



Shri Balasaheb Mane Shikshan Prasarak Mandal's
ASHOKRAO MANE GROUP OF INSTITUTIONS



Vathar Tarf Vadgaon | Kolhapur | Maharashtra

Record No.: **AMGOI/ACAD/34A**

Revision: **00**

Date: **01/07/2024**

Course Outcomes (Cos)

Department: Mechanical Engineering

Academic Year: 2024 -2025

Course code	Course Name	Course Outcome No.	Course Outcome
BTBS301	Engineering Mathematics-III	BTBS301.1	Understand the properties of Laplace transform and evaluate transform of integral and derivatives.
		BTBS301.2	Solve inverse Laplace transform using partial fractions method and convolution theorem.
		BTBS301.3	Determine Fourier sine and Fourier cosine integrals.
		BTBS301.4	Study partial differential equations along with applications.
		BTBS301.5	Study analytic functions, Cauchy Riemann equations, Cauchy integral formula and Cauchy's residue theorem.
BTMC302	Fluid Mechanics	BTMC302.1	Explain basic properties of Fluid Statics, Kinematics and Dynamics
		BTMC302.2	Identify various types of flow, flow patterns and their significance
		BTMC302.3	Explain concepts of flow through pipes, boundary layer theory, forces on immersed bodies and dimensionless parameters
		BTMC302.4	Derive equations of fluid mechanics
		BTMC302.5	Solve the problem related to fluid mechanics



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BTMC303	Thermodynamics	BTMC303.1	Define the terms like system, boundary, properties, equilibrium, work, heat, ideal gas, entropy etc. used in thermodynamics.
		BTMC303.2	Studied different laws of thermodynamics and apply these to simple thermal systems to study energy balance .
		BTMC303.3	Studied Entropy, application and disorder.
		BTMC303.4	Studied various types of processes like isothermal, adiabatic, etc. considering system with ideal gas and represent them on p-v and T-s planes.
		BTMC303.5	Represent phase diagram of pure substance (steam) on different thermodynamic planes like p-v, T-s, h-s, etc. Show various constant property lines on them.
BTMEC304	Materials Science and Metallurgy	BTMES304.1	Study various crystal structures of materials
		BTMES304.2	Understand mechanical properties of materials and calculations of same using appropriate equations
		BTMES304.3	Evaluate phase diagrams of various materials



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		BTMES304.4	Suggest appropriate heat treatment process for a given application
		BTMES304.5	Prepare samples of different materials for metallography
		BTMES304.6	Recommend appropriate NDT technique for a given application
BTMCL30 5	Machine Drawing and CAD	BTMES305.1	Interpret the object with the help of given sectional and orthographic views.
		BTMES305.2	Construct the curve of intersection of two solids
		BTMES305.3	Draw machine element using keys, cotter, knuckle, bolted and welded joint
		BTMES305.4	Assemble details of any given part. i. e. valve, pump, machine tool part etc.
		BTMES305.5	Represent tolerances and level of surface finish on production drawings
		BTMES305.6	Understand various creating and editing commands in Auto Cad



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SEM IV

Course code	Course Name	Course Outcome No.	Course Outcome
BTMC401	Manufacturing Processes-I	BTMC401.1	Identify castings processes, working principles and applications and list various defects in metal casting
		BTMC401.2	Understand the various metal forming processes, working principles and applications
		BTMC401.3	Classify the basic joining processes and demonstrate principles of welding, brazing and soldering.
		BTMC401.4	Study center lathe and its operations including plain, taper turning, work holding devices and cutting tool.
		BTMC401.5	Understand milling machines and operations, cutters and indexing for gear cutting.
		BTMC401.6	Study shaping, planning and drilling, their types and related tooling's
BTMC402	Theory of Machines I	BTMC402.1	Identify and analyses different types of mechanisms for their applications and calculate its degree of freedom.
		BTMC402.2	Perform kinematic analysis of given mechanism using ICR and RV method
		BTMC402.3	Perform Kinetic analysis of slider crank mechanism using Klein's construction and analytical approach
		BTMC402.4	Introduction of different types of lubrication system



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		BTMC402.5	Analyze the principles and applications of clutches brakes and dynamometers along with the kinematic and dynamic behavior of cams and followers.
		BTMC402.6	Perform balancing of unbalance forces in rotating masses, different types of single or multi cylinder reciprocating engines in different positions.
BTHM403	Universal Human Values	BTHM403.1	To help the students appreciate the essential complementarily between 'VALUES' and 'SKILLS' to ensure sustained happiness and prosperity which are the core aspirations of all human beings.
		BTHM403.2	To facilitate the development of a Holistic perspective among students towards life and profession
		BTHM403.3	To highlight the possible implications of Holistic understanding in terms of ethical human conduct, trustful mutually fulfilling human behavior
		BTHM403.4	Understand the importance of groups and communities in the society
		BTHM403.5	Realize the philosophical and cultural basis and historical perspectives of human rights
		BTHM403.6	Make them aware of their responsibilities towards the nation.
BTMES404	Strength of Materials	BTHM404.1	State the basic definitions of fundamental terms such as axial load, eccentric load, stress, strain, E, μ , principle stresses, etc



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		BTHM404.2	Analyze the stresses and strain energy in different load cases
		BTHM404.3	Design the columns based on deflection
		BTHM404.4	Design a beam based on bending and shafts based on torsion
		BTHM404.5	Analyze given beam for calculations of SF and BM
		BTHM404.6	Calculate slope and deflection at a point on cantilever /simply supported beam using double integration, Macaulay's , Area-moment and superposition methods
BTMPE405 B	Sheet Metal Engineering	BTMPE405B.1	Recognize common manufacturing processes of sheet metal fabrication
		BTMPE405B.2	Understand the principles of design and fabricate of sheet metal products and recognize common material used in industry
		BTMPE405B.3	Distinguish shearing, drawing and pressing etc. processes
		BTMPE405B.4	Know types of dies and formability
		BTMPE405B.5	Select mechanical or hydraulic presses for the given process
		BTMPE405B.6	Identify the different industrial case studies based on manufacturing of sheet metal products