

SYLLABUS :-

Casting and load-deformation test of reinforced concrete and posttensioned beams. Cement test: Standard consistency; setting times; compressive strength; fineness and soundness, Aggregate Tests: Sieve analysis; Bulking of sand; Aggregate crushing value; Absorption; Unit weights. Tension test of MS, HYSD, HT bars: Yield/ Proof stress, Ultimate Strength, Young's modulus, percentage elongation. Compressive strength of bricks and Pre-conditioning. Load deformation testing of steel beam. Concrete mix design and slump test; Demonstration of flow table, compacting factor and V.B. tests. Study and fixing of electrical resistance strain gages. Determination of E value, Poisson's ratio, Stress Intensity Factor. Calibration of load cells. Dynamics of SDOF, MDOF systems. Photo-elasticity, Properties of hardened concrete and FRC specimens. Compressive strength of cubes by Non-Destructive Testing, Indirect tensile strength of cylinders and FRC cylinders, Modulus of rupture of prisms (2-point and central loading) and FRC prisms