

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- December-2021

B.Tech. Vth Semester

COURSE CODE: 18B11CE513/10B11CE413

MAX. MARKS: 35

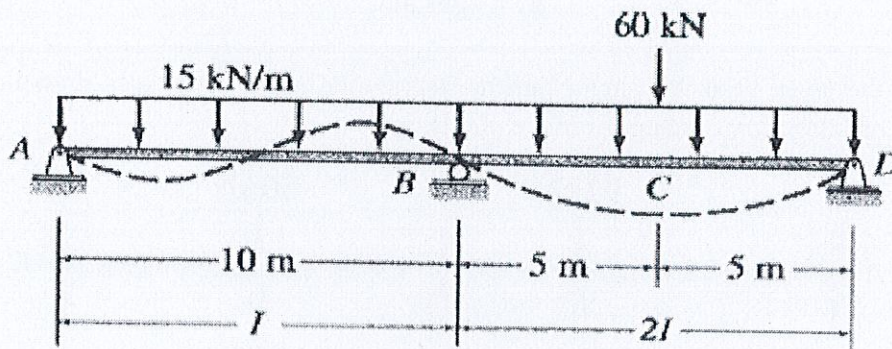
COURSE NAME: Structure Analysis

COURSE CREDITS: 03/04

MAX. TIME: 2 Hours

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

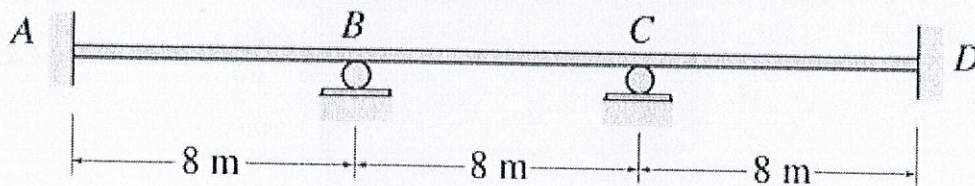
Q.1 Determine the member end moments and reactions for the continuous beam shown below by using slope deflection method. (7)



$$E = 200 \text{ GPa}$$

$$I = 700(10^6) \text{ mm}^4$$

Q.2. Determine the reactions and draw the shear and bending moment diagrams for the continuous beam shown below due to a settlement of 20 mm at support B. Use the slope-deflection method. (7)

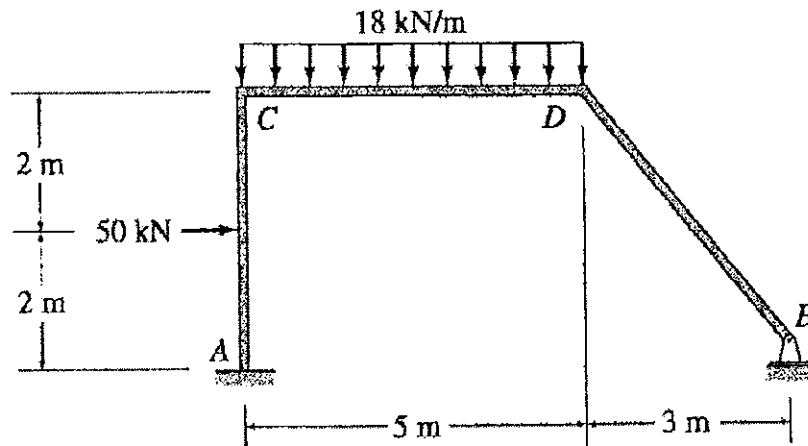


$$E = 70 \text{ GPa} \quad I = 800 (10^6) \text{ mm}^4$$

(a) Continuous Beam

Q.3 Solve the given frame by using Slope Deflection Equation.

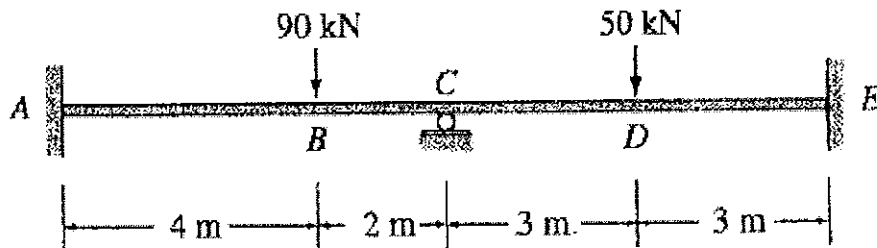
(7)



$EI = \text{constant}$

Q.4. Solve the given beam by using Moment Distribution Method and also draw the bending pattern and bending moment diagram of the problem.

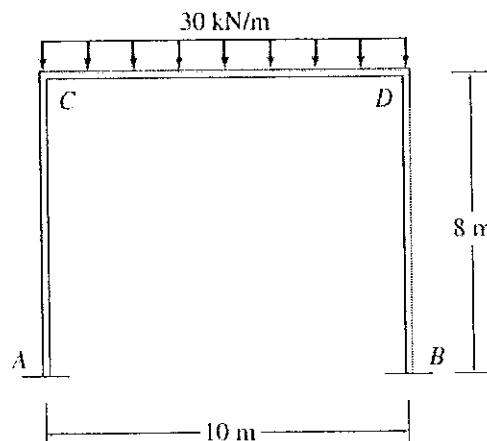
(7)



$EI = \text{constant}$

Q.5. Solve the given frame by using Moment Distribution Method.

(7)



$EI = \text{constant}$