ST.PETERS ENGINEERING COLLEGE

DEPARTMENT OF MECHANICAL ENGINEERING

Correlation between the Course outcomes and Program Outcomes A.Y. 2022-23

III YEAR I SEM

COURSECODE	COURSENAME	COURSE OUTCOMES	PROGRAM OUTCOMES													
			1	2	3	4	5	6	7	8	9	10	11	12	Pso1	Pso2
AS20-03PC11	METROLOGY AND MACHINE TOOLS	C311.1 Illustrate the concepts of metal cutting, chip formation, single point cutting tool geometry, basic parts and tool operations of Lathe machine	3	2											3	
		C311.2 Identify the basic parts, operations of machine tools like Drilling, Boring, Shaping, Slotting, Planing and estimating their machining times..	3	3											3	
		C311. Understand the abrasives, bonds and basic parts and operations of machine tools like Milling, Grinding, Lapping, Honing, broaching and estimating their machining times.	3	3											3	
		C311.4 Understand the concepts of measurements like limits, fits, tolerances, types of assemblies, linear, angular, optical, surface measuring instruments and gauges.	3	3			2								3	3
		C311.5 Classifydifferent methods of assessment of surface finish and symbols for indicating surface finish.	3	3			2									3
		C311.6 Explain the concepts of measurement of screw thread, gear, alignment tests on lathe and co-ordinate measuring machines	3	3			2								2	3
		Average	3	3			2								2.8	**3**
		C312.1 Able to calculate, Compare and Analyse thesteam power cycles.	3	3	2	2									3	3
		C312.2 Able to define, select, HP Boilers, Mountingsan5d accessories, draft systems, chimney, etc.	3	3	2	2									2	3

AS20-03PC11	**THERMAL ENGINERING - II**	C312.3 Able to calculate, compare and analysis the steam nozzles.	3	3	2	2									3	3
		C312.4 Able to describe the principle of steam turbines and reaction turbines, their mechanical details, velocity diagrams for steam turbine blades, etc. to design, size and selection for given applications.	3	3	2	2									2	3
		C312.5 Able to calculate, Compare, Analyse the steamcondensers and Gas turbine power plants.	3	3	2	2									3	3
		C315.6 Able to explain and identify the thermal equipment's such as Jet and Rocket Propulsions	3	3		2									2	3
		Average	**3**	**3**	**2**	**2**									**2.4**	**3**
AS20-03PC13	**DYNAMICS OF MACHINES**	C313.1 Analyze Dynamics of the three-dimensional particle motion in various coordinate systems: Cartesian, natural and cylindrical	3									2				
		C313.2 Ability to Describe the concepts of gyroscopic effects and effect of precision motion on the stability of moving vehicles and learn the concepts of static and dynamic force analysis of planar mechanisms.	3						2			3				
		C313.3 Solve the torque of friction-clutches, brakes and dynamometers and its importance	3			3									2	
		C313.4 Ability to describe the importance of turning moment diagrams, fly wheels	3			2										
		C313.5 Ability to Describe concepts of various governors and balancing of rotary and reciprocating mass its analysis.	3	3		2									2	
		C313.6 Ability to solve the simple free and forced damped vibrations	2	3		3									3	3
		Average	**2.8**	**3.0**		**2.2**			**2.0**			**2.5**			**2.3**	**3.0**
AS2003PE1X	**UNCONVENTIONAL MACHINING PROCESS**	C314.1: Define basic techniques of modern machining process and principle of USM.	3	3	2	2	2								3	3
		C314.2.2: Explain the principle behind AWJM and chemical machine, estimate the MRR	3	3	2	2	2								2	3
		C314.3 : Define principle ,characteristics of EBM and calculate MRR .	3	3	2	2	2								3	3
		C314.4: Differentiate thermal and non-thermal process and define EBM process and LBM process	3	3	2	2	2								2	2

		C314.5: Define applications of plasma and estimate know MRR by using plasma .	3	3	2	2	2								3	2
		C314.6 : Express the principle of plasma arc machining with basic understanding of the methods used for evolving the plasma state using inert gases	3	3	2	2	2								2	2
		Average	**3.0**	**3**	**2**	**2**	**2**								3	**2.4**
AS20-02OE11	**NCPG**	C315.1 Understand the basic physics of wind power generation.	2				1									1
		C315.2 Understand the solar power generation	2				1		3							
		C315.1 Analyze solar thermal and related technologies for energy conversion.	2		3		2									
		C315.4 Understand Biomass conversion technologies, Geothermal resources and energy conversion principles and technologies.	2	2	3											1
		C315.5 Understand oceans (thermal, wave, tidal) and conversion devices..	2	2										1		1
		C315.1 Understand fundamentals of fuel cells and commercial batteries.	2		3											
		Average	2	2	3		1.3		3					1		1
AS20-03PC14	**METROLOGY AND MACHINE TOOLS LAB**	C316.1Illustrate the step turning operations on lathe.	3	3	3	3	3				3					3
		C316.2Illustrate the Tapper turning operations on lathe.	3	3	3	3	3				3					3
		C316.3Illustrate the thread cutting and Knurling operations on lathe.	3	3	3	3	3				3					3
		C316.4 Practice on manufacturing of components using lathe and alignment tests.	3	3	3	3	3				3					3
		C316.5 Practice on manufacturing of components using tally surface equipment.	3	3	3	3	3				3					3
		C316.6 Practice on manufacturing of components using alignments and tests of equipment.	3	3	3	3	3				3					3
		Average	**3.0**	**3.0**	**3.0**	**3.0**	**3.0**				**3.0**					**3.0**

AS20-03ES09	**MACHINE DRAWING THROUGH AUTO CAD**	C317.1 Students will be able to represents different types of materials and machine components like springs, screws and bearings.	3		2											
		C317.2 Students will be able to represents different types of screw threads nut bolts screws keys and different types of joints like cotter and knuckle joints	3				2									2
		C317.3 Students will be able to represents different types of riveted heads and explain about different types of riveted joints like chain riveting and zig zag riveting of plates.	3				2									2
		C317.4 Students will be able to represents different types of coupling and bearings	3	2	3											
		C317.5 Students will be able to assemble different parts like steam engine parts, machine tool parts.				2	1									2
		C317.6 Students will be able to assemble different parts like stuffing boxes parts,						3								2
		Average	**3.0**	**2.0**	**2.5**	**2.0**	**1.6**	**3.0**								**2.0**
AS20-03PC15	**KINEMATICS OF DYNAMICS OF MACHINES LAB**	C318.1 Analyze Dynamics of the three-dimensional particle motion in various coordinate systems: Cartesian, natural and cylindrical	3								2					
		C318.2 Ability to Describe the concepts of gyroscopic effects and effect of precision motion on the stability of moving vehicles and learn the concepts of static and dynamic force analysis of planar mechanisms.	3					2			3					
		C318.3 Solve the torque of friction-clutches, brakes and dynamometers and its importance	3			3								2		
		C318.4 Ability to describe the importance of turning moment diagrams, fly wheels	3			2										
		C318.5 Ability to Describe concepts of various governors and balancing of rotary and reciprocating mass its analysis.	3	3		2								2		
		C318.6 Ability to solve the simple free and forced damped vibrations	2	3		3								3	3	
		Average	**2.8**	**3.0**		**2.2**			**2.0**			**2.5**			**2.3**	**3.0**

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IV YEAR – I SEM

COURSECODE	COURSENAME	COURSE OUTCOMES	1	2	3	4	5	6	7	8	9	10	11	12	Pso1	Pso2
ME701PC	REFRIGERATION AND CONDITION	C411.1: The After completing this course the student must demonstrate the knowledge and ability to Understand the basic techniques Basic Definitions Of Refrigeration.	3	1			2									1
		C411.2: Estimate the analysis of power and refrigeration cycles with air water – vapor mixtures..			2	2	3					1			2	
		C411.3 Increase the utility of the knowledge Of Vapor absorption refrigeration cycles			2	1	3					1			1	
		C411.4 Increase the utility of the knowledge Of refrigeration Factors	1		2	1	3									
		C411.5: The utility of the knowledge refrigeration Factors problems solved. Steam tables and charts given in the appendix	1	2		3	2									2
		C411.6: Understand the basic techniques Basic Definitions Of Refrigeration.	1				1			1			3			
		Average	**1.5**	**1.5**	**2**	**1.7**	**2.8**			**1**		**1**	**3**		**1.5**	**1.5**
ME712PE	AUTOMATION AND MANUFATURING	C412.1. understand the process of automation and types	3	1	1	2	2				1				1	3
		C412.2. Exposure to workstation, which refers to the location in the factorywhere some well-defined task or operation is accomplished by an automated machine.	3	3	2	2									2	3
		C412.3 Understand and apply the Assembly system and line balancing	3	1	3	3	2								3	3
		C412.4. Understand the Automated Material handling equipment and types	3	3	3	3									3	3

		C412.5. Student gets exposure on Fundamentals of Industrial controls	3	3	2	3					2				1	3
		C412.6. Understand the Business process Re-engineering and its Softwareconfiguration	3	1	2	3	1								3	3
		Average	**3**	**2.8**	**2**	**3**	**2**				**1**				2	3

ME721PE	**POWER PLANT ENGINEERING**	C413.1Students able to explain the energy sources and conversion methods, concepts	2	3		2							2		2	
		C413.2 Students able to explain the various types of re-heat, re-generation power consumption methods energy sources and conversion methods.	3	2		3							2		2	
		C413.3 Students able to apply power plant engineering concepts in the model of the Assignment Problems	3	3		2							2		2	
		C413.4 Student able to Classify Hydro electric power plant, hydro cycles and its applications.	3	2		3							2		2	
		C413.4 Students able to explain wind energy, HAWT, VAWT, tidal energy	3	3		1		3					2		2	
		C413.5 Students able to explain wind energy, HAWT, VAWT, tidal energy	3	3		1		3					2		2	2
		Average	**2.8**	**2.6**		**2.0**		**3.0**					**2.0**		**2.0**	**2.0**
ME734PE	**TURBO MACHINERY**	C414.1: Analyze the flow equations in turbo machines.	3	3	3			3	3	3					3	3
		C414.2: Design and fundamental concepts of Axial and Radial Machines	3	3	3			3	3	3					3	3
		C414.:Understand the students, fundamental thermodynamic concepts of gas dynamics	3	3	3			3	2	3					3	3
		C414.4 :Understand the students, fundamental thermodynamic concepts of centrifugal compressors.	3	3	3			3	3	2					3	3
		C414.5: Calculate, Compare, Analyse the axial flow compressors and cascade analysis.	3	3	2			3	3	3					3	3
		C414.6 :Explain axial flow gas turbines and design cascade analysis	3	3	2			3	2	2					3	3
		Average	**3**	**3**	**2.6**			**3**	**2.6**	**2.6**					**3**	**3**
ME741PE	**UEE**	C415.1 Understands the concepts and methods of electric heating.	3	3	2	2		3	3						3	
		C415.2 Distinguish the different types of welding processes.	3	3	2	2		3	3						2	
		C415. 3Apply the Different illumination schemes depends upon the applications	3	3	2	2		3	2						3	
		C415.4 Apply the traction system schemes for urban, suburban and main line services..	3	3	2	2		3	3						2	
		C415. 5Electric traction in India-Real world problems.	3	3	2	2		3	3						3	
		C415.6 Understand lighting system in trains	3	3	2	2		3	2						2	
		Average	**3**	**3**	**2**	**2**		**3**	**2.6**						**2.4**	