DEPARTMENT OF CIVIL ENGINEERING

Year/Class/Semester:S.E./CIVIL/III

Course Code	CourseName	COs
CSC301	**Applied Mathematics-III**	*Student will be able to* **CO1.**Understand the concept of Laplace transform and its application to solve the real integrals in engineering problems. **CO2.**Understand the concept of inverse Laplace transform of various functions and its applications in engineering problems **CO 3.**Expand the periodic function by using the Fourier series for real-life problems and complex engineering problems. **CO4.**Understand complex variable theory, application of harmonic conjugate to get orthogonal trajectories and analytic functions. **CO5.**Apply the concept of Correlation and Regression to the engineering problems in data science, machine learning, and AI. **CO 6.**Understand the concepts of probability and expectation for getting the spread of the data and distribution of probabilities.
CSC302	**Mechanics of Solids**	*Student will be ableto* **CO1.**Evaluate stress - strain behavior of elastic members and thin cylinders subjected to internal pressure **CO 2.** Draw variation of axial force, shear force and bending moment diagram for statically determinate beams and frames.. **CO 3.**Calculate Moment of Inertia for cross sections and analyse the material response under the action of shear and the effect of flexure (bending). **CO 4.** Predict the angle of twist and shear stress developed in torsion and compute direct and bending stresses. **CO 5.** Locate principal planes in members and calculate principal stresses using analytical and graphical method and to calculate strain energy stored in members due to elastic deformation. **CO6.**Evaluate slope and deflection of beams supported and loaded in different ways.

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CSC303	**Engineering Geology**	*Student will be ableto* **CO 1.**Explain the concepts of Geology and its application for safe, stable and economic design of any civil engineering structurewill be able to implement Linear and Non-Linear data structures **CO 2.** Interpret the lithological characters of the rock specimen and distinguish them on the basis of studied parameters. **CO 3.** Describe the structural elements of the rocks and implement the knowledge for collection and analysis of the geological data **CO 4.** Interpret the geological conditions for the dam site and calculate RQD for the assessment of rock masses **CO 5.** Analyze the given data and suggest rock mass rating for assessment of tunneling conditions. **CO6.**Interpret the causes of geological hazards and implement the knowledge for their prevention
CSC304	**Architectural Planning & Design of Building**	*Student will be ableto* **CO 1.**Remember and recall the intricate details of building design and drawing. **CO 2.**Understand the basic concepts of building design and drawing. **CO3.**Learn how to apply professional ethics and act responsibly pertaining to the norms of building design and drawing practices. **CO 4.**Identify, analyze, research literate and solve complex building design and drawingproblems. **CO5.**Have new solutions for complex building design and drawing problems. **CO6.**Effectively communicate ideas, related to building design and drawing, both orally as well as in written format like reports & drawings.
CSC305	**Fluid Mechanics- 1**	*Student will be ableto* **CO1.**Describe various properties of fluids and types of flow. **CO 2.** Determine the pressure difference in pipe flows, application of Continuity equation and Bernoulli's theorem to determine velocity and discharge **CO 3.** Apply hydrostatic and dynamic solutions for fluid flow applications **CO 4.**Analyze the stability of floating bodies **CO5.**Apply the working concepts of various devices to measure the flow through pipes and channels **CO 6.**Explain the compressible flow, propagation of pressure waves and stagnation properties