



Department of Mechanical Engineering

B.E. 3rd Sem

Course: Mathematics- III

Course Code: (3ME01)

At the end of Mathematics-III Course the student will be able:

Co. No	Course Outcomes	Level of Learning (As per Bloom's Taxonomy)
1	Demonstrate the knowledge to solve ordinary Linear differential equations with constant coefficient	L2
2	Define the Laplace transform and its inverse transform for the basic functions.	L2
3	Apply False Position, Newton Raphson method to solve nonlinear & polynomial equations	L3
4	Apply Gauss Elimination method, Gauss Seidal iterative method, Relaxation method to solve system of linear equations	L3
5	Apply Eulers method, Runge-Kutta method, Picards method to solve differential equations.	L3
6	Define line surface and volume integrals	L2

Course: Manufacturing Process

Course Code: (3ME02)

At the end of Manufacturing Process Course Student will be able to;

Co.	Course Outcomes	Level of Learning
No		(As per Bloom's
		Taxonomy)
1	Explain pattern, materials and sand casting process	L2
2	Explain different furnaces used for casting and to	L2
	investigate casting defects	
3	Describe different casting processes for specific	L2
	applications	
4	Analyse different hot & cold working processes of	L4
	metals.	
5	Explain various mechanical joining processes	L2
6	Test various welding processes and recognize defects	L1





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Course: Manufacturing Processes- lab.

Course Code: (3ME07)

At the end of Manufacturing Process Course-lab Student will be able to;

Co. No	Lab Outcomes	Level of Learning (As per Bloom's Taxonomy)
1	Apply safety precautions learned in workshop practice.	L2
2	Demonstrate basics of foundry practice.	L3
3	Demonstrate various joining processes.	L3

Course: Mechanics of Material

Course Code: (3ME03)

At the end of Mechanics of Material Course Student will be able to;

Co No	Course Outcomes	Level of Learning (As per Bloom's Taxonomy)
1	Analyse stress strain in a structural member subjected to axial, bending and torsional loads.	L4
2	Analyse structural beam resistance. Using Shear Force (SF) and Bending Moment (BM) diagrams.	L4
3	Calculate torsion and shear stress distribution in Shaft and Spring.	L2
4	Determine stresses in cylinders, as well as thin spherical shells under the influence of internal pressure.	L5
5	Calculate strain energy for uniaxial tension, compression and impact loads.	L2
6	Analyse the deflection in the beam by Macaulay's method.	L4

Course: Mechanics of Material-lab

Course Code: (3ME08)

At the end of Mechanics of Material -lab Course Student will be able to;

Co. No	Lab Outcomes	Level of Learning (As per Bloom's
		Taxonomy)
1	Conduct tensile and compression test on materials	L5
2	Conduct impact hardness and torsion test on metals	L5
3	Analyse deflection of beams and springs	L4





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Course: Engineering Thermodynamics

Course Code: (3ME04)

At the end of Engineering Thermodynamics Course the student will be able:

Co. No	Course Outcomes	Level of Learning (As per Bloom's Taxonomy)
1	Explain thermodynamic properties and basic processes	L-2
2	Apply the first law of thermodynamics to non-flow processes	L-3
3	Apply the first law of thermodynamics to steady flow systems	L-3
4	Evaluate the performance of thermal systems using second law of thermodynamics	L-5
5	Solve the problems on steam using steam tables and mollier charts	L-3
6	Compare the various air standard cycles and vapour cycles	L-4

Course: Fluid Mechanics

Course Code: (3ME05)

At the end of Fluid Mechanics Course the student will be able:

Co. No	Course Outcomes	Level of Learning (As per Bloom's Taxonomy)
1	Identify importance of various fluid properties.	L2
2	Apply the concept of hydraulic pressure and principle of buoyancy in solving problems	L3
3	Apply the continuity equation and Bernoulli's equation	L3
4	Calculate the major and minor loss of the pipes	L3
5	Explain the various flow and concept of boundary layer	L2
6	Solve the problems on force exerted by jet on plan and curved plate	L3

Course: Fluid Mechanics - lab

Course Code: (3ME09) At the end of Fluid Mechanics -lab Course the student will be able:

Со	Lab Outcomes	Level of Learning
No		(As per Bloom's
		Taxonomy)
1	Measure fluid pressure and flow rate using different	L2
	measuring devices	
2	Investigate the types of fluid flows and various losses	L5
	in flow through pipes.	
3	Determine metacentric height for floating body.	L5





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Course: Machine Drawing- lab

Course Code: (3ME10)

At the end of Machine Drawing- lab Course the student will be able:

Со	Lab Outcomes	Level of Learning
No		(As per Bloom's
		Taxonomy)
1	Demonstrate the techniques of sectioning and	L3
	visualizing the objects	
2	Develop surfaces of objects and apply knowledge	L4
	during their fabrication	
3	Prepare detail machine assembly drawings	L5





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B.E. 4th Sem

Course: Material Science

Course Code: (4ME01)

At the end of Material Science Course, Student will be able to;

Co. No	Course Outcomes	Level of Learning (As per Bloom's Taxonomy)
1	Classify metals and alloys based on their metallurgical structure.	L2
2	Describe Iron-Carbon equilibrium diagram and critical temperatures.	L2
3	Select the specific cast iron material suitable for the given engineering application.	L3
4	Classification and applications of Cast iron in engineering and industry.	L3
5	Select the appropriate heat treatment process for different materials and application	L3
6	Analyse the different surface hardening process and Powder Metallurgy	L4

Course: Material Science-lab

Course Code: (4ME07)

At the end of Material Science-lab Course, Student will be able to;

Co. No	Lab Outcomes	Level of Learning (As per Bloom's Taxonomy)
1	Analyse various microstructure of metals	L4
2	Investigate Metallurgical microstructure of material using microscope.	L5
3	Evaluate Iron Carbon equilibrium diagram and allotropic forms of iron.	L5





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Course: Energy Conversion-I

Course Code: (4ME02)

At the end of Energy Conversion-I Course the student will be able:

Co.	Course Outcomes	Level of Learning
No		(As per Bloom's
		Taxonomy)
1	Classify different types of boilers, their mountings	L-2
	and accessories	
2	Evaluate the performance of boilers	L-3
3	Compare various types of condensers and cooling	L-4
	towers	
4	Analyse flow of steam through steam turbines	L-4
5	Illustrate the working of a nuclear power plant and its	L-2
	components	
6	Describe various renewable energy sources	L-2

Course: Manufacturing Technology

Course Code: (4ME03)

At the end of Manufacturing Technology Course Student will be able to;

Co. No	Course Outcomes	Level of Learning (As per Bloom's Taxonomy)
1	Apply the metal cutting theory tool selection and calculate cutting forces.	L3
2	Explain lathe turning ope rations and CNC operations.	L2
3	Demonstrate drilling and boring operations and working of drilling & boring machines	L3
4	Demonstrate the knowledge of milling and gear cutting operations and working of respective machines	L3
5	Demonstrate grinding, shaper, planer and slotter machines	L3
6	Describe the unconventional machining processes	L2

Course: Manufacturing Technology-lab

Course Code: (4ME08)

At the end of Manufacturing Technology -lab Course Student will be able to;

Co.	Lab Outcomes	Level of Learning
No		(As per Bloom's
		Taxonomy)
1	Demonstrate operations related to slotter, drilling &	L3
	grinding m/c.	
2	Demonstrate operations related to lathe.	L3
3	Demonstrate operations related to shaper	L3





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Course: Basic Electrical Drives and Control

Course Code: (4ME04)

Co. No	Course Outcomes	Level of Learning (As per Bloom's
		Taxonomy)
1	Select a proper drive system for a particular	L3
	application based on power rating	
2	Explain the concept, principle of operation and	L2
	applications of DC and special motors.	
3	Describe the construction, types, principle of working	L2
	and characteristics of AC motor	
4	Explain the various speed control methods of AC and DC	L2

Course: Basic Electrical Drives and Control -lab

various instruments.

Describe the construction, principle and function of

Classify the various duty cycles for different industrial

motors.

applications

5

6

Course Code: (4ME09)

L3

L4

At the end of Basic Electrical Drives and Control-lab Course the student will be able:

Co. No	Lab Outcomes	Level of Learning (As per Bloom's Taxonomy)
1	Analyse the performance of DC motors and DC	L2
	Generated by conducting suitable load test	
2	Execute speed Control on DC Motors.	L3
3	Conduct various tests on single phase transformer	L3

Course: Hydraulic and Pneumatic Systems

Course Code: (4ME05).

At the end of Hydraulic and Pneumatic Systems Course the student will be able:

Co. No	Course Outcomes	Level of Learning (As per Bloom's Taxonomy)
1	Evaluate the performance on Peloton, Francis and Kaplan turbines	L4
2	Analyse the performance of Centrifugal Pumps.	L4
3	Analyse working principles like axial flow pump and jet pump,	L4
4	Analyse the performance of reciprocating pumps,	L4
5	Explain the mechanics of compressible fluid flow	L3





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6	Evaluate hydrostatic system, hydrokinetic system	L2

Course: Hydraulic and Pneumatic Systems-lab

Course Code: (4ME10).

At the end of Hydraulic and Pneumatic Systems-lab Course the student will be

Co. No	Lab Outcomes	Level of Learning (As per Bloom's Taxonomy)
1	Test the performance of impulse and reaction turbine	L4
2	Test the performance of centrifugal pump	L4
3	Know the working of special types of pump-Gear	L2
	Axial	