

Course Code	Course Name	Hours per Week			Total	Total
		L	T	P	Hrs.	Credits
EN3ES01	Basic Civil Engineering	3	0	2	5	4

Unit-I Introduction To Civil engineering

Role of Civil Engineer in the construction of buildings, dams, expressways and infrastructure projects for 21st century. Importance of an inter- disciplinary approach in engineering.

Building Materials: Bricks composition, classifications, properties and uses. Stone classification of rocks, quarrying, and Dressing properties uses. Timber properties uses ply wood.

Cement : grades ,types, properties, uses.

Steel: types, mild steel, medium steel, hard steel, properties, uses, market forms.

Concrete: grade designation, properties, uses.

Unit-II Material Properties

Forces and its components , Resolution and summation of forces , center of gravity, Stress, strain types, Hook's law, three moduli of elasticity, poissons ratio, relationship, factor of safety

Unit-III Building Components

Building selection of site, classification components. Soils: types of soils, bearing capacity of soils, Foundations functions, classifications. Flooring requirements, selection types, cement concrete marble, terrazzo floorings. Roof - types and requirements.

Unit-IV Basic Infrastructure

Surveying-classification, general principles of surveying – Basic terms and definitions of chain, compass and leveling surveying , uses of surveying , contours, their characteristics and uses.

Unit-V Water Supply and Sewage Disposal

Dams purpose, selection of site, types of dams and components. Water supply, objective, quantity of water, sources, standards of drinking water, distribution system. Sewage classification technical terms septic tank components and functions.

Text Books

1. K.V.B. Raju and P.T. Ravichandran, Basics of Civil Engineering, Ayyappa Publications, Chennai, 2012.
2. S. Gopi, Basic Civil Engineering, Pearson Publishers, 2009.
3. S.C. Rangwala, Building materials, Charotar Publishing House, Pvt. Limited.
4. M.S. Palanichamy, Basic Civil Engineering, Tata Mc Graw Hill.
5. S.Ramamurtham , BAsicCivil Engineering and Engineering Mechanics , Dhanpat Rai.

List of Practicals

1. To determine particle size distribution & fineness modulus of coarse and fine aggregates.
2. To determine (a) normal consistency (b) Initial and final setting time of cement sample by Vicat's apparatus.
3. To determine the workability of fresh concrete of given proportion by slump cone test.
4. To determine the area of land by chain surveying.
5. To perform traverse surveying with prismatic compass check for local attraction and determine corrected bearing and to balance the traversing by Bowditch's rule.
6. To perform levelling practices by (A) height of Instrument and (B) Rise and Fall methods.
7. To perform Plane Table Surveying work by (A) Radiation method and (B) Intersection methods.
8. To measure horizontal and vertical angles in the field by using Theodolite.
9. To find young's modulus of elasticity
10. To find C.G. of a plane area