

# III Year II Semester

## COURSE OUTCOMES – CIVIL ENGINEERING

### Design of Steel Structures

At the end of the course, the student will be able to:

- CO 1:-** Design tension and compression members
- CO 2:-** Design beams and beam columns
- CO 3:-** Design bolt and weld connections
- CO 4:-** Design built up members and column base
- CO 5:-** Designs optimum depth of main section

### Environmental Engineering

At the end of the course, the student will be able to:

- CO 1:-** Determine the earth pressures on foundations and retaining structures
- CO 2:-** Analyze shallow and deep foundations
- CO 3:-** Calculate the bearing capacity of soils and foundation settlements
- CO 4:-** Understand soil exploration
- CO 5:-** Understand the behavior of problematic soil
- CO 6:-** Analyze the lateral stability of piles and wells

### Structural Analysis –II

At the end of the course, the student will be able to:

- CO 1:-** Works on slope deflection method
- CO 2:-** Analyze structures for gravity loads, moving loads and lateral loads
- CO 3:-** Works on stiffness method, portal method, cantilever method
- CO 4:-** Analyze one dimensional and two-dimensional structures using matrix methods of structural analysis
- CO 5:-** Analyze structures up to three degrees of indeterminacy

### Elements of Earthquake Engineering

- CO 1:-** Applies the basics of Earthquake Engineering
- CO 2:-** Demonstrate the dynamics of structural system under earthquake load
- CO 3:-** Demonstrate the principles of earthquake loading
- CO 4:-** Quantify earthquake intensity and ground motion estimate seismic soil design parameters

**CO 5:-** Analyze and design seismic resistant foundation for buildings

**CO 6:-** Prepares soil risk and micro zonation maps

### **Ground Water Hydrology**

At the end of the course, the student will be able to:

**CO 1:-** Evaluate groundwater resources using geophysical methods

**CO 2:-** Estimate aquifer parameters

**CO 3:-** Model regional groundwater flow and design water wells

**CO 4:-** Design water wells

### **Environmental impact assessment**

At the end of the course, the student will be able to:

**CO 1:-** Identify the environmental attributes to be considered for the EIA study

**CO 2:-** Formulate objectives of the EIA studies

**CO 3:-** Identifies the methodology to prepare rapid EIA

**CO 4:-** Prepares EIA reports and environmental management plans

**CO 5:-** Identifies the environmental attributes to be considered for the EIA study

**CO 6:-** Formulate objectives of the EIA studies

**CO 7:-** Identify the suitable methodology and prepare Rapid EIA

**CO 8:-** Prepares EIA reports and environmental management plans

### **Ground Improvement Techniques**

At the end of the course, the student will be able to:

**CO 1:-** Identify ground conditions and suggest method of improvement

**CO 2:-** Design and assess the degree of improvement

**CO 3:-** Understand the principles of soil reinforcement and confinement in engineering constructions

**CO 4:-** Design reinforced soil structures

### **Geotechnical Engineering Lab**

At the end of the course, the student will be able to:

**CO 1:-** Estimates the liquid and plastic limits of the soil

**CO 2:-** Finds the compactor factor of the soil by compaction factor test

**CO 3:-** Estimates the shear strength of the soils by various equipment's

**CO 4:-** Understand soil exploration methods

**CO 6:-** Classifies the soil type based on grain size analysis

### **Advanced Communication Skills Lab**

- CO 1:-** Train students to use language effectively in everyday conversations, to participate in group discussions, face interviews, and sharpen public speaking skills
- CO 2:-** Exposes the students to a varied blend of self-instructional learner-friendly modes of language instruction, including computer-aided multi-media instruction.
- CO 3:-** Enable them to learn better pronunciation through stress on word accent, intonation, and rhythm
- CO 4:-** To help the second language learners to acquire fluency in spoken English and neutralize mother tongue interference
- CO 5:-** Trains students to use language appropriately for interviews, group discussion and public speaking. Speaking with clarity and confidence thereby enhancing employability skills of the students