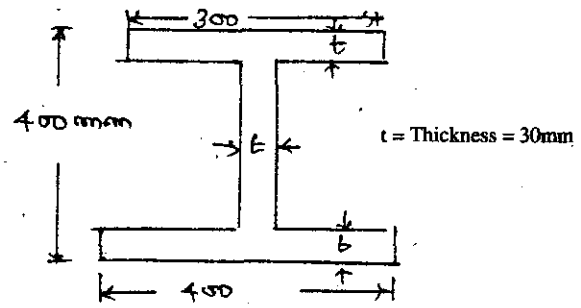
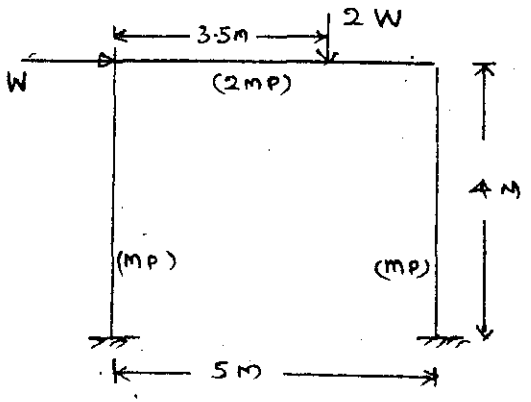
IX. (a) Write brief notes on the following:
(i) Shape factor (ii) Plastic hinge
(iii) Load factor (9)

(b) Find the shape factor of the unequal section as given in figure. (11)



OR

X. Determine the collapse load for the column beam mechanism as in figure below: (20)



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BTS (C) 058 (I)

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B.Tech. Degree IV Semester Examination November 2002

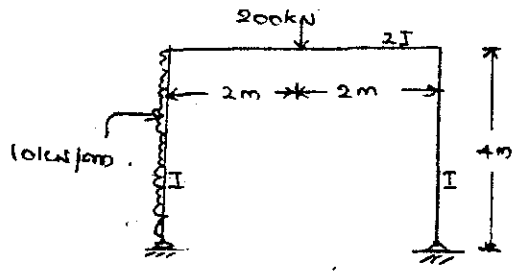
CE 403 ANALYSIS OF STRUCTURES II

(1995 Admissions)

Time: 3 Hours Maximum Marks: 100

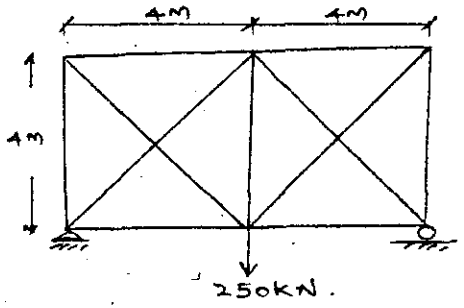
I. (a) Derive expression for three moments equation and state its uses in structural analysis. (8)

(b) A portal is loaded as in figure below. Analyse the frame and draw BMD using consistent deformation method. (12)



OR

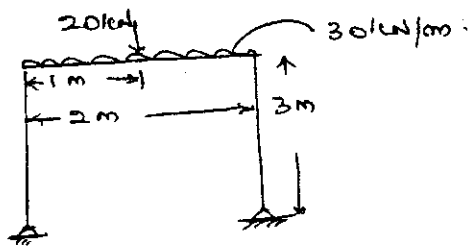
II. Find the forces in members of a truss as in figure below. The chord members have cross section areas of 3000mm² and diagonals 1500mm². (20)



(Turn over)

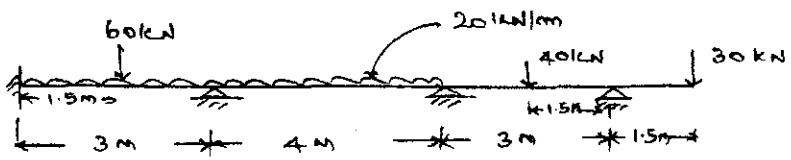
III. (a) Enumerate the process of main computations in moment distribution method and state the significances of carry over and distribution factors. (8)

(b) Analyse the portal given below and draw BMD using moment distribution method. Consider I same throughout. (12)



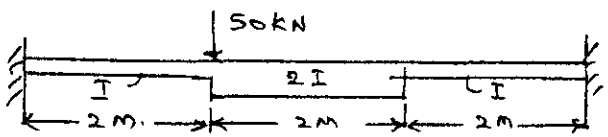
OR

IV. Analyse the continuous beam as in figure below and draw BMD. Use Kani's method. (20)



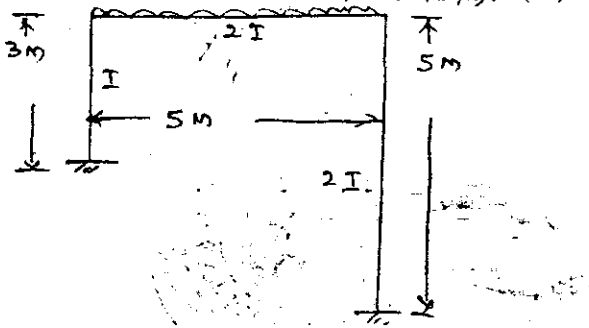
V. (a) Explain the advantages and disadvantages of column analogy method of analysis. (5)

(b) Determine the moments and draw BMD for a beam given below: (15)



OR

VI. Analyse the portal using column analogy method and draw the BMD. (20)

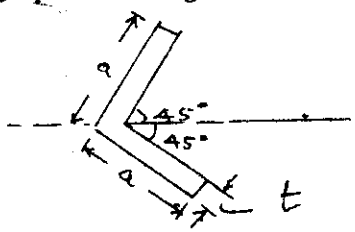


VII. (a) State the advantages and disadvantages of the circular beam. (5)

(b) Derive expression for M_{max}, T_{max} and support moments for a circular ring beam of a water tank supported by six columns equallay spaced. Find their values if the UDL including self wt is 150KN/m and the diameter of the ring beam is 6.0m. (15)

OR

VIII. (a) Derive expression for shear centre and disection for an equal angle placed as in figure below: (8)



(b) Locate the shear centre of the T section given in figure. (12)