JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2023

B.Tech-V Semester (CE)

COURSE CODE (CREDITS): 18B11CE513 MAX. MARKS: 25

COURSE NAME: STRUCTURAL ANALYSIS

COURSE INSTRUCTORS: Mr. Chandra Pal Gautam MAX. TIME: 1 Hour 30 Minutes

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***Note:*** ***(a)*** *All questions are compulsory.*

***(b)****Marks are indicated against each question in square brackets.*

***(c)*** *The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems*

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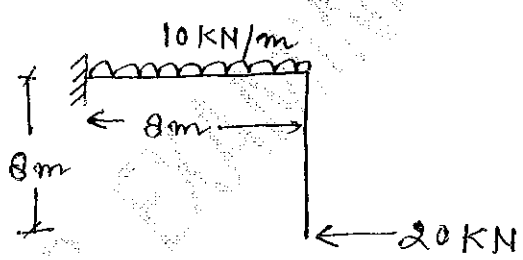
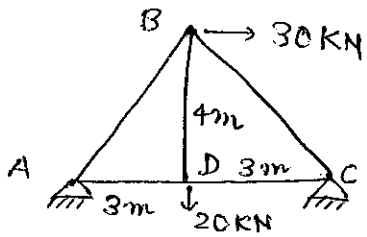
**Q.1.** **(i)** State the reason why indeterminate truss can't be solved by using Slope Deflection Equation Method.

**(ii)** Define fixed end moment. Compare the fixed beam with simply supported beam in term of slope, deflection and reinforcement pattern. **[1+2 = 3] (CO -1, CO-2)**

**Q.2.** Find the deflection at joint B along X axis for the frame shown below, by using Unit Load Method. **[6] (CO - 2)**




Q.3. Solve the indeterminate truss, shown below by using Force Method and also find the forces in all the members. **[8] (CO -3)**




**Q.4.** Solve the indeterminate beam shown below by using Slope Deflection Equation. Draw the bending moment diagram and reinforcement pattern in the beam assuming it a RCC beam. **[8] (CO -3)**