

CLASS: B.TECH.
BRANCH: CIVIL

SEMESTER : IV
SESSION : SP2023

SUBJECT: CE207 STRUCTURAL ANALYSIS - II

TIME: 02 Hours

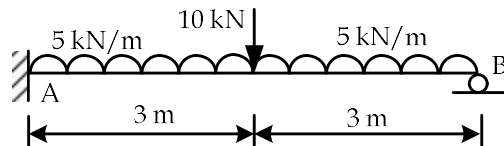
FULL MARKS: 25

INSTRUCTIONS:

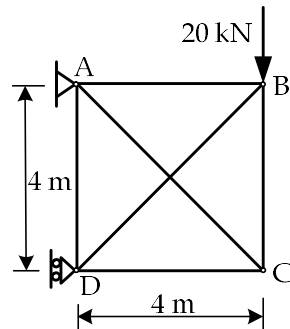
1. The question paper contains 5 questions each of 5 marks and total 25 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates

- | | | CO | BL |
|--|-----|-----|----|
| Q.1(a) Define flexibility and stiffness. | [2] | 1,2 | 1 |
| Q.1(b) Write a short note on the advantages and disadvantages of indeterminate structure over determinate structure. | [3] | 1,2 | 2 |

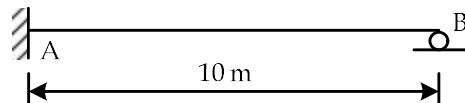
- Q.2 Determine the support reactions of the propped cantilever beam given in the figure. [5] 2,3 4
Consider the flexural rigidity (EI) to be constant throughout the beam length.



- Q.3 Find the force (with nature) in member BD of the truss shown in the figure given below. [5] 2,3 3
Cross-sectional area and modulus of elasticity for all the members are 500 mm^2 and 200 GPa , respectively.



- Q.4 A horizontal propped cantilever beam AB is 10m long. Draw the influence line diagram (ILD) for support reaction at the roller support (i.e., B). Compute the ordinates at intervals of 2 m. [5] 2,3 3



- Q.5 Solve the continuous beam ABC (given in the figure) using slope deflection method to compute the moments at A and B. Flexural rigidity (EI) is constant throughout the span of the beam. [5] 2,3 3

