

Syllabus of Civil Engineering (Diploma)

(1) Material of construction

Cement: composition, Types of cements, tests on cements (Lab & Field)

Bricks: Classes of Bricks as per I.S Specifications test on bricks, substitutes of Bricks

Aggregates: Fine and course aggregates, tests and objectives of tests.

Cement Mortar: Proportions and its application for various works.

Concrete: Ingredients proportions workability, tests and objectives of tests.

Timber: Hard & Soft wood their Differences, Defects, Seasoning of timber.

(2) Design of Concrete and Masonry Structures

Limit state design for bending, shear, axial compression and combined forces. Codal provisions for slabs, beams, walls and footings. Working stress method of design of R.C. members.

(3) Hydraulic Machines and Pumps, types:

Centrifugal pumps, types, performance parameters, scaling, pumps in parallel; Reciprocating pumps, air vessels, performance parameters; Hydraulic ram.

(4) Water Supply Engineering:

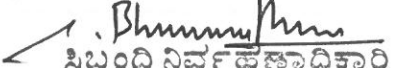
Sources of supply, yields, design of intakes and conduits; water demands; Water quality standards; Control of water-borne diseases; Primary and secondary treatment, detailing and maintenance of treatment units; Conveyance and distribution systems of treated water, leakages and control.

(5) Wastewater Engineering:

Systems of sewage collection and disposal; Design of sewers and sewerage systems; pumping; Characteristics of sewage and its treatment, Disposal of products of sewage treatment, stream flow rejuvenation; Institutional and industrial sewage management; Plumbing Systems.

(6) Strength of Material (SOM)

geometrical properties of sections, simple stresses and strains, bending moments and shear force, theory of simple bending slope and deflection of beams (by Moment area method only) stress-strain relations, uniaxial loading; Beams: Bending moment and shear force diagram, bending stresses and deflection of beams. Shear stress distribution. Torsion of shafts, helical springs. Combined stresses, thick and thin-walled pressure vessels. Struts and columns. Strain energy concepts and theories of failure.


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