

## **CE 208: STRUCTURAL ANALYSIS-II (3-0-0: 3)**

### **Classical methods of analysis of framed Structures**

Slope deflection method, Moment distribution method, Kanis Method – application to analysis of indeterminate Beams and Building frames.

### **Analysis of Building Frame**

Approximate Method of Analysis of Building frame subjected to gravity loads and lateral loads, Portal Method and Cantilever method.

### **Matrix Methods of Structural Analysis**

Introduction to Matrix Methods-Flexibility Method and displacement method. Local and global stiffness matrices, assembly, band storage, solution of resulting simultaneous algebraic equation, boundary conditions, application to beam, plane and space truss, analysis of plane.

### **Plastic Method of Structural Analysis**

Concept of Redistribution of internal forces. Shape factor, combined mechanism methods for Plastic Collapse Load of beams, plastic moment distribution, deflections at point of collapse. Brief introduction to finite element method with its principles.

### **Text Books**

1. Weaver W. and Gere J. M., "Matrix analysis of framed structures", CBS Publishers.
2. Wang C.K., "Intermediate Structural Analysis", Tata McGraw Hill.

### **References**

1. Reddy C.S., "Basic Structural Analysis", Tata McGraw Hill.
2. Pandit G.S. and Gupta S.P. "Structural Analysis - A matrix approach", Tata McGraw Hill.
3. Norris C.H. Wilbur J.B. Utku S., "Elementary Structural Analysis", Tata McGraw Hill.
4. Kanchi, M.B., "Matrix Methods of Structural analysis", Wiley Eastern Limited.