,12	1,2
C401.4	Summarize the principles and working of various renewable energy power plants.	1,2,3,4,6,10,11,12	1,2
C401.5	Explain the energy, economic and environmental issues of power plants	1,2,3,4,6,10,11,12	1,2
C401.6	Paraphrase the different types of power plant, its function and issues related to them	1,2,3,4,6,10,11,12	1,2

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	POs	PSOs
C402.1	Discuss the functions of sensors, actuators and associated control systems.	1,2,3,4,6,10,11,12	1,2
C402.2	Explain the features of microprocessor and microcontroller	1,2,3,4,6,10,11,12	1,2
C402.3	Discuss various programmable peripheral interface for specific applications	1,2,3,4,6,10,11,12	1,2
C402.4	Summarize the functionality of Programmable Logic Controller.	1,2,3,4,6,10,11,12	1,2
C402.5	Associate the mechatronics and actuator systems for real time applications	1,2,3,4,6,10,11,12	1,2
C402.6	Discuss the influence of mechatronics systems(microprocessor, microcontroller & PLC) in industrial automation	1,2,3,4,6,10,11,12	1,2

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	POs	PSOs
C403.1	Explain the CIM concepts and basic elements of an automated system.	1,2,3,4,6,10,11,12	1,2
C403.2	Explain the concept of Computer aided process planning and material requirement planning	1,2,3,4,6,10,11,12	1,2
C403.3	Discuss the concept of cellular manufacturing using Rank order clustering and Hollier method	1,2,3,4,6,10,11,12	1,2
C403.4	Explain FMS planning and applications of Automated guided vehicle systems.	1,2,3,4,6,10,11,12	1,2
C403.5	Explain the concepts of robot control system and part programming	1,2,3,4,6,10,11,12	1,2
C403.6	Explain the applications of computer in planning, manufacturing and controlling	1,2,3,4,6,10,11,12	1,2

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	POs	PSOs
C404.1	Discuss various dimensions of product and service quality	1,2,3,4,6,10,11,12	1,2
C404.2	Apply the TQM principles for quality improvement in organization	1,2,3,4,6,10,11,12	1,2
C404.3	Distinguish various TQM tools and techniques used in Manufacturing and Service sectors	1,2,3,4,6,10,11,12	1,2
C404.4	Use QFD tool to design and develop a new product as per customer requirements	1,2,3,4,6,10,11,12	1,2
C404.5	Explain various ISO Standards and Quality systems practiced in various sector	1,2,3,4,6,10,11,12	1,2
C404.6	Summarize the basic concepts in total quality management relevant to manufacturing and service Sectors	1,2,3,4,6,10,11,12	1,2

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	

ME6711 – SIMULATION AND ANALYSIS LAB

COURSE OUTCOMES

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

CO No.	Course Outcomes	POs	PSOs
C407.1	Apply the fundamentals concepts of finite element method in problem characterization	1,2,3,4,6,10,11,12	1,2
C407.2	Compute the deflection and stress in 1D and 2D problem	1,2,3,4,6,10,11,12	1,2
C407.3	Explain the effect of various load acting on 1D beam in real time problem	1,2,3,4,6,10,11,12	1,2
C407.4	Examine the modal analysis for beam under various boundary conditions	1,2,3,4,6,10,11,12	1,2
C407.5	Demonstrate the effects due to harmonic loading on structures	1,2,3,4,6,10,11,12	1,2
C407.6	Examine the thermal effects on 2D structure	1,2,3,4,6,10,11,12	1,2
C407.7	Exhibit ethical principles in engineering practices		
C407.8	Perform task as an individual and / or team member to manage the task in time		
C407.9	Express the Engineering activities with effective presentation and report.		
C407.10	Interpret the findings with appropriate technological / research citation.		

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	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	POs	PSOs
C408.1	Summarize assembly language programming of 8085 for arithmetic operation	1,2,3,4,6,10,11,12	1,2
C408.2	Operate programmable peripheral interface for stepper motor and traffic light	1,2,3,4,6,10,11,12	1,2
C408.3	Demonstrate the speed control of DC motor by microcontroller	1,2,3,4,6,10,11,12	1,2
C408.4	Prepare Hydraulic, Pneumatic and electro pneumatic circuits using software tool.	1,2,3,4,6,10,11,12	1,2
C408.5	Examine various fluid power circuits.	1,2,3,4,6,10,11,12	1,2
C408.6	Prepare PLC programs for controlling multiple cylinders using timers	1,2,3,4,6,10,11,12	1,2
C408.7	Explain the image processing technique		
C408.8	Exhibit ethical principles in engineering practices		
C408.9	Perform task as an individual and / or team member to manage the task in time		
C408.10	Express the Engineering activities with effective presentation and report.		
C408.11	Interpret the findings with appropriate technological / research citation.		

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

Course Outcomes	Level of CO	Program Outcomes												Program Specific Outcomes			
		K3	K4	K4	K5	K3, K5, K6	A3	A2	A3	A3	A3	A3	A2	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		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	POs	PSOs
C409.1	Summarize the various thermodynamics laws to engineering application	1,2,3,4,6,10,11,12	1,2
C409.2	Distinguish various power cycles and it's applications	1,2,3,4,6,10,11,12	1,2
C409.3	Discuss various mechanism for design of mechanical system	1,2,3,4,6,10,11,12	1,2
C409.4	Compute the properties and strength of engineering material	1,2,3,4,6,10,11,12	1,2
C409.5	Point out various manufacturing process suitable for making products	1,2,3,4,6,10,11,12	1,2
C409.6	Compute the fluid properties and flow characteristics	1,2,3,4,6,10,11,12	1,2

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

MG6071 – ENTREPRENEURSHIP DEVELOPMENT

COURSE OUTCOMES

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

CO No.	Course Outcomes	POs	PSOs
C411.1	Discuss the types of entrepreneurship and the factors effecting entrepreneur	1,2,3,4,6,10,11,12	1,2
C411.2	Discuss about competencies and motivation required to become an entrepreneur.	1,2,3,4,6,10,11,12	1,2
C411.3	Extend the business concepts towards a start – up considering all factors	1,2,3,4,6,10,11,12	1,2
C411.4	Explain the financial and accounting details needed for starting and running a small enterprise.	1,2,3,4,6,10,11,12	1,2
C411.5	Summarize the various supports available to start a small enterprise.	1,2,3,4,6,10,11,12	1,2
C411.6	Summarize the resources available and skills required to establish an enterprise	1,2,3,4,6,10,11,12	1,2

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	POs	PSOs
C412.1	Discuss the various type of fuel injection and combustion chambers of Spark Ignition Engines.	1,2,3,4,6,10,11,12	1,2
C412.2	Explain the various types of fuel injection system and combustion chambers of Compression Ignition Engines.	1,2,3,4,6,10,11,12	1,2
C412.3	Discuss various types of pollutants formation, measurement and control.	1,2,3,4,6,10,11,12	1,2
C412.4	Explain various sources of alternate fuels and necessary engine modification.	1,2,3,4,6,10,11,12	1,2
C412.5	Discuss the recent trends taking place in automobile industries.	1,2,3,4,6,10,11,12	1,2
C412.6	Distinguish the operating of different IC engines and its components along with its emission standards	1,2,3,4,6,10,11,12	1,2

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	POs	PSOs
PLMCO.1	Apply the concept of primitives to draw 2D sketches	1,2,3,4,6,10,11,12	1,2
PLMCO.2	Develop the parts using Creo - 3D Modelling Tool	1,2,3,4,6,10,11,12	1,2
PLMCO.3	Use options like Align, Mate etc. to assemble the parts	1,2,3,4,6,10,11,12	1,2
PLMCO.4	Extend the 3D modelling to produce model change using flexible modelling.	1,2,3,4,6,10,11,12	1,2
PLMCO.5	Allocate roles and responsibility for the members in the organization	1,2,3,4,6,10,11,12	1,2
PLMCO.6	Implement the change management and Data management in an organization	1,2,3,4,6,10,11,12	1,2

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	POs	PSOs
C413.1	Use literature to identify the objective, scope and the concept of the work.	1,2,3,4,6,10,11,12	1,2
C413.2	Apply suitable methods and materials to carry out experiments by conserving eco-system	1,2,3,4,6,10,11,12	1,2
C413.3	Develop a prototype/experimental set-up necessary to complete the project	1,2,3,4,6,10,11,12	1,2
C413.4	Discuss the results obtained to derive conclusions	1,2,3,4,6,10,11,12	1,2
C413.5	Defend the work by preparing a report as per the University format.	1,2,3,4,6,10,11,12	1,2
C413.6	Compile the experimental information to publish in journals/conference	1,2,3,4,6,10,11,12	1,2
C413.7	Assess health, safety and legal relevant to professional engineering practices.		
C413.8	Comply the environmental needs and sustainable development.		
C413.9	Justify ethical principles in engineering practices		
C413.10	Perform multi-disciplinary task as an individual and / or team member to manage the project/task.		
C413.11	Comprehend the Engineering activities with effective presentation and report.		
C413.12	Interpret the findings with appropriate technological / research citation.		

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