<u>Course Outcome of Semester III (For all courses)</u>

Name of Course	Course Code	Course Outcome	Statement
STRENGTH OF MATERIALS	CO201	CO201.1	Explain stress and strain values and find the changes in axial, lateral and volumetric dimensions. Find thermal stresses in bodies of uniform section and composite sections.
		CO201.2	Solve the shear force and bending moment at any section of beam and draw the S.F. & B.M diagrams of UDL and Point loads.
		CO201.3	Show the deflection of beams, theory of columns and struts.
		CO201.4	Comparison of solid and hollow shafts, define and solve the stress and deflection of the closed coil helical spring. Illustrate the stresses on thin cylinders.

Name of Course	Course Code	Course Outcome	Statement
MATERIAL SCIENCE AND METROLOGY	CO202	CO202.1	Explain crystal structure, classification of engineering materials, types of steels and ferrous alloys
		CO202.2	Explain the failure and testing of engineering materials and heat treatment processes.
		CO202.3	Explain the static and dynamic characteristics of measuring instruments and also to make use of various force/torque measurement techniques.
		CO202.4	Explain the different types of measuring instrument and select suitable measuring device for a particular application and discuss the significance of machine tool inspection/testing.

Name of Course	Course Code	Course Outcome	Statement
MACHINE TOOLS	CO203	CO203.1	Describe the concept of mechanics of metal cutting in manufacturing operations and explain lathe machinery, its parts with various operations performed in it.
		CO203.2	Summarize drilling, shaper, planer, and slotting machines including its parts, various operations performed in each and specifications of each machine tool.
		CO203.3	Describe the significance of milling, grinding machines (types, parts cutting tools, operations performed) and other super finishing operations.
		CO203.4	Explain the principle of NC and CNC machines and significance of lubricants/cutting fluids used in machining process.

Name of Course	Course Code	Course Outcome	Statement
FUNDAMENTALS OF ELECTRICAL ENGINEERING	CO204	CO204.1	Solve simple electrical circuits using the Fundamental concept of circuit parameters and basic laws.
		CO204.2	Explain the working principle of electric motors and their applications in mechanical engineering.
		CO204.3	Illustrate various electric heating and welding equipment used for mechanical manufacturing process.
		CO204.4	Summarize the applications of electronics in Mechanical engineering.

Name of Course	Course Code	Course Outcome	Statement
MACHINE DRAWING	CO205	CO205.1	To outline the use and development of fastening devices and its assembly.
		CO205.2	Illustrate tolerances and level of surface finish of machine elements.
		CO205.3	Develop drawings of various machine elements, components and part details.
		CO205.4	Outline and apply the concept and method of developing production drawings.

Name of Course	Course Code	Course Outcome	Statement
MATERIAL TESTING AND METALLOGRAPHY LAB	CO206	CO206.1	Apply theoretical knowledge of material testing to conduct tension test on UTM for ductile and brittle material.
		CO206.2	Apply theoretical knowledge of material testing to find out the hardness of various treated and untreated steels using Vickers hardness tester & Brunel hardness tester.
		CO206.3	Apply theoretical knowledge of material testing to conduct Impact test and torsion test.
		CO206.4	To study the Microstructure of Low, Medium & High carbon steels by sample preparation using disc polishing (fine polishing) and to find cracks in casting by conducting visual inspection, die penetrant test and magnetic particle test (NDT).

Name of Course	Course Code	Course Outcome	Statement
MECHANICAL WORKSHOP III	CO207	CO207.1	Perform machining operations on lathe and shaper.
		CO207.2	Apply technical skill to practice fitting operations and use of various gauges.
		CO207.3	Perform fabrication works by making semi-permanent joints in metal sheets and Practice welding operations.
		CO207.4	Apply technical skill to perform smithy and foundry work.

Name of Course	Course Code	Course Outcome	Statement
ELECTRICAL AND ELECTRONICS LAB	CO208	CO208.1	Select appropriate instruments and methods for measuring voltage, current, resistance and power in a given circuit.
		CO208.2	Develop simple circuits in open conduit system for domestic and motor wiring.
		CO208.3	Compute performance characteristics of AC motor and single-phase transformer using direct loading method.
		CO208.4	Construct rectifier circuits using the knowledge of various electronic components.

Name of Course	Course Code	Course Outcome	Statement
ADVANCED CADD LAB	CO209	CO209.1	Draw various fastening devices by choosing proper tools in the software.
		CO209.2	Prepare detailed drawing of a complex component in a fast and effective manner.
		CO209.3	Implement GD&T symbols and surface finish symbols in a CAD drawing.
		CO209.4	Identify the basic concepts of 3D modeling in a software environment.