

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

Subject: - Structural Dynamics

Sr. No	Course Content
1	Free and forced vibration of single degree of freedom (SDOF) system, response to Harmonic, periodic, impulsive and general dynamic loading on an element. Response of SDOF to earthquake. Numerical integration Techniques.
2	Free vibration of lumped, multidegree of freedom (MDOF) system – Approximate methods for obtaining natural frequencies and mode shapes.
3	Free and forced vibration of continuous multidegree of freedom system.
4	Shear building analysis.

REFERENCE BOOKS:

- 1 Clough and Penzien, “
- 2 .Dynamics of Structures”, McGraw Hill, Kogokusha
- 3 Mario Paz, “Structural Dynamics-Theory and computaitons”, 2/e/1999, CBS Publishers.
- 4 Mukhopadhyay Mandhujit, “Vibrations, Dynamics and Stgructural Systems”, Oxford and IBH, 1/e/2000
- 5 Chopra Anil K., “Dynamics of Structures- Theory and Applications to Earthquake Engg.”, Prentice Hall, India, 2/e/2002