

ST.PETERS ENGINEERING COLLEGE

DEPARTMENT OF MECHANICAL ENGINEERING

Correlation between the Course outcomes and Program Outcomes A.Y. 2021-22

II YEAR II SEM

COURS ECODE	COURSENAME	COURSE OUTCOMES	PROGRAM OUTCOMES														
			1	2	3	4	5	6	7	8	9	10	11	12	Pso1	Pso2	
AS20-00 BS11	PROBABILITY AND STATISTICS AND COMPLEX VARIABLES	C221.1 Solve Linear Partial differential equations of first and second order.	3	2	2											2	
		C221.2 Associate the concepts of Fourier series expansion for even and odd functions.	2	1	1												1
		C221.3 Apply the concepts of Fourier series in solving boundary value problems.	3	2	2												
		C221.4 Discuss the Fourier transform, Fourier Sine and Cosine transform techniques.	2	1	1												1
		C221.5 Discuss the concepts of Z-Transform techniques for discrete time systems.	2	1	1												1
		C221.6 Apply transforms techniques in modeling physical processes like Heat Conduction, Communications systems and Electromagnetic Theory.	3	2	2	1											
		Average	3	2	2	1											1
AS20-03 PC06	KINEMATIC S OF MACHINERY	C222.1 Ability to describe the principles of kinematic pairs, chains and their classification.	3	2											3	2	
		C222.2 Ability to explain the Degrees of Freedom, inversions, equivalent chains and planar mechanisms.	3	2	2										3	2	
		C222.3 Analyze the planar mechanisms for position, velocity and acceleration.	3	3	2										3	2	
		C222.4 Construct planar four bar and slider crank mechanisms for specified kinematic conditions.	3		2										2	3	
		C222.5 Ability to draw the profiles of cams and followers for specified motions.	3	2											3	2	
		C222.6 Evaluate gear tooth geometry and select appropriate gears for the required applications.	3		3										3	2	
		Average	3	2.3	2.25										2.83	2.16	

AS20-03 PC07	THERMAL ENGINEERING - I	C223.1. Understand working principles of an IC Engine. (Understand)	3	2					2					3	3		
		C223.2. Analyze combustion in SI and CI engines. (Analysis)	3	2	2				2						3	3	
		C223.3 Study performance of an IC Engine (Understand)	3	3											3	3	
		C223.4. Understand working principles of Air-Compressors and Analyze Reciprocating Air-Compressors.(Analysis)	3	2					2						2	3	
		C223.5. Understand working principles of Rotary air compressor and to analyze Centrifugal and Axial flow compressors . (Analysis)	3	2					2						3		
		C223.6. Understand the basic concepts of power and refrigeration cycles. Their efficiency and coefficients of performance. (Understand)	3	2											3		
		Average	3	2.2	2				2						2.8	3	
AS20-03 PC08	FLUID MECHANICS AND HYDRAULIC MACHINES	C224.1. Able to state the effect of fluid properties on a flow system.(Remember)	3											2	1		
		C224.2. Able to describe continuity equation and identify type of fluid flow patterns.(Understand)	3												2	1	
		C224.3. Able to demonstrate boundary layer concepts in Fluid Flow Systems. (Apply)	2	3	2										3	3	
		C224.4. Able to analyze a variety of practical fluid flow and measuring devices and utilize Fluid Mechanics principles in design. (Analyze)	3	2												3	3
		C224.5. Able to select and analyze an appropriate turbine with reference to given situation in power plants. (Understand)	2	3												3	3
		C224.6. Able to investigate performance parameters of a given Centrifugal and Reciprocating pump. (Create)	2	2												3	3
		Average	2.5	2.5	2											2.67	2.34
AS20-03 ES07	INSTRUMENTATION AND CONTROL SYSTEMS	C225.1. Identify various elements and their purpose in typical instruments (Remember)	3									2			1		
		C225.2. Analysis of errors so as to determine correction factors for each instrument. (Analysis)	2									3			3		

		C227.5.Able to determine the synchronous motor's performance curves at various power factors and field currents.			2	3										
		C227.6.Able to determine the maximum temperature rise by using back to back test.		2												
		Average	1	3.6	2.5	2.6										2
AS20-00 PC09	THERMAL ENGINEERING LAB	C228.1 Compute the performance of IC Engines.	3	2					2						3	
		C228.2 Predict the characteristics of Fuels and Lubricates used in IC Engines.	3	2	2				2						3	
		C228.3 Compute the Performance of steam generator and turbine.	3	3											3	
		C228.4 Outline the valve timing diagram and port timing diagram of IC Engines.	3	2					2						2	
		C228.5 Compute the heat distribution in an IC engine and steam generator	3	2					2						3	
		C228.6 Predict the significant factors affecting the performance of IC engine and steam generators	3	2											3	
		Average	3.0	2.2	2.0				2.0						2.8	

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III- YEAR II SEM

COURS ECODE	COURSENAME	COURSE OUTCOMES	PROGRAM OUTCOMES														
			1	2	3	4	5	6	7	8	9	10	11	12	Pso1	Pso2	
ME601PC	DESIGN OF MACHINE MEMBERS-II	C321.1 Analyse the importance of sliding and roller contact bearings.	3		3	3									3	3	
		C321.2 Illustrates the categories of engine parts.	2	3	3										3	3	
		C321.3 Demonstrate the basic concepts of power transmission systems and pulleys.	3	3	3	3										3	3
		C321.4 Compare different types of gears and force analysis.	3	2	3	3										3	3
		C321.5 Explain the importance compound, differential, ball of power screws and failures	3	3	3	3										3	3
		C321.6 Evaluate the plastics and wear deformation forthe gear	3	3	3	3										3	3
		Average			3		3	3								3	3
ME602PC	HEAT TRANSFER	C322.1 Analyze the different processes in conduction and convection mechanism (Analysis)	3	3													
		C322.2 Ability to understand the unsteady heat conduction processes.(Knowledge)	3	3											2	2	
		C322.3Knowledge of the various processes involvedin convection.(Knowledge)		3												3	
		C322.4Analyze the significance of the dimensional analysis in conduction and convection mechanisms(Analysis)	3	3	3												
		C322.5 Design and analysis of heat exchanger Equipment's. (Synthesis)		2	3												3
		C322.6Analyze the significance of radiation analysis through experiments.(Analysis)	3	3		3										3	
		Average			3.0	2.8	3.0	3.0								2.6	2.5
ME603PC	CAD & CAM	C323.1: Students will be able to Describe the peripherals of computer aided system.	3	1	-	-	2	-	-	-	-	-	-	-	-	1	
		C323.2: Students will be able to Model engineering components by applying solid modeling techniques.	-	-	2	2	3	-	-	-	-	1	-	-	2	-	

		C327.4 Analyze heat exchanger performance by using the method of log mean temperature difference.	3	3	3													
		C327.5 Analyze heat exchanger performance by using the method of heat exchanger effectiveness.		2	3												3	
		C327.6 Explain radiation heat exchange between gray body surfaces.	3	3		3										3		
		Average	3.0	2.8	3.0	3.0										2.6	2.5	
ME606PC	CAD & CAM LAB	C328.1 Draw the 2D & isometric views of different figures using Auto cad software	3	2							3					1	1	
		C328.2 Design a 3D geometry using Auto Cad		3	2	1					3							
		C328.3 Calculate stresses on 2D components using Ansys software.	2		3						3							2
		C328.4 Calculate stress, strain, harmonic analysis on components using Ansys software	3	2							3							
		C328.5 Conduct Thermal analysis on components using Ansys software	1	3							3							
		C328.6 Write a process sheet & Produce a component using CNC Turning & Milling machine.	1	3							3							
		Average	2.0	2.6	2.5	1.0					3.0							1.0
EN608HS	ADVANCED COMMUNICATION SKILLS LAB	C329.1 Breakdown the ideas in to its elementary constituents, analyze and act after a meaning full thought process.	1								3	2	1	3				
		C329.2 Analyze the phrase and passage and explicitly pass on the ideas meaning fully.	2								3	2		3				
		C329.3 Manage to interpret the given phrase or the graphical rendering and review the contents well individually or as a group.	1								3	2		3				
		C329.4 Concentrate on the communication aspect of complicated ideas and respond positively.	2								3	2	1	3				
		C329.5 Debate the issues and find the rudiments of the problem individually and as a group.	1								3	2	1	3				
		C329.6 Respond intelligently and seek clarification and understand completely									3	2	1	3				
		Average	1.5								3	2	1	3				

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IV YEAR – II SEM

COURS ECODE	COURSENAME	COURSE OUTCOMES	1	2	3	4	5	6	7	8	9	10	11	12	Pso1	Pso2	
			MM813 PE	COMPOSITE MATERIALS	C421.1: Knowledge of the crystal structures of a wide range of ceramic materials and glasses.	3	1			2							
C421.2: Able to explain how common fibers are produced and how the properties of the fibers. are related to the internal structure					2	2	3					1				2	
C421.3 : Able to select matrices for composite materials in different applications.					2	1	3					1				1	
C421.4: Able to describe key processing methods for fabricating composites.	1				2	1	3										
C421.5 describe key processing techniques for producing metal, ceramic-, and polymer-matrix composites.	1	2				3	2										2
C421.6 : demonstrate the relationship among synthesis, processing, and properties in composite materials.	1						1				1			3			
Average	1.5	1.5			2	1.7	2.8				1		1	3		1.5	1.5
ME821P E	INDUSTRIAL MANAGEMENT	C422.1. Able to apply principles of management	3									2				1	
		C422.2. ☐ Able to design the organization structure	2									3				3	
		C422.3. Able to apply techniques for plant location, design plant layout and value analysis	1	2			3										
		C422.4. Able to carry out work study to find the best method for doing the work and establish standard time for a given method	1			2					3						
		C422.5. Able to apply various quality control techniques and sampling plans			1			2				3					
		C422.6. Able to do job evaluation and network analysis.		3			2			1							
		Average	1	2.3	2	2	2.3	2.5	2	3							

CE8000 E	ENVIRONM ENTAL IMPACT ASSESSMEN T	423. 1Identify the environmental attributes to be considered for the EIA study	2	3		2						2		2		
		423.2 Formulate objectives of the EIA studies	3	2		3							2		2	
		423.3 Identify the methodology to prepare rapid EIA	3	3		2							2		2	
		423.4 Prepare EIA reports and environmental management plans.	3	2		3							2		2	
		423.5 Explain the EIA methodology	3	3		1		3					2		2	
		423. 6Understands the environmental Impact assessment procedure	3	3		1		3					2		2	2
		Average	2.8	2.6		2.0		3.0					2.0		2.0	2.0