

09ENG 3.5 – STRUCTURES – III

Written by Administrator
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CONTACT PERIODS: 3 (LECTURE) PER WEEK

DURATION OF EXAM : 3 HRS

THEORY MARKS : 100

PROGRESSIVE MARKS : 50

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Objective:

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To give an insight into the structural behavior of columns and beams

Outline:

Introduction to Torsion theory with simple problems.

Columns and Struts – Effective length, critical load, slenderness ratio, Euler's equation for different end conditions. Rankine's formula

Slope and deflections of Cantilever, simply supported and overhang beam using double integration and Macaulay's method of different load conditions. Moment area method for simple case of loading

Note: The teacher is also expected to expound the structural concepts introduced in non-mathematical terms with examples and application in architectural design.

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References:

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- 1) “Strength of Materials” by SS Bhavikatti

- 2) “Strength of Materials” by Basavarajaiah BS and Mahadevappa