CE8502 STRUCTURAL ANALYSIS I   L T P C 3 0 0 3

UNITI STRAIN ENERGY METHOD 9

Determination of Static and Kinematic Indeterminacies – Analysis of continuous beams, plane frames and indeterminate plane trusses by strain energy method (up to two degree of redundancy).

UNITII SLOPE DEFLECTION METHOD 9

Slope deflection equations – Equilibrium conditions - Analysis of continuous beams and rigid frames – Rigid frames with inclined members - Support settlements-symmetric frames with symmetric and skew-symmetric loadings.

UNITIII MOMENT DISTRIBUTION METHOD 9

Stiffness and carry over factors – Distribution and carryover of moments - Analysis of continuous Beams- Plane rigid frames with and without sway – Support settlement - symmetric frames with symmetric and skew-symmetric loadings.

UNITIV FLEXIBLITY METHOD 9

Primary structures - Compatibility conditions – Formation flexibility matrices - Analysis of indeterminate pin- jointed plane frames, continuous beams and rigid jointed plane frames by direct flexibility approach.

UNITV STIFFNESS METHOD 9

Restrained structure –Formation of stiffness matrices - equilibrium condition - Analysis of Continuous Beams, Pin-jointed plane frames and rigid frames by direct stiffness method.

TEXTBOOKS:

1. Bhavikatti, S.S,Structural Analysis,Vol.1,& 2, Vikas Publishing House Pvt.Ltd.,NewDelhi-4, 2014.

2. Bhavikatti, S.S, Matrix Method of Structural Analysis, I. K. International Publishing House Pvt.Ltd., New Delhi-4, 2014.

3. Vazrani.V.N And Ratwani, M.M, Analysis of Structures, Vol.II, Khanna Publishers, 2015.

4. Pandit G.S.andGupta S.P.,Structural Analysis–AMatrix Approach, Tata McGraw Hill Publishing Company Ltd.,2006

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1. Punmia. B.C, Ashok Kumar Jain & Arun Kumar Jain, Theory of structures, Laxmi

Publications, New Delhi, 2004.