SUBJECT NO-CE21005, SUBJECT NAME- SOLID MECHANICS

LTP- 3-1-0,CRD- 4

SYLLABUS :-

Stress Analysis-Strength of material approach; Bending of non-symmetric sections; Beams on Elastic Foundation; Curved Beams; Beam-Columns Theory of Elasticity-Introduction of theory of elasticity Simple problems (semi-inverse method); Thick cylinders and pressure vessels; Torsion on non-circular sections; cellular members Energy Methods- Min. Potential and complementary energy; Betti-Maxwell Reciprocal theorem; Curved Members, rings, closed boxes, frame Constitutive relations: Anisotropy; Plasticity; Visco-elasticity (Kelvin, Voigt, 3-element); Thermo-elasticity Theories of failure- Practical considerations for Design; Stress concentration; Fatigue Dynamic loading; Creep and relaxation.