

B.E. / B.Tech. Civil Engineering (Model Curriculum) Semester-VI
PCC-CE604 / STRUC1 - Structural Analysis-II

P. Pages : 3



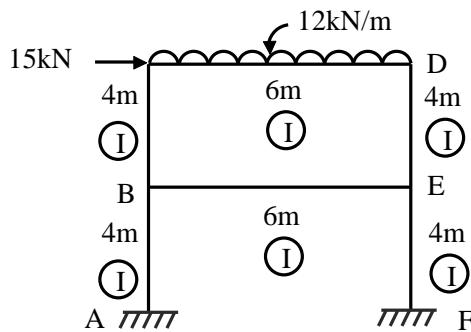
Time : Three Hours

GUG/S/25/13735

Max. Marks : 80

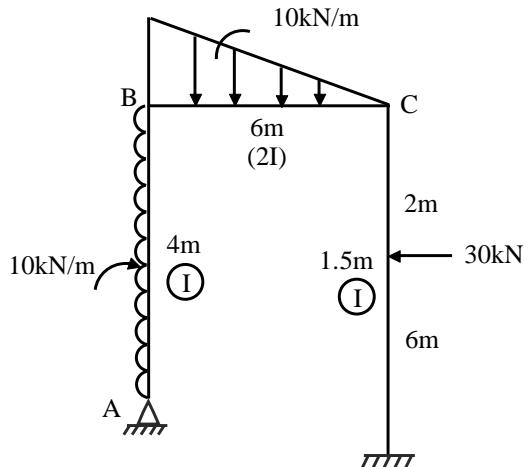
- Notes :
1. All questions carry equal marks.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.
 4. Illustrate your answers wherever necessary with the help of neat sketches.

- 1.** Analyze the frame shown in fig by Kani's method & Draw BMD. 16

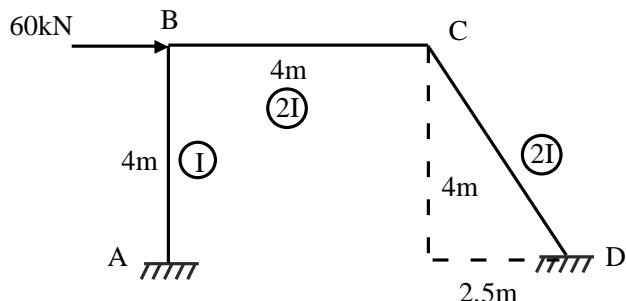


OR

- 2.** Analyze the frame shown in fig. by Kani's method & draw BMD. 16



- 3.** Analyze the frame shown in fig. by moment distribution method & draw BMD. 16

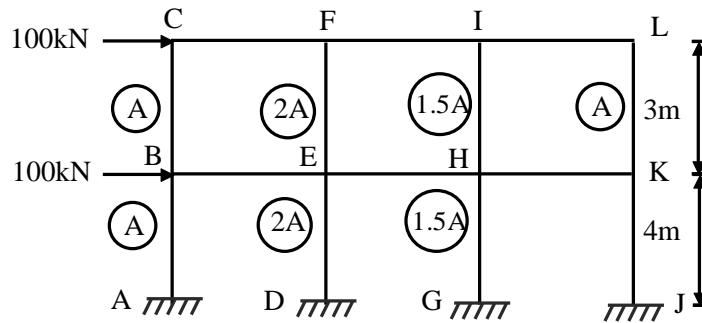


OR

4.

Analyze the given frame by using cantilever method.

16

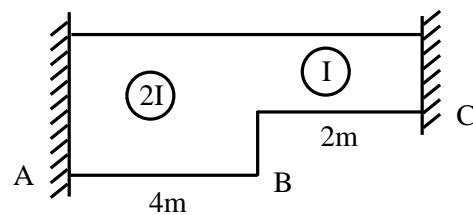


5.

a) For the beam shown in fig below calculate

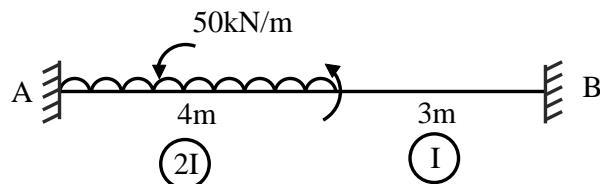
- 1) Rotational stiffness at A.
- 2) Carry over factor from A to B
- 3) Carry over factor, from B to A

6



b) Analysis the beam shown in fig by column analogy method & draw BMD.

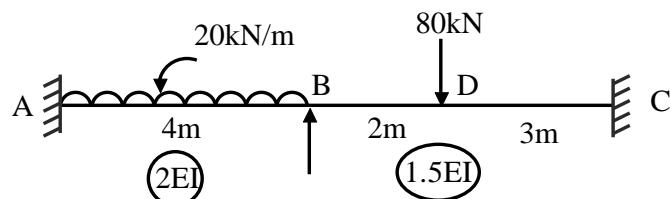
10



6.

Analysis the beam by flexibility matrix method & Draw BMD.

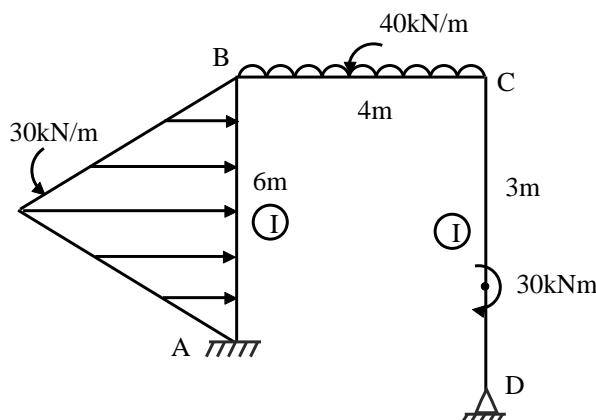
16



7.

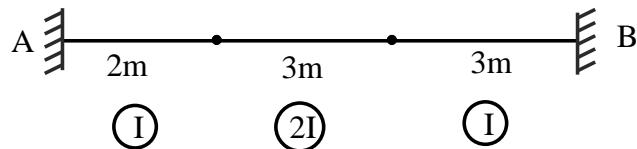
Analyze the frame shown in fig by Moment distribution method & draw BMD.

16

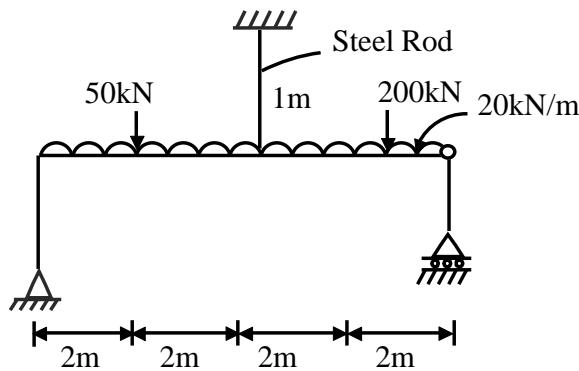
**OR**

8. a) A fixed beam of span 'L' carries a concentrated load W at midpoint determine the support moment using column analogy method. 8

- b) The beam shown in fig. below calculate; 8
 1) Rotational stiffness at A.
 2) Carry over factor from A to B.
 3) Moment at A for unit vertical downward displacement at B.



9. Analyze the given truss. 16



- 1) Wooden beam = 200 x 300 mm
 $E_w = 1 \times 10^4 \text{ N/mm}^2$
 $E_{st} = 2 \times 10^5 \text{ N/mm}^2$
 Steel Rod 30 mm ϕ & 1 m long.

OR

10. Write short notes on following in detail.

- 1) Circular polarization. 8
 2) Plain stress & plain strain problem. 8
