04) 3 PM

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2025

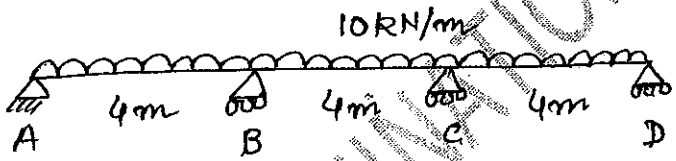
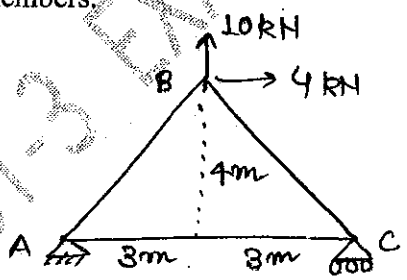
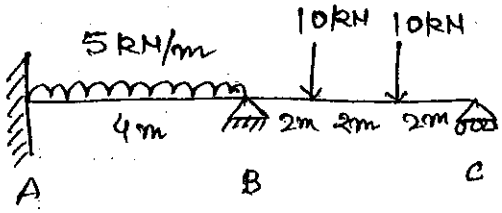
M.Tech-I[st] Semester (SE)

COURSE CODE (CREDITS): 25M11CE113 (3) MAX. MARKS: 35

COURSE NAME: Advanced Structural Analysis

COURSE INSTRUCTORS: Mr. Chandra Pal Gautam MAX. TIME: 2 Hours

Note: *(a) All questions are compulsory. Calculator is allowed.*
(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems.

Q.No	Question	CO	Marks
Q1	1. Differentiate between flexibly method and stiffness method. 2. Discuss the use of transformation matrix and derive the same for displacement and force matrix in truss.	CO-3	(3+4 = 7)
Q2	Write the flexibility matrix of the given beam and find the unknown support reactions. Do the node numbering as per your convenience. 	CO-5	8
Q3	Solve the given truss by using Stiffness Matrix Method. Assume AE is constant for all members. 	CO-4	10
Q4	Solve the given beam by using Stiffness Matrix Method. Assume E = 200GPa and I = 22 x 10^{-6} m^4 for all members. 	CO-5	10