

Department of Civil Engineering

B.E. 3rd Sem

Course: Engineering Mathematics- III

Course Code: (3CE01)

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

- CO 1:** To apply the fundamental concepts of Ordinary Linear Differential Equation by different methods.
- CO 2:** To apply Laplace Transform to special functions & solve Differential Equation with constant coefficients.
- CO 3:** To solve first, higher order Homogeneous Partial Differential Equations with constant coefficients.
- CO 4:** To apply numerical methods to obtain approximate solutions of mathematical problems.
- CO 5:** To apply CR equations, Harmonic functions, Milne's method & conformal mapping.
- CO 6:** To apply conditional probability, Baye's Theorem, Probability distribution & Curve fitting for Line & Parabola.

Course: Strength of Materials

Course Code: (3CE02)

At the end of Strength of Materials course the student will be able:

- CO 1:** To understand the basics of material properties, stress and strain.
- CO 2:** To apply knowledge of mathematics, science, for engineering applications
- CO 3:** To identify, formulate, and solve engineering & real life problems
- CO 4:** To design and conduct experiments, as well as to analyze and interpret action and reaction Data.
- CO 5:** To understand specific requirement from the component to meet desired needs within realistic constraints of safety.
- CO 6:** To determine slope & deflection of beam.

Course: Building Construction & Engineering Geology

Course Code: (3CE03)

At the end of Building Construction & Engineering Geology course the student will be able:

- CO 1:** To understand Load bearing and Frame structure.
- CO 2:** To recognize various types of construction material and its suitability
- CO 3:** To recognize the various levels in building and its need.
- CO 4:** To know types of staircase, doors, windows and other related fixtures.
- CO 5:** To recognize types of rock and minerals and its construction properties.
- CO 6:** To know reason for earthquake and seismic waves.

Course: Transportation Engineering

Course Code: (3CE04)

At the end of Transportation Engineering course the student will be able:

- CO 1:** To identify type of roads and its utility.
- CO 2:** To understand the application of various road studies at time of survey and actual construction.
- CO 3:** To design the various types of road pavements.
- CO 4:** To understand rules regulations, signals, type of gauges and railway sleepers density.
- CO 5:** To recognize the Airport features and design concept of components for Aero plains movement.
- CO 6:** To identify types and components of Tunnels and bridges and its design components.

Course: – Concrete Technology & RCC

Course Code: (3CE05)

At the end of Concrete Technology & RCC course the student will be able:

- CO 1:** To know need and composition of binding material, cement.
- CO 2:** To recognize concrete and RCC and will be able to perform desired test for suitability,
- CO 3:** To analyze RCC Components like slab and lintels.
- CO 4:** To decide and utilize the admixtures as per the need of Concrete.
- CO 5:** To understand importance of mix design.
- CO 6:** To introduce mix design by IS 10262-2019 & Ambuja Method.

B.E. 4th Sem

Course: Building Planning Designing & CAD

Course Code: (4CE01)

At the end of Building Planning Designing & CAD course the student will be able:

- CO 1:** To make engineering drawings by First angle and Third angle method.
- CO 2:** To apply building planning principles practically while developing projects.
- CO 3:** To study the climatic conditions and decide the corresponding provision in structure.
- CO4:** To know about Bylaws, Town development authority rules and terms.
- CO 5:** To draw various plans manually and computationally.
- CO 6:** To draw various plans manually and computationally.

Course: Hydrology & Water Resource Engineering

Course Code: (4CE02)

At the end of Hydrology & Water Resource Engineering course the student will be able:

- CO 1:** To explain the hydrology and hydrological data.
- CO 2:** To analyze the hydrological methods for runoff.
- CO 3:** To evaluate the ground water hydrological problems.
- CO 4:** Explain the need of irrigation systems and its alternatives.
- CO 5:** To explain the distribution system like canal system.
- CO 6:** To study about Dams & Spillways.

Course: Surveying

Course Code: (4CE03)

At the end of surveying course the student will be able:

- CO 1:** To define principles of Surveying, Remote Sensing and Geometrics.
- CO 2:** To describe different instruments, tools, applications and techniques to determine the positions on the surface of the earth, change detection.
- CO 3:** To perform Linear measurement methods of surveying.
- CO 4:** To differentiate the techniques for setting out alignments, curves, other layouts, modern survey systems etc.
- CO 5:** To perform survey at elevation and conduct Plane Table survey.
- CO 6:** To perform Plane Table survey & Specifications.

Course: Geotechnical Engineering –I

Course Code: (4CE04)

At the end of Geotechnical Engineering –I course the student will be able:

- CO 1:** To determine the Index properties and Atterberg limits for soil classification.
- CO 2:** To understand the mechanics of compaction and quality control in field.
- CO 3:** To explain permeability of soil and methods of dewatering.
- CO 4:** To calculate the seepage discharge and design the graded filter.
- CO 5:** To understand the concept of consolidation and stress distribution in soil mass.
- CO 6:** To calculate the shear strength of different soil.

Course: Structural Analysis- I

Course Code: (4CE05)

At the end of Structural Analysis- I course the student will be able:

- CO 1:** To decide what is required to be analyzed depending upon type of structural element.
- CO 2:** To know about degree of freedom, Condition of equilibrium and determinacy of element.
- CO 3:** To understand reason for failure and permissible limits for safety.
- CO 4:** To apply the knowledge of beam analysis for practical analysis and design purpose.
- CO 5:** To make application of various analysis methods for actual structural member analysis and design.
- CO 6:** To know merits for utilization of suspension, 2 hinged and 3 hinged arches.