SRI VASAVI INSTITUTE OF ENGINEERING & TECHNOLOGY
Department of Mechanical Engineering

COURSE OUTCOMES

Academic year-2022-2023 — Year/sem- III-II

SNO	QUESTIONNAIRE	Blooms Taxonomy
	Heat Transfer(C321)	
C321.1	Analyse the Steady State Conduction and fins	Analyze
C321.2	Analyse the unsteady heat conduction and Convective Heat Transfer	Analyze
C321.3	Analyse Forced and free convection	Analyze
C321.4	Analyse Boiling, condensation and heat exchangers	Understand
C321.5	Understanding of the phenomenon of thermal radiation	
	Design of Machine Members-II(C322)	
C322.1	Apply knowledge about the design of bearings.	Apply
C322.2	Explain the concepts in designing various engine parts.	Understand
C322.3	Utilise the knowledge to design curved beams and power screws	Create
C322.4	Justify power transmission systems and to design pulleys and gear drives.	Evaluate
C322.5	Apply the concepts in designing various machine tool elements.	Apply
	Introduction to Artificial Intelligence and Machine Learning(C323)	
C323.1	Discuss basic concepts of artificial intelligence, neural networks and genetic algorithms	Understand
C323.2	Demonstrate the principles of knowledge representation and reasoning	Apply
C323.3	Learn about Bayesian and computational learning and machine learning	Understand
C323.4	Utilize various machine learning techniques	Apply
C323.5	Interpret the machine learning analytics and deep learning techniques	Apply
	Automobile Engineering(C324)	
C324.1	Distinguish the various components of four wheeler Automobile	Apply
C324.2	Describe the knowledge of different parts of transmission system.	Apply
C324.3	Judge about steering and suspension systems.	Analyze
C324.4	Justify the braking system and electrical system used in automobiles.	Evaluate
C324.5	Understand the concepts about engine specifications and service, safety and electronic system used in automobiles	Understand
	Industrial Robotics(C325)	
C325.1	Explain the basic concepts and components of industrial robotics and automation	Understand
C325.2	Judge the knowledge about robot actuators and feedback components	Apply
C325.3	Analyze the motion of robot and manipulator kinematics	Analyze
C325.4	Analyze the general considerations of path description and generation	Analyze
C325.5	Utilize knowledge about the image processing, machine vision and robotic applications	Understand
	Heat Transfer Lab(C326)	
C326.1	Analyse the Steady State Conduction and fins	Analyze
C326.2	Analyse the unsteady heat conduction and Convective Heat Transfer	Analyze
C326.3	Analyse Forced and free convection	Analyze
C326.4	Analyse Boiling, condensation and heat exchangers	Analyze
C326.5	Understanding of the phenomenon of thermal radiation	Understand
	CAE&CAM Lab(C327)	

C327.1	Experiment with trusses and beams to determine stress, deflection, natural frequencies, harmonic analysis, HT analysis and buckling analysis	Analyze
C327.2	Create part programmes using FANUC controller	Create
C327.3	Apply G-codes for automated tool path using CAM software.	Apply
C327.4	Analyze about rapid prototyping machine and to print simple parts.	Analyze
C327.5	Experiment with virtual 3D printing simulation using Vlabs.	Analyze
	Measurements & Metrology Lab(C328)	
C328.1	Understand the measurements and calibration of instruments.	Understand
C328.2	Understand the machine tool alignment test	Understand
C328.3	Analyze the concepts of finishing processes and the system of limits and fits.	Analyze
C328.4	Learn the concepts of surface roughness and optical measuring instruments	Apply
C328.5	Understand gauging instruments for inspection of precision linear, geometric forms, angular measurements	Understand
	Artificial Intelligence and Machine Learning Lab(C329)	
C329.1	Apply data pre- processing techniques	Apply
C329.2	Generate decision trees for classification model and association rules on data	Understand
C329.3	Learn about machine learning models including classification and clustering	Understand
C329.4	Building neural network classifier and perform data labeling for various images using object recognition	Analyze
C329.5	Apply the knowledge of various tools for image classifier and automatic face recognition.	Apply
	Research Methodology and IPR(C3210)	
C3210.1	Understand the objectives and characteristics of a research problem.	Understand
C3210.2	Analyze research related information and to follow research ethics	Analyze
C3210.3	Understand the types of intellectual property rights.	Understand
C3210.4	Learn about the scope of patent rights.	Learn
C3210.5	Understand the new developments in IPR.	Understand

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SRI VASAVI INSTITUTE OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF MECHANICAL ENGINEERING

COURSE OUTCOMES
2019-20 II B.TECH I SEM

CO NUMBER	COURSE OUTCOME(CO)STATEMENT –AT THE END OF THE COURSE ,THE STUDENTS WILL BE ABLE TO	BLOOMS TAXONOMY
	METALLURGY & MATERIALS SCIENCE(C211)	
C211.1	Explain the crystallization of metals, justify the effect of alloying elements on the behaviour of metals.	Evaluate
C211.2	Sketch the equilibrium diagrams to describe the different phases of metals and alloys.	Apply
C211.3	Distinguish different types of cast irons and steels and their applications..	Analyze
C211.4	Interpret different heat treatment processes to get desired mechanical properties of metals	Apply
C211.5	Describe the structure and properties of non ferrous metals and alloys.	Understand
C211.6	Compare the unique nature of ceramics and composite materials.	Analyze
	MECHANICS OF SOLIDS (C212)	
C212.1	Discuss the stress, strain, poisons ratio and thermal stress in members including strain energy under different loadings.	Understand
C212.2	Investigate the construction of shear force diagrams and bending moment diagrams.	Create
C212.3	Examine the bending and shear stress induced in the beams.	Analyze
C212.4	Appraise slope and deflection for different support arrangements.	Evaluate
C212.5	Execute how a cylinder fails what kind of stresses induced in cylinders subjected to internal, external pressures.	Apply
C212.6	Solve shear stresses induced in circular shafts, discussing columns in stability point and with different end conditions	Apply
	THERMODYNAMICS(C213)	
C213.1	Explain the use of boundaries in open and closed system	Understand
C213.2	Derive ,discuss and apply first law of thermodynamics for problem solving	Apply
C213.3	Apply the second law of thermodynamics to thermal cycles to solve the problems	Apply
C213.4	Calculate the quality of steam by using thermodynamic diagrams	Apply
C213.5	Differentiate the properties of gas mixtures and psychromentric properties	Analyze

	of air	
C213.6	Derive and explain the efficiency of power cycles and performance of refrigeration cycles	Apply
MANAGERIAL ECONOMICS & FINANCIAL ANALYSIS(C214)		
C214.1	Explain the basic concepts and principles of managerial economics	Understand
C214.2	Explain an idea of methods and technical relationship between input and outputthe production cost concepts	Understand
C214.3	Determine the types of market and priciong methods and strategies	Understand
C214.4	Describe the types of industrial organization	Understand
C214.5	Analyze the financial statements	Analyze
C214.6	Evaluate the investment proposal in projects	Evaluate
FLUID MECHANICS & HYDRAULIC MACHINES(C215)		
C215.1	Explain the properties of fluids and measure pressure of the flowing fluid	Evaluate
C215.2	Use Euler's equation,Bernouli's equation ,Energy momentum equation and solve various fluids flow problems	Apply
C215.3	Perform dimensional analysis Explain boundaty layer theory	Analysis
C215.4	Calculate hydrodynamic forces and efficiencies	Apply
C215.5	Appraise the performance of turbines and pump under varying load conditions	Evaluate
C215.6	Design hydraulic systems like lifts which are suitable for requirements	Create
COMPUTER AIDED ENGINEERING DRAWING PRACTICE(C216)		
C216.1	Draw the projections of solids inclined both planes	Apply
C216.2	Draw the sections of solids and development of surfcaes	Apply
C216.3	Draw the intersections of solids and perspective projections	Apply
C216.4	Understand the commands used in CAD	Understand
C216.5	Model the 2D and 3D objects using CAD	Apply
C216.6	Construct solid modeling with of AUTOCAD	Create
ELECTRICAL & ELECTRONICS ENGG. LAB(C217)		
C217.1	Analyze the various electrical networks.	Analyze

C217.2	Explain the operation of DC generators,3-point starter and conduct the Swinburne's Test.	Understand
C217.3	Analyze the performance of transformer.	Analyze
C217.4	Explain the operation of 3-phase alternator and 3-phase induction motors.	Understand
C217.5	Analyze the operation of half wave, full wave rectifiers and OP-AMPs.	Analyze
C217.6	Explain the operation of single stage CE amplifier and concept of feedback amplifier.	Understand
	MECHANICS OF SOLIDS & METALLURGY LAB(C218)	
C218.1	Discuss the stress, strain, poisons ratio and thermal stress in members including strain energy under different loadings.	Understand
C218.2	Appraise slope and deflection for different support arrangements.	Evaluate
C218.3	Solve shear stresses induced in circular shafts, discussing columns in stability point and with different end conditions	Apply
C218.4	Distinguish different types of cast irons and steels and their applications..	Analyze
C218.5	Interpret different heat treatment processes to get desired mechanical properties of metals	Apply
C218.6	Describe the structure and properties of non ferrous metals and alloys.	Understand

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SRI VASAVI INSTITUTE OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF MECHANICAL ENGINEERING

COURSE OUTCOMES
2019-20 II BATCH II SEM

CO NUMBER	COURSE OUTCOME(CO)STATEMENT –AT THE END OF THE COURSE ,THE STUDENTS WILL BE ABLE TO	BLOOMS TAXONOMY
	KINEMATICS OF MACHINERY(C221)	
C221.1	Discuss the basic knowledge of mechanisms	Understand
C221.2	Explain about popular mechanisms having lower pair only	Understand
C221.3	Solve the velocity and acceleration of any part of the mechanism	Apply
C221.4	Design a cam profile for an application	Create
C221.5	Demonstrate the gear nomenclature and interference	Apply
C221.6	Design a belt drive for an application	Create
	THERMAL ENGINEERING -I(C222)	
C222.1	Recognize the reasons and affectsof various losses that occur in the actual engine operation	Understand
C222.2	Explain the various engine systems along with their function and necessity	Understand
C222.3	Interpret the combustion phenomenon in S.I and C.I engines	Apply
C222.4	Differentiate the performance evaluation of testing on S.I and C.I engines	Analyze
C222.5	Distinguish the performance and efficiency of reciprocating compressors	Analyze
C222.6	Differentiate the performance and efficiency of rotary compressors	Analyze
	PRODUCTION TECHNOLOGY (C223)	
C223.1	Understand the principles of casting and design the gating system	Apply
C223.2	Select a suitable casting process based on the component	Analyze
C223.3	Understand the various principles of Arc welding and Gas welding	Understand
C223.4	Understand the principles of various welding processes and analyze welded portions	Analyze
C223.5	Understand the principles of various forming operations and powder metallurgy	Understand
C223.6	Understand the principles of various Sheet metal forming, High energy rate forming processes and Processing of Plastics	Understand

DESIGN OF MACHINE MEMBERS -I (C224)		
C224.1	Use suitable materials,tolerances and fits in critical design applications	Apply
C224.2	Interpret stresses and utilize design data hand book and design the elements for strength,stiffness and fatigue	Understand
C224.3	Use the design procedure to engineering problems,including the consideration of technical and manufacturing constraints for revited and welded joints	Apply
C224.4	Design cotter joints ,knuckle joints ,keys and shafts	Analyze
C224.5	Examine the design procedure for shaft couplings	Analyze
C224.6	Examine the design procedure for springs	Analyze
MACHINE DRAWING (C225)		
C225.1	Explain and apply the procedure to draw screw threads,bolts,nuts,stud bolts,tap bolts,set screws	Apply
C225.2	Explain and apply the procedure to draw keys,cotter joint and knuckle joint	Apply
C225.3	Explain and apply the procedure to draw riveted joints for plates	Apply
C225.4	Explain and apply the procedure to draw shaft coupling, spigot and socket pipe joint	Apply
C225.5	Explain and apply the procedure to draw journal ,pivot and collar and foot step bearings	Apply
C225.6	Explain and apply the procedure to draw detailed assembly drawings of plumber block,tailstock,welded joints,tool head of shaper.	Apply
INDUSTRIAL ENGINEERING AND MANAGEMENT (C226)		
C226.1	Describe the role of industrial engineer and list the finction of management	Understand
C226.2	Illustrate the design of plant lauout and study of quantitative techniques for optimal design of plant layout	Apply
C226.3	Distinguish between time study and method study	Analyze
C226.4	Interpret control charts for assessment of process quality	Understand
C226.5	List out the functions of human resource management, personnel and industrial management	Remember
C226.6	Classisfy the principles of PERT and CPM techniques and understand the concept of value analysis	apply
FLUID MECHANICS & HYDRAULIC MACHINES LAB (C227)		
C227.1	Explain the properties of fluids and measure pressure of the flowing fluid	Evaluate
C227.2	Apply Euler's equation, Bernoulli's equation, Energy momentum equations and solve various fluid flow problems	Apply

C227.3	Perform dimensional analysis	Analyze
C227.4	Calculate hydrodynamic forces and efficiencies	Apply
C227.5	Evaluate the performance of turbines and pumps under varying load conditions	Evaluate
C228.6	Design hydraulic systems like lifts which are suitable for requirements	Create
	PRODUCTION TECHNOLOGY LAB(C228)	
C228.1	Understand the principles of casting and design the gating system	Apply
C228.2	Select a suitable casting process based on the component	Analyze
C228.3	Understand the various principles of Arc welding and Gas welding	Understand
C228.4	Understand the principles of various welding processes and analyze welded portions	Analyze
C228.5	Understand the principles of various forming operations and powder metallurgy	Understand
C228.6	Understand the principles of various Sheet metal forming, High energy rate forming processes and Processing of Plastics	Understand

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