

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2016

B.Tech. - IV Semester

COURSE CODE: 10B11CE413

MAX. MARKS: 25

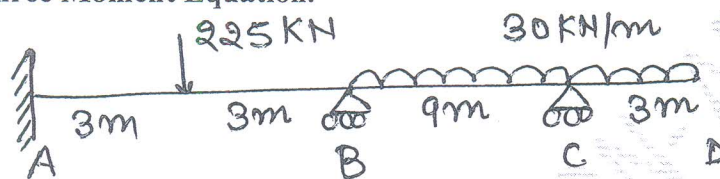
COURSE NAME: STRUCTURE ANALYSIS

COURSE CREDITS: 04

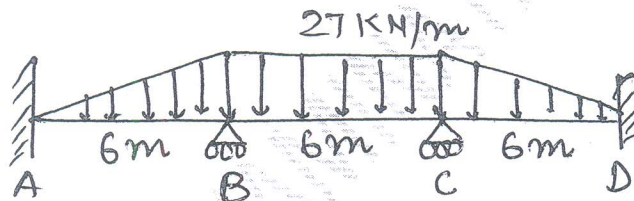
MAX. TIME: 1Hr 30 Min

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

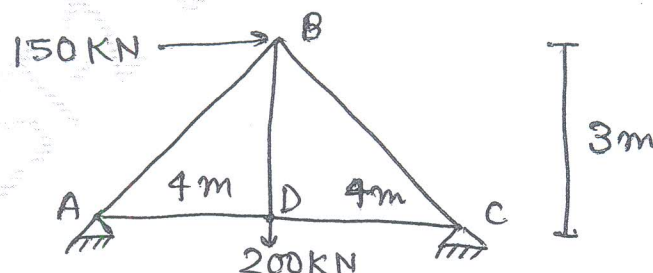
Q.1. Determine the end moments and draw the bending moment diagram of the beam shown below by **Three Moment Equation**. (7)



Q.2. Draw the bending moment diagram and deflection pattern of beam shown below. Use **Slope Deflection Equation**. Assume $E = 200 \text{ GPa}$ and $I = 700 \times 10^6 \text{ mm}^4$. (6)



Q.3. Determine the support reactions and forces in each member of the truss shown below by **Force Method**. Assume $A = 1200 \text{ mm}^2$ for all members and $E = 200 \text{ GPa}$. (6)



Q.4. Find the maximum bending stress in beam whose support B settles by 10 mm. The cross section of beam is rectangular as shown next to the beam. Use **Slope Deflection Equation**. Assume $E = 200 \text{ GPa}$. (6)

