

GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for B.Arch

THIRD SEMESTER

SUBJECT NAME: Structure-III

SUBJECT CODE: 1035003

Focus:

Understanding of basic theories and principles of structural analysis.

Understanding of properties of materials relevant to structural analysis.

Understanding of behaviour of structural elements under various conditions.

Content:

- Understanding and identifications of location of forces, bending moment and bending stress in fixed beams, over hanging beams, continuous beams, portal frames etc.
- Deflection in simply supported beams and cantilevers with distributed and point loads.
- Columns and struts-short and long columns, slenderness ratio etc.
- Combined bending and direct stresses, axial and eccentric loads effect of eccentricity, e. g. masonry wall, and chimney.
- Fixed beams simple support and fixed support, advantages and disadvantages.
- Determination of positive and negative bending moments in fixed beams. (Confine the loading to point and UDL covering full span only).
- Continuous beams – negative and positive bending moments in continuous beams covering two or more spans of uniform section and simple loading by moment distribution method. Symmetrical Portal frames.
- Strain Energy.