DEPARTMENT OF MECHANICAL ENGINEERING

CO – PO Mapping

YEAR: 2017 SEM: I

S. N	SUBJECT NAME/	COURSE	COURSE CODE	COURSE OUTCOMES				PR	OGF	RAM	ME	оит	COV	/IE (PO))		P O	P O
0	CODE	G.1.2	CODE		1	2	3	4	5	6	7	8	9	10	11	12	1	2
				Read articles of a general kind in magazines														
	HS8151			and newspapers.							Ľ							
	/			Participate effectively in informal							,							
	COMM	_		conversations; introduce themselves and their							√							
1	UNICAT	4	HS8151	friends and express opinions in English.														
	IVE ENGLIS			Comprehend conversations and short talks														
	H			delivered in English														
	П			Write short essays of a general kind and														
				personal letters and emails in English Use both the limit definition and rules of														
				differentiation to differentiate functions.														
				Apply differentiation to solve maxima and					ļ —									
				minima problems.														
				Evaluate integrals both by using Riemann sums														
				and by using the Fundamental Theorem of			V											
	MA815			Calculus.	•	'	'						'					
	1/			Apply integration to compute multiple														
	ENGINE			integrals, area, volume, integrals in polar	,	,	,						,					
2	ERING	4	MA8151	coordinates, in addition to change of order and			1											
	MATHE			change of variables.														
	MATICS			Evaluate integrals using techniques of														
	-1			integration, such as substitution, partial														
				fractions and integration by parts.														
				Determine convergence/divergence of														
				improper integrals and evaluate convergent														
				improper integrals														
				Apply various techniques in solving differential			V											
				equations.	'	'							'					
				the students will gain knowledge on the basics			V											
				of properties of matter and its applications														
				the students will acquire knowledge on the	,	,	,						,					
				concepts of waves and optical devices and		√	√											
	PH8151			their applications in fibre optics,														
	/			the students will have adequate knowledge on the concepts of thermal properties of materials														
3	ENGINE	3	PH8151	and their applications in expansion joints and														
3	ERING	3	FIIOTOT	heat exchangers,														
	PHYSIC			the students will get knowledge on advanced														
	S			physics concepts of quantum theory and its		V	V											
				applications in tunneling microscopes, and	•	•	'						'					
				the students will understand the basics of														
				crystals, their structures and different crystal			V											
				growth techniques.			`						<u> </u>					
	CY8151			The knowledge gained on engineering														
	/			materials, fuels, energy sources and water														
4	ENGINE	2	CV01F1	treatment techniques will facilitate better				V										
4	ERING	3	CY8151	understanding of engineering processes and				٧.										
	CHEMIS			applications for further learning.														
	TRY																	

S. N	SUBJECT NAME/	COURS E	COURSE CODE	COURSE OUTCOMES				PR	OGF	AM	ME	оит	CON	/IE (PO)		P O	P O
0	CODE	CREDIT	CODE		1	2	3	4	5	6	7	8	9	10	11	12	1	2
	GE8151 /			Develop algorithmic solutions to simple computational problems					1									
	PROBLE M			Read, write, execute by hand simple Python programs.					V									
5	SOLVIN G AND	3	GE8151	Structure simple Python programs for solving problems.					V									
	PYTHO			Decompose a Python program into functions.														
	N PROGR			Represent compound data using Python lists, tuples, dictionaries.					1									
	AMMIN G			Read and write data from/to files in Python Programs.					√									
				familiarize with the fundamentals and standards of Engineering graphics		V	√				V							
	GE8152 /			perform freehand sketching of basic geometrical constructions and multiple views of objects.		1	1				V							
6	ENGINE ERING GRAPHI	4	GE8152	project orthographic projections of lines and plane surfaces.		V	√				V							
	CS			draw projections and solids and development of surfaces.		V	√				V							
				visualize and to project isometric and perspective sections of simple solids.		V	√				V							
	GE8161/ PROBLE			Write, test, and debug simple Python programs.			√		V									
	M SOLVING			Implement Python programs with conditionals and loops.			√		V									
7	AND PYTHON PROGRA	2	GE8161	Develop Python programs step-wise by defining functions and calling them.			√		V									
	MMING LABORA			Use Python lists, tuples, dictionaries for representing compound data.			√		V									
	TORY			Read and write data from/to files in Python.														
	BS8161 / PHYSIC			apply principles of elasticity, optics and thermal properties for engineering applications.			1											
8	S AND CHEMIS TRY LABOR	2	BS8161	The students will be outfitted with hands-on knowledge in the quantitative chemical analysis of water quality related parameters.			1											
	ATORY																	

YEAR: 2017 SEM: II

S. N	SUBJECT NAME/	COURSE	COURSE	COURSE OUTCOMES				PR	OGR	AMI	ME (DUT	CON	1E (PO))		P O	P O
0	CODE	CREDIT	CODE		1	2	3	4	5	6	7	8	9	10	11	12	1	2
				Read technical texts and write area-							V							
				specific texts effortlessly							٧							
	HS8251/			Listen and comprehend lectures and														
	TECHNIC			talks in their area of specialisation														
1	AL	4	HS8251	successfully.														
	ENGLISH			Speak appropriately and effectively in														
	LINGLISH			varied formal and informal contexts.							٧							
				Write reports and winning job														
				applications.							٧							
				Eigen values and eigenvectors,														
				diagonalization of a matrix, Symmetric			V						V					
				matrices, Positive definite matrices and	V	٧	V				٧		V					
				similar matrices.														
				Gradient, divergence and curl of a														
				vector point function and related														
	MA8251/			identities.														
	ENGINEER			Evaluation of line, surface and volume			١.											
2	ING	4	MA8251	integrals using Gauss, Stokes and														
	MATHEM			Green's theorems and their verification.														
	ATICS – II			Analytic functions, conformal mapping			V											
				and complex integration.	'	٧	'				٧		٧					
				Laplace transform and inverse														
				transform of simple functions,			١.											
				properties, various related theorems														
				and application to differential														
				equations with constant coefficients.														
				the students will have knowledge on				,										
				the various phase diagrams and their														
				applications														
				the students will acquire knowledge on				,				,						
				Fe-Fe3C phase diagram, various														
				microstructures and alloys														
	PH8251/			the students will get knowledge on				,				,						
3	MATERIA	3	PH8251	mechanical properties of materials and				1				1						
	LS			their measurement														
	SCIENCE			the students will gain knowledge on														
				magnetic, dielectric and														
				superconducting properties of materials														
				the students will understand the basics														
				of ceramics, composites and				V				V						
				nanomaterials.				V				٧						
	BE8253 /			Understand electric circuits and	<u> </u>													
	BASIC			working principles of electrical				V				V						
	ELECTRIC			machines				V				V						
	AL,			Understand the concepts of various														
4	ELECTRON	3	BE8253	electronic devices														
	ICS AND	3	523233	Choose appropriate instruments for														
	INSTRUM ENTATION			electrical measurement for a specific				,				,						
	ENGINEER			application														
	ING			SPP000011														
	IIVU		1	l	<u> </u>	<u> </u>	l		l					l	l	1		

S. N	SUBJECT NAME/CO	COURSE CREDIT	COURSE	COURSE OUTCOMES				PR	OGF	RAM	ME	DUT	CON	1E (PO))		P O	P O
0	DE	CKEDII	CODE		1	2	3	4	5	6	7	8	9	10	11	12	1	2
5	GE8291 / ENVIRO NMENTA L	3	GE8291	Environmental Pollution or problems cannot be solved by mere laws. Public participation is an important aspect which serves the environmental Protection. One will obtain knowledge on the following after completing the course.				V										
	SCIENCE AND ENGINEE RING	3	GL8291	Public awareness of environmental is at infant stage. Ignorance and incomplete knowledge has lead to misconceptions Development and improvement in std. of living has lead to serious environmental disasters				√ √ √										
				illustrate the vectorial and scalar representation of forces and moments	√	√					√	√	√					
	GE8292 /			analyse the rigid body in equilibrium							1	V						<u> </u>
6	RING	4	GE8292	evaluate the properties of surfaces and solids	√	√					√	√	√					
	MECHAN ICS			calculate dynamic forces exerted in rigid body	√	√					√	√	√					
				determine the friction and the effects by the laws of friction	√	√					√	√	√					
				fabricate carpentry components and pipe connections including plumbing works. use welding equipments to join the structures Carry out the basic machining			√ √											
	GE8261 / ENGINEE			operations Make the models using sheet metal			1											
7	RING PRACTIC ES LABORA	2	GE8261	works Illustrate on centrifugal pump, Air conditioner, operations of smithy,			√ √											
	TORY			foundary and fittings CarryCarry out basic home electrical works and appliances out basic home electrical works and appliances			1											
				Measure the electrical quantities Elaborate on the components, gates,			√ √											
8	BE8261 / BASIC ELECTRIC AL, ELECTRON ICS AND INSTRUM ENTATION ENGINEER ING LABORAT	2	BE8261	soldering practices. Ability to determine the speed characteristic of different electrical machines Ability to design simple circuits involving diodes and transistors Ability to use operational amplifiers			\ \ \ \											

YEAR: 2017 SEM: III

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0	CODE		3000		1	2	3	4	5	6	7	8	9	10	11	12	1	2
				Understand how to solve the given														
				standard partial differential equations.														<u> </u>
				Solve differential equations using Fourier series analysis which plays a	V							V	V					
				vital role in engineering applications.	V	V	V					V	V					
				Appreciate the physical significance of														
	N4A0252 /			Fourier series techniques in solving one														
	MA8353 / TRANSFOR			and two dimensional heat flow														
	MS AND			problems and one dimensional wave														
1	PARTIAL	4	MA8353	equations.														<u> </u>
1	DIFFERENTI	•	1417.0333	Understand the mathematical														
	AL EQUATION			principles on transforms and partial														
	S			differential equations would provide														
				them the ability to formulate and solve some of the physical problems of														
				engineering.														
				Use the effective mathematical tools														
				for the solutions of partial differential	,	,	,					,	,					
				equations by using Z transform									√					
				techniques for discrete time systems.														
				Apply the first law of thermodynamics														
				for simple open and closed systems														
				under steady and unsteady conditions.														
				Apply second law of thermodynamics	,	,	,				,	,						
	ME8391/			to open and closed systems and														
	ENGINEER			calculate entropy and availability.														<u> </u>
2	ING	4	ME8391	Apply Rankine cycle to steam power plant and compare few cycle	V							V						
	THERMOD			improvement methods	V	V	V				V	V						
	YNAMICS			Derive simple thermodynamic relations	,	,	١,				,							
				of ideal and real gases														
				Calculate the properties of gas mixtures														
				and moist air and its use in														
				psychometric processes														
				Apply mathematical knowledge to	١.		١.											
				predict the properties and														
				characteristics of a fluid.														
	CE8394 /			Can analyse and calculate major and	,	,	,											
	FLUID			minor losses associated with pipe flow	√		1											
3	MECHANI CS AND	4	CE8394	in piping networks. Can mathematically predict the nature														
	MACHINE			of physical quantities														
	RY			Can critically analyse the performance	,	,	,											
				of pumps														
				Can critically analyse the performance	1	1	,											
				of turbines.	1													
				Explain different metal casting														
				processes, associated defects, merits														
				and demerits	<u> </u>		<u> </u>	<u> </u>				<u> </u>						<u> </u>
	ME8351 /			Compare different metal joining				V	V									
	MANUFAC			processes.	<u> </u>		Ļ	Ļ	Ľ	Ľ		Ļ	<u> </u>					<u> </u>
4	TURING	3	ME8351	Summarize various hot working and														
	TECHNOL			cold working methods of metals.			<u> </u>	<u> </u>				<u> </u>						
	OGY – I			Explain various sheet metal making processes.														
				Distinguish various methods of			 	 				 						
				manufacturing plastic components.														
				manaractaring plastic components.	1		<u> </u>	<u> </u>	<u> </u>			<u> </u>		<u> </u>	<u> </u>			Щ

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0	CODE	CKLDII	CODE		1	2	3	4	5	6	7	8	9	10	11	12	1	2
5	EE8353 / ELECTRICAL DRIVES AND CONTROLS	3	EE8353	Upon Completion of this subject, the students can able to explain different types of electrical machines and their performance														
	ME8361 /			Demonstrate the safety precautions exercised in the mechanical workshop.			√	√	V	V			V					
	MANUFACT URING			Make the workpiece as per given shape and size using Lathe.			√	√	V	V			V					
6	TECHNOLO	2	ME8361	Join two metals using arc welding.														
	GY LABORATO			Use sheet metal fabrication tools and make simple tray and funnel.			V	√	√	√		√	V					
	RY – I			Use different moulding tools, patterns and prepare sand moulds				√	7	~		√	√					
	ME8381 / COMPUTE			Follow the drawing standards, Fits and Tolerances				√	√	√		√	√					
7	R AIDED MACHINE DRAWING	2	ME8381	Re-create part drawings, sectional views and assembly drawings as per standards			1	1	√	√		√	1					
8	EE8361 / ELECTRICAL ENGINEERI NG LABORATO RY	2	EE8361	Ability to perform speed characteristic of different electrical machine			√											
	HS8381/			Listen and respond appropriately.														
	INTERPER			Participate in group discussions														
9	SONAL	1	HS8381	Make effective presentations														
	SKILLS/LIS TENING & SPEAKING	-		Participate confidently and appropriately in conversations both formal and informal			√											

YEAR: 2017 SEM: IV

S. N	SUBJECT NAME/	COURS E	COURSE	COURSE OUTCOMES				PR	OGF	RAM	ME (OUT	COV	ΛΕ (PO))		P O	P O
О	CODE	CREDIT	CODE		1	2	3	4	5	6	7	8	9	10	11	12	1	2
				Apply the concept of testing of hypothesis for small and large samples in real life problems	V	V												
				Apply the basic concepts of classifications of design of experiments in the field of agriculture	1	1												
1	MA8452 / STATISTIC S AND NUMERIC	4	MA8452	Appreciate the numerical techniques of interpolation in various intervals and apply the numerical techniques of differentiation and integration for	V	V												
	AL METHODS			engineering problems. Understand the knowledge of various techniques and methods for solving first and second order ordinary differential equations.	1	V												
				Solve the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications	1	1												
	ME8492 /			Discuss the basics of mechanism Calculate velocity and acceleration in	√ √	√ √	√ √		√ √									
2	KINEMATI CS OF	3	ME8492	simple mechanisms	٧	٧	٧		٧									
_	MACHINE	3	IVILO432	Develop CAM profiles														
	RY			Solve problems on gears and gear trains			1		1									
				Examine friction in machine elements														
				Explain the mechanism of material removal processes.	√		√	√	√			√	√					
				Describe the constructional and operational features of centre lathe and other special purpose lathes.	√		V	1	1			1	1					
3	ME8451 / MANUFA CTURING TECHNOL OGY – II	3	ME8451	Describe the constructional and operational features of shaper, planner, milling, drilling, sawing and broaching machines.	V		V	V	V			V	V					
				Explain the types of grinding and other super finishing processes apart from gear manufacturing processes.	1		V	V	V			V	1					
				Summarize numerical control of machine tools and write a part program.	√		√	√	1			1	√					
				Explain alloys and phase diagram, Iron- Iron carbon diagram and steel classification.							1							
4	ME8491 / ENGINEER ING	3	ME8491	Explain isothermal transformation, continuous cooling diagrams and different heat treatment processes.							√							
	METALLU RGY			Clarify the effect of alloying elements on ferrous and non-ferrous metals Summarize the properties and							√							
				applications of non metallic materials. Explain the testing of mechanical							1							
				properties							1							

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0	CODE	CKEDII	CODE		1	2	3	4	5	6	7	8	9	10	11	12	1	2
	CE8395 /			Understand the concepts of stress and strain in simple and compound bars, the importance of principal stresses and principal planes.	V	V	√	V										
5	STRENGT H OF MATERIA LS FOR	3	CE8395	Understand the load transferring mechanism in beams and stress distribution due to shearing force and bending moment.	1	1	√	1										
	MECHAN ICAL ENGINEE			Apply basic equation of simple torsion in designing of shafts and helical spring Calculate the slope and deflection in	√ ,	√	√ ,	√										
	RS			beams using different methods. Analyze and design thin and thick shells	√	√	√	√										
				for the applied internal and external pressures. Apply thermodynamic concepts to	√	√	√	√										
				different air standard cycles and solve problems.	√	√			√									
	ME8493 / THERMAL			Solve problems in single stage and multistage air compressors	√	√			√									
6	ENGINEER ING - I	3	ME8493	Explain the functioning and features of IC engines, components and auxiliaries. Calculate performance parameters of IC	√	√			√									
				Engines. Explain the flow in Gas turbines and solve	√ √	√ √			√ √									
	ME8462 /			problems. use different machine tools to manufacturing gears	V	V	√		V									
	MANUFA CTURING	2	NAFOACO	Ability to use different machine tools to manufacturing gears.			√											
7	TECHNOL OGY LABORAT	2	ME8462	Ability to use different machine tools for finishing operations Ability to manufacture tools using cutter			√ 											
	ORY – II			grinder Develop CNC part programming			√ √											
	CE8381 / STRENGT H OF MATERIAL S AND			Ability to perform Tension, Torsion, Hardness, Compression, and Deformation test on Solid materials.														
8	FLUID MECHANI CS AND MACHINE RY LABORAT ORY	2	CE8381				√											
	HS8461 /			Write different types of essays.						1								
	ADVANC			Write winning job applications.						1					İ			
9	ED	1	HS8461	Read and evaluate texts critically.														
	READING AND WRITING	<u> </u>	1150401	Display critical thinking in various professional contexts.						1			1					

YEAR: 2017 SEM: V

S. N	SUBJECT NAME/	COURS	COURSE	COURSE OUTCOMES				PR	OGF	RAM	ME	OUT	CON	/IE (PO)		P O	P O
О	CODE	CREDIT	CODE		1	2	3	4	5	6	7	8	9	10	11	12	1	2
				Solve problems in Steam Nozzle	V				1			1						
				Explain the functioning and features of														
				different types of Boilers and auxiliaries														
				and calculate performance parameters.														
	ME8595 /			Explain the flow in steam turbines, draw														
	THERMAL	2	N450505	velocity diagrams for steam turbines and														
1	ENGINEER	3	ME8595	solve problems.														
	ING – II			Summarize the concept of Cogeneration,														
				Working features of Heat pumps and Heat														
				exchangers														
				Solve problems using refrigerant table /		√			V			√						
				charts and psychrometric charts	V	V			٧			٧						
				Explain the influence of steady and														
				variable stresses in machine component														
				design.														
	ME8593 /			Apply the concepts of design to shafts,								V	1					
	DESIGN OF			keys and couplings.		٧		٧			٧	٧	٧					
2	MACHINE	3	ME8593	Apply the concepts of design to								V	1					
	ELEMENT			temporary and permanent joints.		٧		٧			٧	٧	'					
	S			Apply the concepts of design to energy		١.		١.				١.	١.					
				absorbing members, connecting rod and														
				crank shaft.								<u> </u>	<u> </u>					
				Apply the concepts of design to bearings.								√	√					
				Describe the concepts of measurements	,		,	,			,	١,						
				to apply in various metrological			√											
				instruments														
	ME8501			Outline the principles of linear and	,		,	,			,	,						
	/			angular measurement tools used for			1					1						
	METROL			industrial applications														
3	OGY	3	ME8501	Explain the procedure for conducting														
	AND			computer aided inspection														
	MEASUR			Demonstrate the techniques of form measurement used for industrial							V	V						
	EMENTS			components	٧		V	V			٧	V						
				Discuss various measuring techniques of														
				mechanical properties in industrial								V						
				applications	v		٧	٧			٧	٧						
				Calculate static and dynamic forces of	١.				<u> </u>									
				mechanisms.														
				Calculate the balancing masses and their														
	ME8594			locations of reciprocating and rotating			V						V					
	/			masses.	'	,	'		'		'		'					
) DYNAMI			Compute the frequency of free vibration.	√	1	√		√		√		V					
4	CS OF	3	ME8594	Compute the frequency of forced		,	٠.						<u> </u>					$\vdash \vdash$
	MACHIN			vibration and damping coefficient.		1												
	ES			Calculate the speed and lift of the														
				governor and estimate the gyroscopic	,	,	,		,		,		,					
				effect on automobiles, ships and									√					
				airplanes.														
				מוו אומווכי.														<u> </u>

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0	CODE	CKLDII	CODE		1	2	3	4	5	6	7	8	9	10	11	12	1	2
	ME8511 / KINEMATI			Explain gear parameters, kinematics of mechanisms, gyroscopic effect and working of lab equipments. Determine mass moment of inertia of	V	√	V	√										
5	CS AND DYNAMIC S LABORAT ORY	2	ME8511	mechanical element, governor effort and range sensitivity, natural frequency and damping coefficient, torsional frequency, critical speeds of shafts, balancing mass of rotating and reciprocating masses, and transmissibility ratio.	1	V	V	V										
				conduct tests on heat conduction apparatus and evaluate thermal conductivity of materials.	1	V	V											
	ME8512 /			conduct tests on natural and forced convective heat transfer apparatus and evaluate heat transfer coefficient.	1	V	V											
6	THERMAL ENGINEER ING	2	ME8512	conduct tests on radiative heat transfer apparatus and evaluate Stefan Boltzmann constant and emissivity.	1	V	1											
	LABORAT ORY			conduct tests to evaluate the performance of parallel/counter flow heat exchanger apparatus and reciprocating air compressor.	√	V	√											
				conduct tests to evaluate the performance of refrigeration and airconditioning test rigs.	1	V	V											
7	ME8513 / METROLO GY AND MEASURE MENTS	2	ME8513	Measure the gear tooth dimensions, angle using sine bar, straightness and flatness, thread parameters, temperature using thermocouple, force, displacement, torque and vibration.	√	1	1	1			1							
	LABORAT ORY			Calibrate the vernier, micrometer and slip gauges and setting up the comparator for the inspection.														

YEAR: 2017 SEM: VI

S. N	SUBJECT NAME/	COURSE	COURSE	COURSE OUTCOMES			ı	PRO	GR	MP		TUC	COI	ME (P	D)		P O	P O
0	CODE	CKEDII	CODE		1	2	3	4	5	6	7	8	9	10	11	12	1	2
				apply the concepts of design to belts, chains and rope drives.		√		√					√					
	ME8651 / DESIGN			apply the concepts of design to spur, helical gears.		√		1			\checkmark		V					
1	OF TRANSM	3	ME8651	apply the concepts of design to worm and bevel gears.		V		1			V		V					
	ISSION SYSTEMS			apply the concepts of design to gear boxes														
	313121113			apply the concepts of design to cams, brakes and clutches		√		1			√		√					
				Explain the 2D and 3D transformations, clipping algorithm, Manufacturing models		V	V		1									
	ME8691 / COMPUT			and Metrics Explain the fundamentals of parametric		√	V		V									
	ER AIDED			curves, surfaces and Solids		٧	,		'									<u> </u>
2	DESIGN AND	3	ME8691	Summarize the different types of Standard systems used in CAD		√	√		1									
	MANUF ACTURIN G			Apply NC & CNC programming concepts to develop part programme for Lathe & Milling Machines		V	√		V									
				Summarize the different types of techniques used in Cellular Manufacturing and FMS		√	V		1									
				Apply heat conduction equations to														-
				different surface configurations under steady state and transient conditions and solve problems	1	V	V	1				V	V					
				Apply free and forced convective heat transfer correlations to internal and external flows through/over various surface	V	V	√	√				√	V					
	ME8693			configurations and solve problems Explain the phenomena of boiling and														
3	/ HEAT AND MASS TRANSFE R	4	ME8693	condensation, apply LMTD and NTU methods of thermal analysis to different types of heat exchanger configurations and solve problems	√	V	V	√				V	V					
				Explain basic laws for Radiation and apply these principles to radiative heat transfer between different types of surfaces to solve problems	√	V	V	V				√	V					
				Apply diffusive and convective mass transfer equations and correlations to solve problems for different applications	V	V	1	1				V	√					
				Summarize the basics of finite element formulation.	√	√		√					√					
	ME8692			Apply finite element formulations to solve one dimensional Problems.	√	√		√					√					
4	/ FINITE ELEMEN	3	ME8692	Apply finite element formulations to solve two dimensional scalar Problems.	√	√		√	-				√					
4	T ANALYSI	3	IVILOUSZ	Apply finite element method to solve two	√	√		√					√					
	S			dimensional Vector problems. Apply finite element method to solve		1												
				problems on iso parametric element and dynamic Problems.	√	√		V										

S. N	SUBJECT NAME/	COURSE	COURSE	COURSE OUTCOMES			ı	PRO	GRA	MI	ME (TUC	COI	ME (P	D)		P O	P O
0	CODE	CKLDII	CODE		1	2	3	4	5	6	7	8	9	10	11	12	1	2
				Explain the Fluid power and operation of different types of pumps.	√	V		V				7						
	ME8694 /			Summarize the features and functions of Hydraulic motors, actuators and Flow control valves	1	1						V						
5	HYDRAULI CS AND PNEUMAT	3	ME8694	Explain the different types of Hydraulic circuits and systems	V	√		V				√						
	ICS			Explain the working of different pneumatic circuits and systems	V	V		V				√						
				Summarize the various trouble shooting methods and applications of hydraulic and pneumatic systems.	1	√		√				V						
	ME8681 / CAD /			Draw 3D and Assembly drawing using CAD software		√	√			√								
6	CAM LABORAT ORY	2	ME8681	Demonstrate manual part programming with G and M codes using CAM		V	1			√								
	ME8682 / DESIGN			design and Fabricate the machine element or the mechanical product.						√								
7	AND FABRICATI ON PROJECT	2	ME8682	demonstrate the working model of the machine element or the mechanical product.						V	V		V					
	HS8581/			Make effective presentations				\checkmark		\checkmark								
	PROFESS			Participate confidently in Group Discussions.														
8	IONAL COMMU	1	HS8581	Attend job interviews and be successful in them.				√	√	√								
	NICATIO N			Develop adequate Soft Skills required for the workplace				V	√	V								

YEAR: 2017 SEM: VII

S. N	SUBJECT NAME/	COURSE	COURSE	COURSE OUTCOMES	PROGRAMME OUTCOME (PO)													
0	CODE	CREDIT	CODE		1	2	3	4	5	6	7	8	9	10	11	12	0	0 2
1				Explain the layout, construction and working of the components inside a thermal power plant.	1	V	1	V				V						
				Explain the layout, construction and working of the components inside a Diesel, Gas and Combined cycle power plants.	√	√	√	√				√						ļ
	ME8792 / POWER PLANT	3	ME8792	Explain the layout, construction and working of the components inside nuclear power plants.	1	1	1	1				1						
	ENGINEE RING			Explain the layout, construction and working of the components inside Renewable energy power plants.	1	V	1	1				V						
				Explain the applications of power plants while extend their knowledge to power plant economics and environmental hazards and estimate the costs of electrical	√	\ \ \ \ \ \ \ \ \ \				√								
				energy production. select the process, equipment and tools for		√		√										
	ME8793 / PROCESS			various industrial products. prepare process planning activity chart.		√		√				_						
2	PLANNIN G AND	3	ME8793	explain the concept of cost estimation.													Ш	
_	COST ESTIMATI	3	14120733	compute the job order cost for different type of shop floor.		√		√										
	ON			calculate the machining time for various machining operations.		√		√										
				Discuss the interdisciplinary applications of Electronics, Electrical, Mechanical and Computer Systems for the Control of Mechanical, Electronic Systems and sensor technology.	nsor $\sqrt{}\sqrt{}\sqrt{}\sqrt{}$													
				Discuss the architecture of Microprocessor and Microcontroller, Pin Diagram, Addressing Modes of Microprocessor and Microcontroller.	1	1			1	1								
3	ME8791 / MECHATR ONICS	3	ME8791	Discuss Programmable Peripheral Interface, Architecture of 8255 PPI, and various device interfacing	1	1	1		√			1	1					
				Explain the architecture, programming and application of programmable logic controllers to problems and challenges in the areas of Mechatronic engineering.	V	√	√ √		√			√	√					
				Discuss various Actuators and Mechatronics system using the knowledge and skills acquired through the course and also from the given case studies	V	V V V	1		1			V	V					
4	ME8711 / SIMULATI			simulate the working principle of air conditioning system, hydraulic and pneumatic cylinder and cam follower mechanisms using MATLAB.	√		√		√									
	ON AND ANALYSIS LABORAT	2	ME8711	analyze the stresses and strains induced in plates, brackets and beams and heat transfer problems.	V	√	1		1									
	ORY			calculate the natural frequency and mode shape analysis of 2D components and beams.	1				1		V							

S. N	SUBJECT NAME/C	COURSE	COURSE OUTCOMES							PROGRAMME OUTCOME (PO)									
0	ODE	CREDIT	CODE		1	2	3	4	5	6	7	8	9	10	11	12	1	2	
5	ME8781 / MECHAT RONICS	2	ME8781	Demonstrate the functioning of mechatronics system with various pneumatic, hydraulic and electrical systems.	√	√	1		√			√	~						
	LABORA TORY			Demonstrate the functioning of control systems with the help of PLC and microcontrollers.	1	1	1		1			V	V						

YEAR: 2017 SEM: VIII

S. N	SUBJECT NAME/	COURSE	COURSE	COURSE OUTCOMES	PROGRAMME OUTCOME (PO)								P O	Р О				
0	CODE	CKLDII	CODE	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
1	MG8591 / PRINCIPL ES OF MANAG EMENT	2	MG8591	Upon completion of the course, students will be able to have clear understanding of managerial functions like planning, organizing, staffing, leading & controlling and have same basic knowledge on international aspect of management						V			√					
2	ME8811 / PROJECT WORK	10	ME8811	On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.	V	V	V			V	1							