GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma in Architectural Assistantship

Semester: 3

Subject Code
Subject Name STRUCTURE- I

Sr. No.	Course content
1.	**INTRODUCTION :** 1.1 Engg. Mechanics (Statics and dynamics) 1.2 Scalar and vector quantities 1.3 Fundamental units and derived units 1.4 International system of units 1.5 S.I units for different quantities
2.	**COPLANAR CONCURRENT FORCES :** 2.1 Introduction 2.2 Classification of forces 2.3 Concept of force 2.4 Unit of force 2.5 Free body diagram 2.6 Composition of forces • Law of parallelogram of forces (examples) • Lami's theory (examples) 2.7 Resolution of forces in x & y directions 2.8 Equilibrium of force in x & y directions 2.9 Examples on composition of more than three forces
3.	**COPLANAR NON - CONCURRENT FORCES :** 3.1 Principles of moment 3.2 Conditions of equilibrium of coplanar non concurrent forces 3.3 Different types of statically determinate beams 3.4 Types of loads 3.5 Types of supports 3.6 Reactions of beam supports (examples)
4.	**CENTRE OF GRAVITY :** 4.1 Definition of centre of gravity and centroid 4.2 Centroid for different figures (examples) 4.3 Centre of gravity for different bodies (examples)
5.	**TRUSSES :** 5.1 Types of trusses, uses suitability and limitations 5.2 Analysis of truss by • Joint method • Graphical method

Reference Books:

1. Applied Mechanics - Khurmi
2. Applied Mechanics - Ramamurthy
3. Strength of materials - Timoshenko
4. Applied Mechanics - Beer & Johnbian.

Note : Equal weightage to theory and examples