SRES'S

Shree Ramchandra College of Engineering

Mechanical Engineering

Course Outcomes

Second Year Engineering (2019 Pattern)

Course code and Name: 202041 - Solid Mechanics

202041.1	DEFINE various types of stresses and strain developed on determinate and indeterminate members.
202041.2	DRAW Shear force and bending moment diagram for various types of transverse loading and support.
202041.3	COMPUTE the slope & deflection, bending stresses and shear stresses on a beam.
202041.4	CALCULATE torsional shear stress in shaft and buckling on the column.
202041.5	APPLY the concept of principal stresses and theories of failure to determine stresses on a 2-D element.
202041.6	UTILIZE the concepts of SFD & BMD, torsion and principal stresses to solve combined loading application based problems.

Course code and Name: 202042 - Solid Modeling and Drafting

202042.1	UNDERSTAND basic concepts of CAD system, need and scope in Product Lifecycle Management
202042.2	UTILIZE knowledge of curves and surfacing features and methods to create complex solid geometry
202042.3	CONSTRUCT solid models, assemblies using various modeling techniques & PERFORM mass property analysis, including creating and using a coordinate system.
202042.4	APPLY geometric transformations to simple 2D geometries
202042.5	USE CAD model data for various CAD based engineering applications viz. production drawings, 3D printing, FEA, CFD, MBD, CAE, CAM, etc.
202042.6	USE PMI & MBD approach for communication

Course code and Name: 202043 - Engineering Thermodynamics

202043.1	DESCRIBE the basics of thermodynamics with heat and work interactions.
202043.2	APPLY laws of thermodynamics to steady flow and non-flow processes.
202043.3	APPLY entropy, available and non available energy for an Open and Closed System,

202043.4 DETERMINE the properties of steam and their effect on performance of vapour power cycle.

202043.5 ANALYSE the fuel combustion process and products of combustion.

202043.6 SELECT various instrumentations required for safe and efficient operation of steam generator.

Course code and Name: 202044 - Engineering Materials and Metallurgy

202044.1 COMPARE crystal structures and ASSESS different lattice parameters.

202044.2 CORRELATE crystal structures and imperfections in crystals with mechanical behaviour of materials.

202044.3 DIFFERENTIATE and DETERMINE mechanical properties using destructive and non-destructive testing of materials.

202044.4 IDENTIFY & ESTIMATE different parameters of the system viz., phases, variables, component, grains, grain boundary, and degree of freedom. etc.

202044.5 ANALYSE effect of alloying element & heat treatment on properties of ferrous & nonferrous alloy.

202044.6 SELECT appropriate materials for various applications.

Course code and Name: 203156 - Electrical and Electronics Engineering

203156.1 APPLY programming concepts to UNDERSTAND role of Microprocessor and Microcontroller in embedded systems

203156.2 DEVELOP interfacing of different types of sensors and other hardware devices with Atmega328 based Arduino Board

203156.3 UNDERSTAND the operation of DC motor, its speed control methods and braking

203156.4 DISTINGUISH between types of three phase induction motor and its characteristic features

203156.5 EXPLAIN about emerging technology of Electric Vehicle (EV) and its modular subsystems

203156.6 CHOOSE energy storage devices and electrical drives for EVs

Course code and Name: 202045 - Geometric Dimensioning and Tolerancing Lab

202045.1 SELECT appropriate IS and ASME standards for drawing

202045.2 READ & ANALYSE variety of industrial drawings

202045.3 APPLY geometric and dimensional tolerance, surface finish symbols in drawing

202045.4 EVALUATE dimensional tolerance based on type of fit, etc.

202045.5 SELECT an appropriate manufacturing process using DFM, DFA, etc.