JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- Oct 2017

M.Tech.Ist Semester

COURSE CODE: 11M1WCE111   MAX. MARKS: 25
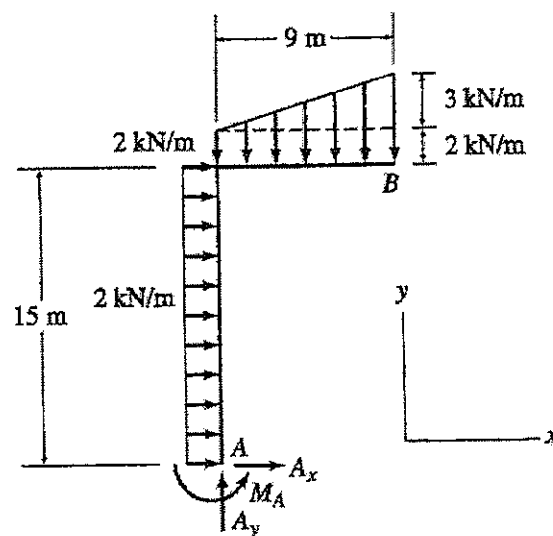
COURSE NAME: ADVANCED STRUCTURAL ANALYSIS

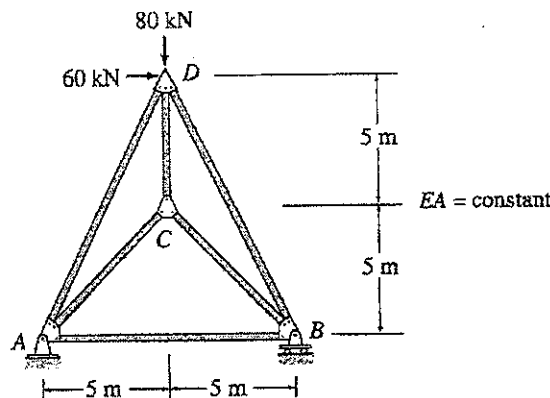COURSE CREDITS: 4   MAX. TIME: One Hour Thirty Minutes

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.
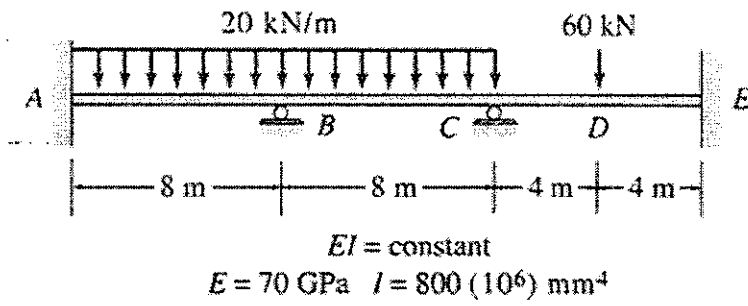
Q.1. Find the Deflection at joint B in y direction of the given frame.   (6)

Q.2 Solve the given truss by Force Method & find forces in all members.   (7)

Q.3. Solve the given beam by Slope Deflection Equation and Draw the bending moment diagram.   (7)

20 kN/m   60 kN

A   B   C   D   E

8 m — 8 m — 4 m — 4 m

EI = constant

$E = 70$ GPa $I = 800\,(10^6)$ mm^4

Q.4. Draw the shear force & bending moment diagram and deflection pattern of the given beam.

(5)

50 kN

6 m

100 kN

B

3 m — 3 m — 3 m — 3 m

100 kN   A

6 m

100   30°
kN