

K L UNIVERSITY
STRUCTURAL ANALYSIS (11 - CE 301)

Pre – requisite: 11-ES201, 11-CE204

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3	0	2	4

SYLLABUS

Propped Cantilevers and Fixed Beams: Analysis of propped cantilevers with point load, partially loaded u.d.l and uniformly varying load, fixed beam with point load, udl, Unsymmetrical concentrated load and varying load, **Analysis of Continuous beams:** Clapereyon’s theorem of Three moments, analysis of beam with constant EI for all span, varying EI for different span, sinking of supports. **Analysis of Structure by Slope Deflection Method:** Difference between force method and displacement method. Advantage of displacement method. Analysis of indeterminate beams, Beams with uneven support settlement, rigid frames by slope deflection method. **Analysis of Structure by Moment Distribution Method:** Advantage of moment distribution method, stiffness, carry over and distribution factor, analysis of indeterminate beams and rigid frames, uneven settlement of support for beam and rigid frame by moment distribution method. **Approximate Methods:** Analysis of multi-storied frame by cantilever, portal and factor method for lateral loads.

TEXT BOOKS:

1. Intermediate Structural Analysis by C. K. Wang, McGraw Hill Book Company, 2010
2. Menon, Devdas. Structural Analysis Structural Analysis, Narosa Publishing House Narosa Publishing House Pvt. Ltd., New Delhi, 2008.

REFERENCE BOOKS:

1. Basic Structural Analysis by C S Reddy, Tata McGraw Hill publishing Company ltd. Delhi. 2nd edition 2010.
2. Structural Analysis by T.S Thandavamoorthy, Oxford University Press, New Delhi, First edition, 2011.
3. Fundamentals of Structural Mechanics and Analysis by M L Gambhir, PHI learning private limited, New Delhi, 2011.