

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. Semester II
Civil Engineering (Structural Engineering)

Subject: - Theory of Plates and Shells (Major Elective III)

Sr. No.	Course Content
1.	General theory of bending of plates. Derivation of differential plate equation for isotropic and orthotropic plate element
2.	analysis of isotropic plates: solution of Bi-harmonic equation by Navier's and Levy's methods for uniform pressure and concentrated point loads, strip loads and triangular loads.
3.	Particular cases or solution for rectangular and circular plates of different boundary conditions under uniformly distributed pressure.
4.	Analysis of plates by Finite difference method, Energy methods.
5.	Yield line theory of RC slab plates having different shapes, support conditions for uniformly distributed pressure.
6.	Shells: Classification of shells. Structural behaviour of shells with different boundary conditions. Membrane and bending analysis of Cylindrical and spherical (Domes) shells.

REFERENCE BOOKS:

1. Timoshenko SP and Krager SW, "Theory of Plates & Shells", McGraw Hill,
2. Chandrasekhra K, "Theory of Plates", Universities Press,