Mount Zion College of Engineering & Technology

MECHANICAL ENGINEERING

COURSE MAPPING CHART

COURSE NAME: HS8151 COMMUNICATIVE ENGLISH **YEAR & SEMESTER: I & I**

	CO Statement — At the end of the course, the students will	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,5,6)	PO6	PO7	PO8	PO9	P10	P11	P12
C O U R S E / HS8151 - COMMUNICATIVE ENGLISH	CO1: Communicate and share a broad range of information.[K3]	3	2	1	-	-	-	-	-	-	-	-	-
	CO2: Develop the reading and speaking skills.[K3]	3	2	1	-	-	-	-	-	-	-	-	-
	CO3: Improvethe English language competency. [K3]	3	2	1									
	CO4: Identify themistakes in reading and writing.[K3]	3	2	1	-	-	-	-	-	1	-	-	-
	CO5: Explain the direct and indirect questions.[K2]	2	1	-	-	-	-	-	-	-	-	-	-
	CO6: Understand the meaning in comprehension and able to read magazines.[K2]	2	1	-	-	-	-	-	-	-	-	1	-
	CO7: Understand the functions of essays and development of the vocabularies.[K2]	2	1	-	-	-	-	-	-	-	-	-	-
	CO8: Demonstrate the writing skills in personal letter, official letter, email and articles.[K2]	2	1	-	-	-	-	-	-	-	-	-	-
	CO9: Execute the method of participation in the conversation.[K3]	3	2	1	-	-	-	-	-	-	-	-	-
	CO10: Judge how to acquire the oral skills, writing skills and the listening skills.[K5]	4	3	2	-	-	-	-	-	-	-	-	-
	Average	2.7	1.7	0.8						0.1		0.1	

NAME OF THE STAFF: V.BALACHANDRAN

VERIFIED BY HOD

Head of the Department
Mechanical Engineering
Mount Zion College of Engg. & Tech.
Pudukkottai - 622 507

DEPARTMENT OF MECHANICAL
B.E MECHANICAL - COURSE OUTCOMES (CO)

Course Code	Course Name	Course Outcome(CO) Students will be able to	Knowledge Level
MA8151	MATHEMATICS-I	CO1: Define limit of a fuction.	K1
		CO2: Apply the concept of derivative rules in maxima and minima.	K3
		CO3: Explain the concept of partial differential equation.	K2
		CO4: Explain the concept of maxima and minima of two functions.	K2
		CO5: Apply the concept of integration by parts.	K3
		CO6: Apply the concept of partial fraction methods.	K3
		CO7: Solve the double integrals.	K3
		CO8: Apply the concept of trible integrals.	K3
		CO9: Solve the differential equation with constant coefficients.	K3
		CO10: Solve the Euler's and Legender's type.	K3

CO-PO MAPPING

COs		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
		K3	K4	K5	K5	K3/K5/K6							
C3O1.1	K1	1	-	-	-	1	-	-	-	-	-	-	-
C3O1.2	K3	3	2	1	1	1	-	-	-	-	-	-	-
C3O1.3	K2	2	1	-	-	-	-	-	-	-	-	-	-
C3O1.4	K2	2	1	-	-	-	-	-	-	-	-	-	-
C3O1.5	K3	3	2	1	1	1	-	-	-	-	-	-	-
C3O1.6	K3	3	2	1	1	1	-	-	-	-	-	-	-
C3O1.7	K3	3	2	1	1	1	-	-	-	-	-	-	-
C3O1.8	K3	3	2	1	1	1	-	-	-	-	-	-	-
C3O1.9	K3	3	2	1	1	1	-	-	-	-	-	-	-
C3O1.10	K3	3	2	1	1	1	-	-	-	-	-	-	-

NAME OF THE STAFF: V.SHALINI

VERIFIED BY HOD

Head of the Department.
Mechanical Engineering
Mount Zion College of Engg. & Tech.
Pudukkottai - 622 507

Mount Zion College of Engineering & Technology

MECHANICAL ENGINEERING

COURSE MAPPING CHART

COURSE NAME: PH8151 ENGINEERING PHYSICS

YEAR & SEMESTER: I & I

	CO Statement — At the end of the course, the students will	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,5,6)	PO6	PO7	PO8	PO9	P10	P11	P12
COURSE / PH8151- ENGINEERING PHYSICS	Apply the non-uniform bending concept in I-shape girders (K3)	3	2	1	-	-	-	-	-	-	-	-	-
	Demonstrate the torisional stress and deformation using torisional pendulum experiment (k4)	3	3	2	2	-	-	-					
	Illustrate the uses of LASER in low and high level energy applications (k3)	3	2	1									
	Explain the concept of resonance in real day applications (k5)	3	3	3	3	3	-	-	-	-	-	-	-
	Show the energy conversion in solar water heaters(k4)	3	3	2	2	-	-	-	-	-	-	-	-
	Calculate the thermal conductivity of good conductors (k3)	3	2	1	-	-	-	-	-	-	-	-	-
	Justify the tunneling effect occurs in potential barrier(k2)	2	1	-	-	-	-	-	-	-	-	-	-
	Compare the SC,BCC,FCC,HCP ,diamond crystal structure (k3)	3	2	1	-	-	-	-	-	-	-	-	-
	Identify the Schottky and Frankel defect in crystal lattice (k5)	3	3	3	3	3	-	-	-	-	-	-	-
AVERAGE		2.88	2.22	1.55	1.11	0.66							

NAME OF THE STAFF: M.PARTHIBAN

VERIFIED BY HOD

Head of the Department
Mechanical Engineering
Mount Zion College of Engg. & Tech
Pudukkottai - 622 507

Mount Zion College of Engineering & Technology
MECHANICAL ENGINEERING
COURSE MAPPING CHART

COURSE NAME:ENGINEERING CHEMISTRY

YEAR & SEMESTER:I&I

COURSE	CO Statement / At the end of the course, the students will	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,5,6)	PO6	PO7	PO8	PO9	P10	P11	P12
CY8151-ENGINEERING CHEMISTRY	Co:1 Develop innovative methods to produce soft water and potable water.[K3]	3	2	1	1	-	-	-	-	-	-	-	-
	CO:2 Identify and apply suitable water treatment techniques.[K3]	3	2	1	1	-	-	-	-	-	-	-	-
	CO:3 Understand the different types of adsorption and catalysts.[K2]	2	1	-	-	-	-	-	-	-	-	-	-
	CO:4 Define and analyze engineering related problems like metal finishing.[k3]	3	2	1	1	-	-	-	-	-	-	-	-
	CO:5 Understand the knowledge of phase rule applied in various industries.[k2]	2	1	-	-	-	-	-	-	-	-	-	-
	CO:6 Identify instrumental techniques for the analysis of chemical fuels.[k3]	3	2	1	1	-	-	-	-	-	-	-	-
	CO:7 Classify the materials best suited for construction of Battery and fuel cells.[K4]	3	3	2	2	-	-	-	-	-	-	-	-
	CO:8 Analyze theknowledge of renewable energy into sustainable efficient energy.[K4]	2	2	1	1	-	-	-	-	-	-	1	-
	CO:9 Solve the problems in EDTA and Combustion.[K3]	3	2	1	1	-	-	-	-	-	-	-	-
	Average	2.8	1.9	0.9	0.9	-	-	-	-	-	-	0.1	-

NAME OF THE STAFF:A.SURIYA PRABHA

VERIFIED BY HOD

Head of the Department.
Mechanical Engineering
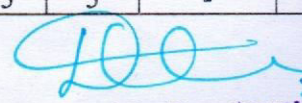Mount Zion College of Engg. & Tech
Pudukkottai -622 507

MOUNT ZION COLLEGE OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
REGULATION 2017
B.E CSE - COURSE OUTCOMES (CO)

Course Code	Course Name	Course Outcome(CO) Students will be able to	Knowledge Level
GE8151	Problem Solving and Python Programming	CO1: Develop the flowchart symbols and pseudo code for various notations.	K3
		CO2: Develop an algorithm for towers of Hanoi in a given list of data.	K3
		CO3: Execute to exchange the values of the given variables using tuple assignment.	K3
		CO4: Demonstrate a program into a recursion function using newton's methodology.	K2
		CO5: Decompose a python program in to recursion function for a Fibonacci program	K2
		CO6: Apply the arithmetic operations to manipulate the mathematical representation for the given data using python function.	K3
		CO7: Differentiate the concept of List, Tuples and dictionaries to fetch the given data.	K4
		CO8: Illustrate a program using sorting techniques to perform I/O operations.	K3
		CO9: Develop a program to read and write operations in a file.	K3
		C10: Applying the concept of errors and exceptions to copy the given file	K3

CO-PO MAPPING

COs		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
		K3	K4	K5	K5	K3/K5/K6	K3	K2	K3	K3	K2	K6	K6
CO1	K2	2	1	-	-	2	2	3	2	2	3	-	-
CO2	K2	2	1	-	-	-	2	3	2	2	3	-	-
CO3	K3	3	2	1	1	-	3	2	3	3	3	-	-
CO4	K2	2	1	-	-	-	2	3	2	2	3	-	-
CO5	K2	2	1	-	-	2	2	3	2	2	3	-	-
CO6	K3	3	2	1	1	-	3	2	3	3	3	-	-
CO7	K3	3	2	1	1	1	3	2	3	3	3	-	-
CO8	K3	3	2	1	1	1	3	2	3	3	3	-	-

STAFF : ROHINI P.

Mount Zion College of Engineering & Technology

MECHANICAL ENGINEERING

COURSE MAPPING CHART

COURSE NAME: GE 8152 ENGINEERING GRAPHICS   **YEAR & SEMESTER:I & I**

COURSE	CO Statement At the end of the course, the students will	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,5,6)	PO6	PO7	PO8	PO9	P10	P11	P12
GE 8152 Engineering Graphics	CO1:Know freehand sketching of basic geometrical constructions(K1)	1	-	-	-	-	-	-	-	-	-	-	-
	CO2: Draw orthographic projections of lines and plane surfaces. (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO3: Develop 3D solid computer models (K3)	3	2	1	1	-					1		
	CO4: Develop the visualize and to project isometric and perspective sections of simple solids. (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO5: Apply the knowledge of development of surfaces in manufacturing and Rapid Prototyping Methods (K3)	3	2	1	1	-					1		
	CO6: Make use of the fundamentals and standards of Engineering graphics (K3)	3	2	1	1	3	-	-	-	-	-	-	-
	CO7: Draw isometric and perspective views of the simple solids. (K3)	3	2	1	1	3							
	CO8: Apply Orthographic projections of real time parts in the Engineering Field. (K3)	3	2	1	1	3	-	-	-	-	1	-	-
	CO9: Project the sectioned solids and true shape of the section.(K4)	3	3	2	2	3							

NAME OF THE HANDLERS: A.GURU MOORTHY   VERIFIED BY HOD

Mount Zion College of Engineering & Technology

MECHANICAL ENGINEERING

COURSE MAPPING CHART

COURSE NAME: TECHNICAL ENGLISH   YEAR & SEMESTER: I & II

	CO Statement / At the end of the course, the students will able to	PO1(K3)	PO2(K4)	PO3(K5)	PO4(K5)	PO5 (K3,K5,K6)	PO6(K4)	PO7(K2)	PO8(K3)	PO9(K3)	P10(K2)	P11(K3)	P12(K3)
COURSE / COURSE CODE-COURSE NAME: HS8251 – TECHNICAL ENGLISH	CO1: Communicate and discuss a broad range of technical information with colleagues and clients related to the Engineering industry (K3)	2	1	-	-	-	-	-	-	-	-	-	-
	CO2: Demonstrate satisfactory presentation skill in technical presentation (K3)	2	1	-	-	-	-	-	-	-	-	-	-
	CO3: Explain and produce summaries that include correctly written introductory sentences and accurate paraphrases of the main ideas and key details, approximately one fourth in length of the original passages, without plagiarizing (K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO4: Identify the common types of support in arguments, their relevance or irrelevance, common argument flaws, opposing points of views, and refutations (K1)	1	1	-	-	-	-	-	-	-	-	-	-
	CO5: Understand what writing an assignment involves (K2)	2	1			-	-	-	-	-	-	-	-
	CO6: Identify strengths and weakness (K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO7: Understand the functions of essays and reports (K2)	2	1			-	-	-	-	-	-	-	-
	CO8: Demonstrate writing skills (K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO9: Execute the methods of participation in the Group Discussion. (K5)	2	1			-	-	-	-	-	-	-	-
	CO10: Judge how to acquire the oral skills and the body language used for effective Group Discussion (K5)	1	-	-	-								
	Average	1.8	0.9	-	-	-	-	-	-	-	-	-	-

NAME OF THE STAFF: K Kanchana

VERIFIED BY HOD

Head of the Department
Mechanical Engineering
Mount Zion College of Engg. & Tech
Pudukkottai - 622 507

MOUNT ZION COLLEGE OF ENGINEERING AND TECHNOLOGY
B.E MECHANICAL - COURSE OUTCOMES (CO)

Course Code	Course Name	Course Outcome(CO) Students will be able to	Knowledge Level
MA8251	MATHEMATICS-II	CO1: Define the Eigen values and Eigen vectors of the matrix.	K1
		CO2: Apply the concept of Cayley-Hamilton theorem in inverse and powers of the matrix.	K3
		CO3: Explain the concept of canonical form of the given quadratic form.	K2
		CO4: Explain the concept of solenoidal and irrotational vector.	K2
		CO5: Apply the concept of Gauss divergence, Stoke's and Green's theorem.	K3
		CO6: Apply the concept of Cauchy –Riemann equations	K3
		CO7: Solve the bilinear transformation problems.	K3
		CO8: Apply the concept of Cauchy's integral theorem and integral formula.	K3
		CO9: Solve the Laurent expansions and contours problems.	K3
		CO10: Define Laplace transform, unit step function and impulse functions.	K1

CO-PO MAPPING

COs		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
		K3	K4	K5	K5	K3/K5/K6							
C3O1.1	K1	1	-	-	-	1	-	-	-	-	-	-	-
C3O1.2	K3	3	2	1	1	1	-	-	-	-	-	-	-
C3O1.3	K2	2	1	-	-	-	-	-	-	-	-	-	-
C3O1.4	K2	2	1	-	-	-	-	-	-	-	-	-	-
C3O1.5	K3	3	2	1	1	1	-	-	-	-	-	-	-
C3O1.6	K3	3	2	1	1	1	-	-	-	-	-	-	-
C3O1.7	K3	3	2	1	1	1	-	-	-	-	-	-	-
C3O1.8	K3	3	2	1	1	1	-	-	-	-	-	-	-
C3O1.9	K3	3	2	1	1	1	-	-	-	-	-	-	-
C3O1.10	K1	1	-	-	-	1	-	-	-	-	-	-	-

NAME OF THE STAFF: V.SHALINI

VERIFIED BY HOD

Head of the Department,
Mechanical Engineering
Mount Zion College of Engg. & Tech,
Pudukkottai - 622 507

Mount Zion College of Engineering & Technology

MECHANICAL ENGINEERING COURSE MAPPING CHART

COURSE NAME: PH8251 MATERIALS SCIENCE

YEAR & SEMESTER: I & II

COURSE	CO Statement — At the end of the course, the students will	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,5,6)	PO6	PO7	PO8	PO9	P10	P11	P12
	Apply the phase diagram concept in one component iron-carbon diagram. (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	Demonstrate the micro-structural change with use of cooling process diagram. (k4)	3	3	2	2	-	-	-					
	Illustrate the uses of super conducting materials in low and high level energy applications (k3)	3	2	1	1								
	Evaluate the concept of super conductivity in real day applications (k5)	3	3	3	3	-	-	-	-	-	-	-	-
	Show the types of energy in ferro magnetic materials.(k4)	3	3	2	2	-	-	-	-	-	-	-	-
	Calculate the stress and strain in alloy materials. (k3)	3	2	1	1	-	-	-	-	-	-	-	-
	Justify the Martensite and Austenite phase change occurs in high and low temperatures.(k2)	2	1	-	-	-	-	-	-	-	-	-	-
	Compare Brinell, Rockwell, Vickers and Knoop hardness test.(k3)	3	2	1	1	-	-	-	-	-	-	-	-
	Identify the ductile, brittle, shearing fracture in metal. (k5)	3	3	3	3	-	-	-	-	-	-	-	-
AVERAGE		2.88	2.22	1.55	1.55	0.00							

NAME OF THE STAFF : M.PARTHIBAN

VERIFIED BY HOD

Head of the Department
Mechanical Engineering
Mount Zion College of Engg. & Tech.
Pudukkottai - 622 507

MOUNT ZION COLLEGE OF ENGINEERING AND TECHNOLOGY
BE MECHANICAL   - COURSE OUTCOMES (CO)

Course Code	Course Name	Course Outcome(CO) Students will be able to	Knowledge Level
BE8253	Basic Electrical and Electronics Engineering	CO1: Describe electrical circuit and overview of control systems.	K2
		CO2: Differentiate between various of theorems and their applications.	K4
		CO3: Demonstrate the different types of RL, RC, RLC produced by their execution.	K3
		CO4: Describe the architecture and working of home wiring components and their applications.	K2
		CO5: Learn the DC machine components and their applications.	K2
		CO6: Design the Transformers	K3
		CO7: Relate the semiconductor and op-amp.	K3
		CO8: Demonstrate the basic structure of ADC and DAC	K3
		CO9: Design of concept in transducers	K3
		CO10: Design of CT and PT	K3

CO-PO MAPPING

COs		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
		K3	K4	K5	K5	K3/K5/K6							
CO1	K2	2	2	1	1	-	-	-	-	-	-	-	-
CO2	K4	3	3	3	2	-	-	-	-	-	-	-	-
CO3	K3	3	3	2	1	1	-	-	-	-	-	-	-
CO4	K2	2	2	1	1	1	-	-	-	-	-	-	-
CO5	K2	2	2	1	1	1	-	-	-	-	-	-	-
CO6	K3	3	3	2	1	2	-	-	-	-	-	-	-
CO7	K3	3	3	2	1	2	-	-	-	-	-	-	-
CO8	K3	3	3	2	1	1	-	-	-	-	-	-	-
CO9	K3	3	3	2	1	-	-	-	-	-	-	-	-
CO10	K3	3	3	2	1	-	-	-	-	-	-	-	-

NAME OF THE STAFF: **M.MAREESWARAN**

VERIFIED BY HOD

Head of the Department
Mechanical Engineering
Mount Zion College of Engg. & Tech.
Pudukkottai - 622 507

Mount Zion College of Engineering & Technology
MECHANICAL ENGINEERING
COURSE MAPPING CHART

COURSE NAME: **ENVIRONMRNTAL SCIENCE AND ENGINEERING**   YEAR & SEMESTER:I&II

COURSE	CO Statement — At the end of the course, the students will	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,5,6)	PO6	PO7	PO8	PO9	P10	P11	P12
GE8291-ENVIRONMRNTAL SCIENCE AND ENGINEERING	Co:1 Explain the structure and function of an ecosystem[K2]	2	1	-	-	-	-	-	-	-	-	-	-
	CO:2 Identify the threats to Biodiversity.[K3]	3	2	1	1	-	-	-	-	-	-	-	-
	CO:3 Understand the different types of solid waste management systems.[K2]	2	1	-	-	-	-	-	-	-	-	-	-
	CO:4 Identify and solve the various types of pollution.[K 3]	3	2	1	1	-	-	-	-	-	-	-	-
	CO:5 Understand the knowledge about the effects of modern agriculture.[K2]	2	1	-	-	-	-	-	-	-	-	-	-
	CO:6 Develop the techniques used in renewable and non renewable energy.[K3]	3	2	1	1	-	-	-	-	-	-	-	-
	CO:7 Relate the climatic changes in the atmosphere.[K1]	1	-	-	-	-	-	-	-	-	-	-	-
	CO:8 Plan and construct the rain water harvesting method.[K3]	2	2	1	-	-	-	-	-	-	-	-	-
	CO:9.Illustrate the women and child welfare in India.[K2]	2	1	-	-	-	-	-	-	-	-	-	-
	CO:10.Relate the role of IT in Human Health and Environment.[K3]	3	2	1	1	-	-	-	-	-	-	-	-
	Average	2.3	1.4	0.5	0.4	-	-	-	-	-	-	-	-

NAME OF THE STAFF: A.SURIYA PRABHA

VERIFIED BY HOD

Head of the Department
Mechanical Engineering
Mount Zion College of Engg. & Tech
Pudukkottai - 622 507

Mount Zion College of Engineering & Technology

MECHANICAL ENGINEERING

COURSE MAPPING CHART

COURSE NAME: ENGINEERING MECHANICS

YEAR&SEMESTER: I & II

COURSE	GE8292 – ENGINEERING MECHANICS	CO Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
		At the end of the course, the students will												
		Calculate the various representations of scalar and vector	1	1	-	-	-	-	-	-	-	-	-	-
		Determine the resultant of forces and/or moments.	2	1	-	-	2	-	-	-	-	-	-	-
		Apply Newton's laws and conservation laws to elastic collisions and motion of rigid bodies	2	1	1	1	-	-	-	-	-	-	-	-
		Identify the moment of inertia of composite figures	2	1	-	-	2	-	-	-	-	-	-	-
		Determine the centroid and second moment of area of sections.	3	2	1	1	1	-	-	-	-	-	-	-
		Calculate the dynamic forces exerted in rigid bodies	2	1	-	-	-	-	-	-	-	-	-	-
		Determine the translational motions in dynamics of particles	2	1	-	-	1	-	-	-	-	-	-	-
		Apply laws of mechanics to determine efficiency of simple machines with consideration of friction.	3	3	2	2	3	-	-	-	-	-	-	-
		Analyze the simple systems with sliding friction ,wedge friction	2	1	-	-	-	-	-	-	-	-	-	-

NAME OF THE STAFF:M.SANKARAPANDIAN

VERIFIED BY HOD

Mount Zion College of Engineering & Technology

MECHANICAL ENGINEERING

COURSE MAPPING CHART

COURSE NAME: TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS

YEAR & SEMESTER: II & III

COURSE	CO Statement / At the end of the course, the students will able to	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,5,6)	PO6	PO7	PO8	PO9	P10	P11	P12
COURSE CODE-COURSE NAME MA8353- TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS	CO1: Compare wave equation and heat equation (K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO2: Solve first and higher order partial differential equation, Lagrange's equations (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO3: Compute upto the third harmonics of the Fourier series (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO4: Use half range sine and cosine series, Parseval's Identity (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO5: Apply effective mathematical tools for the solutions of PDE and justify it (K4)	3	3	2	2	-	-	-	-	-	-	-	-
	CO6: Evaluate Parseval's Identity by find the Fourier transform (K5)	3	3	3	3	-	-	-	-	-	-	-	-
	CO7: Explain the possible solutions for two dimensional heat equaton (K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO8: Compute the Z-transform techniques, Using properties (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO9: Apply the inverse Z-transform, Using Convolution theorem and Residue method (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	Average	2.7	2	1.1	1.1	-	-	-	-	-	-	-	-

NAME OF THE STAFF: S.MOHAN

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Head of the Department.
Mechanical Engineering
Mount Zion College of Engg. & Tech
Pudukkottai - 622 507

Mount Zion College of Engineering & Technology

MECHANICAL ENGINEERING

COURSE MAPPING CHART

COURSE NAME: ENGINEERING THERMODYNAMICS

YEAR & SEMESTER: II& III

COURSE	CO Statement / At the end of the course, the students will	PO1 (k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5	PO6	PO7	PO8	PO9	P10	P11	P12
ME8391-ENGINEERING THERMODYNAMICS	CO1:Explain the Thermodynamics systems and first law of thermodynamics(k2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO2:Apply Second Law of Thermodynamics and entropy concepts in heat engines and refrigeration(k3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO3:Identify the performance of reheat and regenerative cycles (k3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO4:Differentiate ideal and actual rankine cycles efficiencies.(k4)	3	3	2	2	-	-	-	-	-	-	-	-
	CO5:Interpret the behaviour of gas mixture and thermodynamic relation(k4)	3	3	2	2	-	-	-	-	-	-	-	-
	CO6:Illustrate the concept of air quality through psychometry(k2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO7:Calculate the humidification and de-humidification .(k3)	3	2	1	-	-	-	-	-	-	-	-	-
	CO7:Describe about relative humidity and specific humidity of dry air and water vapour(k2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO9:Examine the humidity ratio ,dew point temp for mass of dry air and water vapour(k4)	3	3	2	2	-	-	-	-	-	-	-	-
	Average	2.7	2	1	1								

NAME OF THE STAFF: S.RAGHURAMAN

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Pudukkottai - 622 507

(verified)

Mount Zion College of Engineering & Technology
MECHANICAL ENGINEERING
COURSE MAPPING CHART

COURSE NAME: FLUID MECHANICS AND MACHINERY

YEAR&SEMESTER: II & III

	CO Statement At the end of the course, the students will	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
COURSE / CE8394 – FLUID MECHANICS AND MACHINERY	Describe the properties of fluids and its flow characteristics	2	1	-	-	-	-	-	-	-	-	-	-
	Demonstrate venturimeter, Orificemeter and Pitot tube	2	1	-	-	2	-	-	-	-	-	-	-
	Calculate the losses during flow in a circular conduit	3	2	1	1	-	-	-	-	-	-	-	-
	Demonstrate the friction factor using experiment	2	1	-	-	2	-	-	-	-	-	-	-
	Apply dimensional parameters and model Analysis	3	2	1	1	1	-	-	-	-	-	-	-
	Explain about impacts of jets and Euler equation	2	1	-	-	-	-	-	-	-	-	-	-
	Demonstrate Roto-dynamic machines and work done by the Impeller Performance Curves	2	1	-	-	1	-	-	-	-	-	-	-
	Calculate about the turbines efficiencies	3	3	2	2	3	-	-	-	-	-	-	-
	Discuss various characteristics curves and velocity triangles	2	1	-	-	-	-	-	-	-	-	-	-

NAME OF THE STAFF:M.SANKARAPANDIAN

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Mount Zion College of Engineering & Technology
MECHANICAL ENGINEERING
COURSE MAPPING CHART

COURSE NAME: MANUFACTURING TECHNOLOGY-I　　　　**YEAR&SEMESTER: II & III**

COURSE	CO Statement / At the end of the course, the students will	PO1(K3)	PO2(K4)	PO3(K5)	PO4(K5)	PO5(K3,5,6)	PO6	PO7	PO8	PO9	PO10	PO11	PO12
ME8351 – MANUFACTURING TECHNOLOGY-I	CO1: Explain different metal casting processes, associated defects, merits and demerits (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO2: Understand the types of melting furnaces available (K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO3: Compare different metal joining processes (K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO4: Select suitable manufacturing process for typical components (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO5: Explain the concept of forging, rolling process and drawing (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO6: Explain various sheet metal making processes (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO7: Recognize the types of forming process (K1)	1	-	-	-	-	-	-	-	-	-	-	-
	CO8: Distinguish various methods of manufacturing plastic components (K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO9: Interpret various bonding of thermoplastics (K2)	2	1	-	-	-	-	-	-	-	-	-	-
	Average	2.33	1.33	0.44	0.44	-	-	-	-	-	-	-	-

NAME OF THE STAFF: Mr. B. SELVAM

VERIFIED BY HOD

MOUNT ZION COLLEGE OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF EEE
REGULATION 2017
B.E EEE - COURSE OUTCOMES (CO)

Course Code	Course Name	Course Outcome(CO) Students will be able to	Knowledge Level
EE8353	ELECTRICAL DRIVES AND CONTROLS	CO1: Explain about the constructional details and principle of operation of different types of electrical machines, Loading conditions and their performance.	K2
		CO2: solve numerical on heating and cooling of motors.	K3
		CO3: Examine the mechanical characteristics and Speed, torque characteristics for various types of loads of DC motors.	K4
		CO4: Explain different methods of starting of D.C motors and induction motors.	K2
		CO5: Analyze suitable power electronic converter structure for an electrical motor drive for the different speed control methods in D.C and A.C motors.	K4
		CO6: Illustrate the work on the drives used in the Industry	K2
		CO7: Explain about the speed control of three phase induction motor.	K2

CO-PO MAPPING

COs		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
		K3	K4	K5	K5	K3/K5/K6	K4	K2	K3	K3	K2	K3	K3
CO1	K2	1	1	-	-	-	-	-	-	-	-	-	-
CO2	K3	3	2	1	1	-	-	-	-	-	-	-	-
CO3	K4	3	3	2	2	-	-	-	-	-	-	-	-
CO4	K2	1	1	-	-	-	-	-	-	-	-	-	-
CO5	K4	3	3	2	2	-	-	-	-	-	-	-	-
CO6	K2	1	1	-	-	-	-	-	-	-	-	-	-
CO7	K2	1	1	-	-	-	-	-	-	-	-	-	-

[D. THWYA PRASAD]
AP I EEE

Mount Zion College of Engineering & Technology

MECHANICAL ENGINEERING

COURSE MAPPING CHART

COURSE NAME: STATISTICS AND NUMERICAL METHODS   YEAR & SEMESTER: II & IV

COURSE	CO Statement At the end of the course, the students will able to	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,5,6)	PO6	PO7	PO8	PO9	P10	P11	P12
COURSE CODE-COURSE NAME MA8452- STATISTICS AND NUMERICAL METHODS	CO1: Compare Gauss-elimination method and Gauss-Jordan method (K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO2: Solve Gauss-Jacobi method and Gauss-Seidel method (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO3: Compute Eigen values of matrix by Power method (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO4: Using Lagrange's interpolation, calculate the profit in the year (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO5: Apply the concept of testing of hypothesis (K4)	3	3	2	2	-	-	-	-	-	-	-	-
	CO6: Evaluate single and double integrals by Trapezoidal rule and Simpson's rule (K5)	3	3	3	3	-	-	-	-	-	-	-	-
	CO7: Explain one way classification and two way classification (K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO8: Compute Newton's forward and backward method (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO9: Apply the Runge-kutta method and Milne's & Adam's method (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	Average	2.7	2	1.1	1.1	-	-	-	-	-	-	-	-

NAME OF THE STAFF: S.MOHAN   VERIFIED BY HOD

Mount Zion College of Engineering & Technology

DEPARTMENT OF MECHANICAL ENGINEERING

COURSE MAPPING CHART

COURSE NAME: **KINEMATICS OF MACHINERY**   YEAR & SEMESTER:II/IV

COURSE	CO Statement / At the end of the course, the students will able to	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,5,6)	PO6	PO7	PO8	PO9	P10	P11	P12
ME-8492 KINEMATICS OF MACHINERY	CO1: Calculate the degree of freedom of various mechanism(K3)	3	2	1	1	-	-	-	-	--	-	-	
	CO2: Calculate velocity and acceleration in simple mechanisms(K3)	3	2	1	1	-	-	-	-	-	-	-	
	CO3: Develop CAM profiles(K3)	3	2	1	1	-	-	-	-	-	-	-	
	CO4: Solve problems on gears and gear trains(K3)	3	2	1	1	-	-	-	-	-	-	-	
	CO5: Examine friction in machine elements(K3)	3	2	1	1	-	-	-	-	-	-	-	
	CO6: Understand the concept of clutch(K2)	2	1	0	0	-	-	-	-	-	-	-	
	CO7: Apply the concept of brake in Automobiles (K3)	3	2	1	1	-	-	-	-	-	-	-	
	AVERAGE	2.85	1.85	0.85	0.85								

NAME OF THE STAFF:R.SOLOMON RAJA

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Mount Zion College of Engineering & Technology

DEPARTMENT OF MECHANICAL ENGINEERING

COURSE MAPPING CHART

COURSE NAME:ME8451 MANUFACTURING TECHNOLOGY II　　　　YEAR & SEMESTER II/IV

	CO Statement / At the end of the course, the students will	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,5,6)	PO6	PO7	PO8	PO9	P10	P11	P12
ME 8451 MANUFACTURING TECHNOLOGY II	CO1:Explain the mechanism of material removal processes. (k_3)	3	2	1	1	-	-	-	-	-	--	-	-
	CO2: Describe the constructional and operational features of centre lathe and other special purpose lathes. (k_2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO3: Describe the constructional and operational features of shaper, planner, milling, drilling, sawing and broaching machines. (k_2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO4: Select suitable rake angle for a single point cutting for various machining operations (k_3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO5: Explain the types of grinding and other super finishing processes apart from gear manufacturing processes. ((k_3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO6: Select suitable machining conditions for machining a material (k_3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO7: Analyse various tools of part programming (k_4)	3	3	2	2	-	-	-	-	-	-	-	-
	CO8: Summarize numerical control of machine tools and write a part program. (k_2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO9: Interpret various types of semi-automatic lathes (k_2)	2	1	-	-	-	-	-	-	-	-	-	-
COURSE	Average	2.55	1.66	0.66	0.66	-	-	-	-	-	-	-	-

NAME OF THE STAFF: MANIKANDAN L

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Head of the Department
Mechanical Engineering
Mount Zion College of Engg. & Tech
Pudukkottai - 622 507

Mount Zion College of Engineering & Technology
DEPARTMENT OF MECHANICAL ENGINEERING
COURSE MAPPING CHART

COURSE NAME:**ENGINEERING METALLURGY**　　　　　　　　YEAR & SEMESTER:II/IV

COURSE		CO Statement / At the end of the course, the students will	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,k5,k6)	PO6	PO7	PO8	PO9	P10	P11	P12
ME 8491 – ENGINEERING METALLURGY		CO1: Explain alloys and phase diagram, Iron-Iron carbon diagram and steel classification. (K2)	2	1	-	-	-	-	-	-	-	--	-	-
		CO2:Contrast the effect of alloying elements in steel. (K2)	2	1	-	-	-	-	-	-	-	-	-	-
		CO3:Demonstrate different heat treatment processes.(K3)	3	2	1	1	-	-	-	-	-	-	-	-
		CO4: Explain isothermal transformation and continuous cooling diagrams.(K2)	2	1	-	-	-	-	-	-	-	-	-	-
		CO5: Distinguish ferrous and non-ferrous metals. (K2)	2	1	-	-	-	-	-	-	-	-	-	-
		CO6: Choose the right ferrous and non-ferrous metals for applications.(K3)	3	2	1	1	-	-	-	-	-	-	-	-
		CO7: Summarize the properties and applications of non-metallic materials.(K2)	2	1	-	-	-	-	-	-	-	-	-	-
		CO8: Classify the different types of polymers and ceramics.(K2)	2	1	-	-	-	-	-	-	-	-	-	-
		CO9: Experiment the testing of mechanical properties .(K2)	3	2	1	1	-	-	-	-	-	-	-	-
		Average	2.6	1.6	0.7	0.7	-	-	-	-	-	-	-	-

NAME OF THE STAFF: S.SAKTHIVELU

Mount Zion College of Engineering & Technology

MECHANICAL ENGINEERING

COURSE MAPPING CHART

COURSE NAME: CE8395 STRENGTH OF MATERIALS FOR MECHANICAL ENGINEERS   **YEAR & SEMESTER:II& IV**

COURSE	CO Statement At the end of the course, the students will	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,5,6)	PO6	PO7	PO8	PO9	P10	P11	P12
CE8395 – STRENGTH OF MATERIALS FOR MECHANICAL ENGINEERS	**CO1:** Understand the concepts of stress and strain in simple and compound bars (K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO2: Understand the load transferring mechanism in beams and stress distribution due to shearing force and bending moment.(K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO3: Apply basic equation of simple torsion in designing of shafts and helical spring (K3)	3	2	1	1	-					-		
	CO4: Calculate the slope and deflection in beams using different methods. (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO5: Understand the importance of principal stresses and principal planes (K2)	2	1	-	-	-					-		
	CO6: Analyze and design thin and thick shells for the applied internal and external pressures.**(K3)**	3	2	1	1	-	-	-	-	-	-	-	-
	CO7: Utilize appropriate materials in design considering engineering properties, sustainability, cost and weight (K3)	3	2	1	1	-							
	CO8: Analyze and design structural members subjected to tension, compression, torsion, bending and combined stresses using the fundamental concepts (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO9: Perform engineering work in accordance with ethical and economic constraints related to the design of structures and machine parts.(K4)	3	3	2	2	-	-	-	-	-	-	-	-

NAME OF THE HANDLERS: Mrs. N. Nandhini

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Head of the Department.
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Pudukkottai - 622 507

Mount Zion College of Engineering & Technology

DEPARTMENT OF MECHANICAL ENGINEERING

COURSE MAPPING CHART

COURSE NAME: **THERMAL ENGINEERING-I**   YEAR & SEMESTER: II/IV

COURSE	CO Statement At the end of the course, the students will	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,5,6)	PO6	PO7	PO8	PO9	P10	P11	P12
ME8493-THERMAL ENGINEERING-I	CO1: Apply thermodynamic concepts to different air standard cycles and solve problems. (K3)	3	2	1	1	-	-	-	-	-	--	-	-
	CO2: Solve problems in single stage and multistage air compressors (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO3: Explain the functioning and features of IC engines, components and auxiliaries. (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO4: Calculate performance parameters of IC Engines. (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO5: Explain the flow in Gas turbines and solve problems. (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO6: Compare Gas and Steam power cycles (K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO7: Analyse the heat balance for various IC Engines (K4)	3	3	2	2	-	-	-	-	-	-	-	-
	CO8: Estimate the performance of a Gas Turbine (K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO9: Understand the various emission norms(K2)	2	1	-	-	-	-	-	-	-	-	-	-
	Average	2.66	1.55	0.77	0.77	-	-	-	-	-	-	-	-

NAME OF THE STAFF: M.TAMILARASAN

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Mount Zion College of Engg. & Tech
Pudukkottai - 622 507

Mount Zion College of Engineering & Technology

DEPARTMENT OF MECHANICAL ENGINEERING

COURSE MAPPING CHART

COURSE NAME: **THERMAL ENGINEERING-II** YEAR & SEMESTER:III/V

COURSE	CO Statement / At the end of the course, the students will	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,5,6)	PO6	PO7	PO8	PO9	P10	P11	P12
ME8595-THERMAL ENGINEERING-II	CO1: Solve problems in Steam Nozzle. (K3)	3	2	1	1	-	-	-	-	-	--	-	-
	CO2: Explain the functioning and features of different types of Boilers and auxiliaries and calculate performance parameters (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO3: Explain the flow in steam turbines, draw velocity diagrams for steam turbines and solve problems. (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO4: Summarize the concept of Cogeneration, Working features of Heat pumps and Heat exchangers. (K2)	3	2	1	1	-	-	-	-	-	-	-	-
	CO5: Solve problems using refrigerant table / charts and psychrometric charts. (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO6: Sketch the velocity diagrams of single and multi-stage turbine (K3)	2	1	-	-	-	-	-	-	-	-	-	-
	CO7: Calculate properties of moist air and COP of vapour refrigeration systems by using refrigeration table and chart. (K4)	3	3	2	2	-	-	-	-	-	-	-	-
	CO8: Evaluate the performance of steam generator and steam turbine (K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO9: Understand the various emission norms(K2)	2	1	-	-	-	-	-	-	-	-	-	-
	Average	2.66	1.55	0.77	0.77	-	-	-	-	-	-	-	-

NAME OF THE STAFF:M.TAMILARASAN

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Head of the Department
Mechanical Engineering
Mount Zion College of Engg. & Tech
Pudukkottai - 622 507

Mount Zion College of Engineering & Technology

MECHANICAL ENGINEERING

COURSE MAPPING CHART

SUBJECT NAME: DESIGN OF MACHINE ELEMENTS   YEAR & SEMESTER: III/V

	CO Statement / At the end of the course, the students will	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,k5,k6)	PO6	PO7	PO8	PO9	P10	P11	P12
ME8593-DESIGN OF MACHINE ELEMENTS	CO1: Develop a protective type flange coupling to connect two shafts(K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO2: Develop and draw a knuckle joint to connect two mild steel bars under a tensile load under crushing.(K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO3: Develop the length of the bearing by considering allowable bearing pressure.	3	2	1	1	-	-	-	-	-	-	-	-
	CO4: Calculate power lost in friction and increase in the oil temperature for a journal bearing.(K2)	2	1	-	-	-	-	-	-	-	-	-	-
	CO5: Develop a closed coiled helical spring subjected a tensile load.K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO6: Calculate the dynamic load capacity of selected from the manufacturer's catalogue based on a reliability.(K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO7: Develop a shaft to transmit power from an electric motor to a lathe head stock through a pulley by means of a belt drive.(K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO8: Explain about various principle stresses for various load combinations.(K2)	2	2	-	-	-	-	-	-	-	-	-	-
	CO9: Determine the dimensions of the arm if the allowable bending stress is given.(K2)	2	1	-	-	-	-	-	-	-	-	-	-
	Average	2.66	1.77	0.66	0.66	-	-	-	-	-	-	-	-

NAME OF THE STAFF: V.VIGNESH

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Mount Zion College of Engg. & Tech
Pudukkottai - 622 507

Mount Zion College of Engineering & Technology
DEPARTMENT OF MECHANICAL ENGINEERING
COURSE MAPPING CHART

COURSE NAME: METROLOGY AND MEASUREMENTS　　　　　**YEAR & SEMESTER: III/V**

COURSE	CO Statement / At the end of the course, the students will	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,k5,k6)	PO6	PO7	PO8	PO9	P10	P11	P12
ME 8501 - METROLOGY AND MEASUREMENTS	CO1: List the measurement methods, instruments and errors. (K1)	1	-	-	-	-	-	-	-	-	--	-	-
	CO2: Calculate the linear measurements of machine components using suitable instruments. (K3)	3	2	1	1	1	-	-	-	-	-		
	CO3: Calculate the angular measurements of machine components using suitable instruments.(K3)	3	2	1	1	1	-	-	-	-	-		
	CO4: Differentiate the concept of laser interferometers, CMM and Machine vision system.(K2)	2	1	-	-	-	-	-	-	-	-		
	CO5: Apply the suitable advanced metrology techniques for the measurement of engineering components. (K3)	3	2	1	1	-	-	-	-	-	-		
	CO6: Apply the principles and methods for measuring flatness, roundness and straightness.(K3)	3	2	1	1	1	-	-	-	-	-		
	CO7: Apply the principles and methods for measuring thread, gear and surface finish measurement.(K3)	3	2	1	1	1	-	-	-	-	-		
	CO8: Apply the suitable method for measurement of force, power, torque, flow and temperature.(K3)	3	2	1	1	1	-	-	-	-	-		
	CO9: Compare readability, reliability and calibration of measuring instruments.(K2)	2	1	-	-	-	-	-	-	-	-		
	Average	2.6	1.6	0.7	0.7	0.6	-	-	-	-	-	-	-

NAME OF THE STAFF: S.RAGHURAMAN

VERIFIED BY HOD

Head of the Department
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Mount Zion College of Engineering & Technology

DEPARTMENT OF MECHANICAL ENGINEERING

COURSE MAPPING CHART

COURSE NAME:**DYNAMICS OF MACHINERY**   YEAR & SEMESTER:III/V

COURSE	CO Statement At the end of the course, the students will able to	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,5,6)	PO6	PO7	PO8	PO9	P10	P11	P12
ME-8594 DYNAMICS OF MACHINERY	CO1: Calculate static and dynamic forces of mechanism. (K3)	3	2	1	1	-	-	-	-	-	--	-	-
	CO2: Calculate the balancing masses and the locations of reciprocating and rotating masses (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO3: Compute the frequency of free vibrations (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO4: Compute the frequency of forced vibrations and the damping co-efficient (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO5: Calculate the speed and lift of the governor (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO6: Understand the concept of balancing masses (K2)	2	1	0	0	-	-	-	-	-	-	-	-
	CO7: Apply the Gyroscopic effects in Automobiles, ships and airplanes. (K3)	3	2	1	1	-	-	-	-	-	-	-	-
	AVERAGE	2.85	1.85	0.85	0.85								

NAME OF THE STAFF:M.SARAVANA KUMAR   VERIFIED BY HOD

Mount Zion College of Engineering & Technology

DEPARTMENT OF MECHANICAL ENGINEERING

COURSE MAPPING CHART

COURSE NAME: OIM552 LEAN MANUFACTURING

YEAR & SEMESTER: III/V

COURSE	CO Statement — At the end of the course, the students will	PO1(k3)	PO2(k4)	PO3(k5)	PO4(k5)	PO5 (k3,5,6)	PO6	PO7	PO8	PO9	P10	P11	P12
ME 6016 ADVANCED IC ENGINES	CO1: Identify waste in any process (k3)	3	2	1	1	-	-	-	-	-	--	-	-
	CO2: Reduce the waste by applying kaizen and other methods thereby improving the productivity of the organization using lm tools.(k3)	3	2	1	1	-	-	-	-	-	-	-	-
	CO3: Design value stream mapping to avoid non value added activities in a process (k6)	3	3	3	3	-	-	-	-	-	-	-	-
	CO4: Evaluate different case studies and find the scope for improvement using lean manufacturing(k5)	3	3	3	3	-	-	-	-	-	-	-	-
	CO5: Make use of JIT and kanban principles in real time industrial applications(K3)	3	2	1	1	-	-	-	-	-	-	-	-
	Average	3	2.4	1.8	1.8	-	-	-	-	-	-	-	-

NAME OF THE STAFF: T.PANDIKUMARI

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