OR

8. Analyse the continuous beam shown in figure (viii) by the flexibility matrix method and draw the BMD. 14

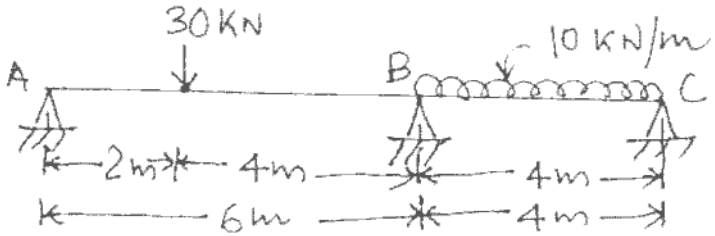

Figure-viii

Unit - V

9. Determine the influence line for the shear force at D, the middle point of span BC, of a continuous beam shown in figure (ix). Compute the ordinates at 1m interval. 14

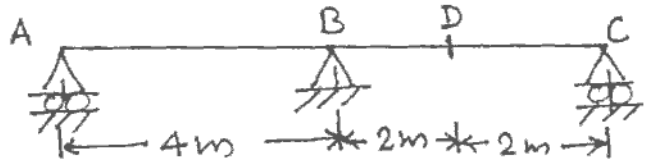

Figure-ix

OR

10. a) What is a beam column? How does the structural behaviour of a beam column differ from a column? 4

b) A steel strut 1m long is 30 mm in diameter. It is subjected to an axial thrust of 18 kN. A lateral load W acts at the centre of the strut. If the strut fails at a maximum stress of 320 MN/m^2, determine the magnitude of W. Take $E = 210\ GN/m^2$. 10

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Roll No .....

CE - 601

B.E. VI Semester

Examination, December 2014

Theory of Structures - II

Time : Three Hours

Maximum Marks:70

Note: i) Attempt all questions.
ii) Internal choice is given under each unit.
iii) All questions carry equal marks, until unless it is mention over the question.

Unit - I

1. Analyse portal frame shown in figure (i) by using moment distribution method. Also draw BMD and sketch deflected shape of portal frame. 14

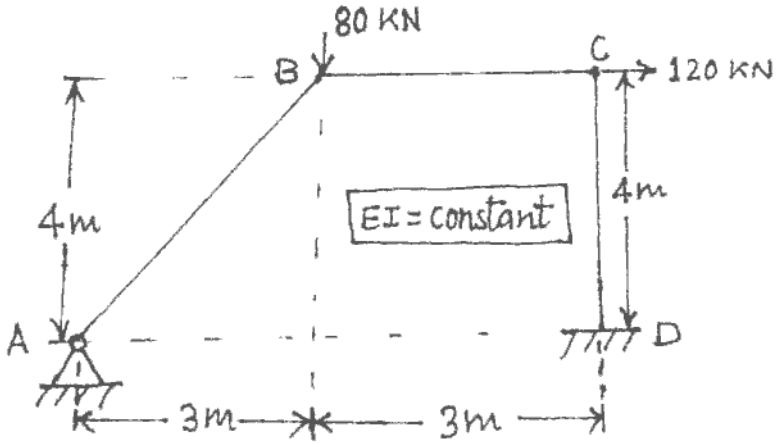

Figure-i

OR

2. Analyse the portal frame shown in figure (ii) by Kani's method. Draw the BMD. 14

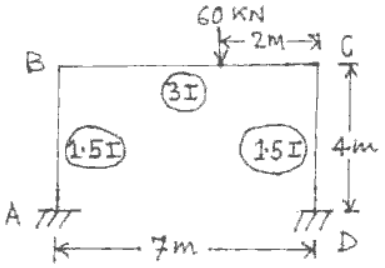

Figure-ii

Unit - II

3. A portal frame shown in figure (iii) is loaded upto collapse. Determine the plastic moment of resistance required if the section is uniform throughout. Draw BMD. 14

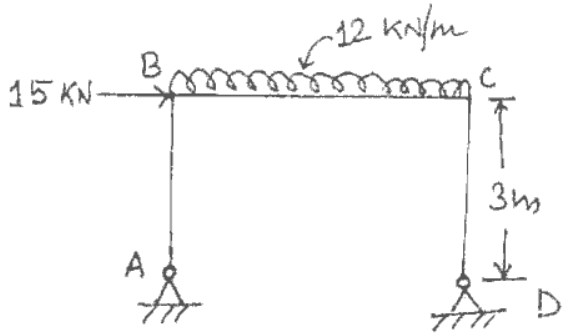

Figure-iii

OR

4. Determine the load factor for portal frame shown in figure (iv) if plastic moment capacity of all the members is 15 kNm.

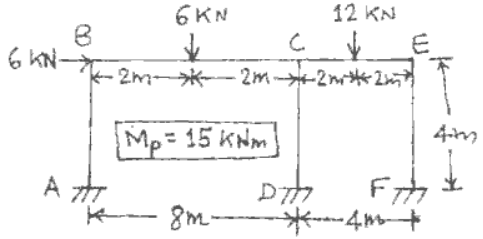

Figure-iv

Unit - III

5. Analyse the building frame shown in figure (v) by portal method when the frame is subjected to horizontal loading. Also draw BMD. 14

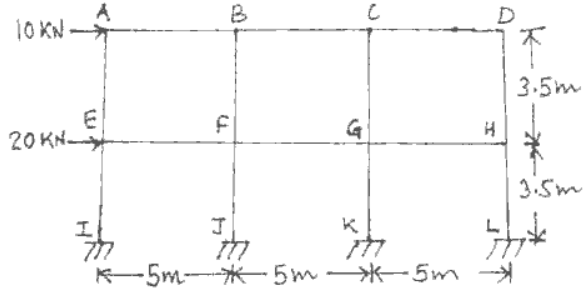

Figure-v

OR

6. Determine the forces in the members of the building frame shown in figure (vi) by cantilever method. Also draw BMD. 14

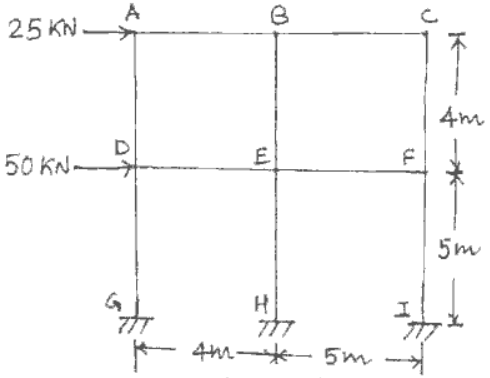

Figure-vi

Unit - IV

7. Analyse the beam shown in figure (vii) by matrix stiffness method. EI is constant. Draw BMD. 14

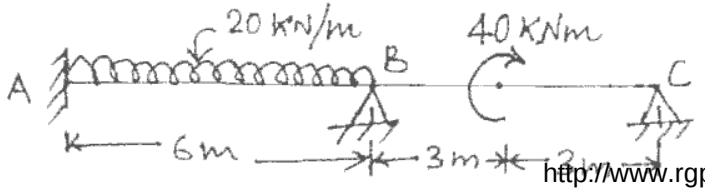

Figure-vii