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Roll No. | | | | | | | | | | | | | **Total No. of Pages : 03**

Total No. of Questions : 09

B.Tech.(CE) (2011 Onwards) (Sem.–5)

STRUCTURAL ANALYSIS–II

Subject Code : BTCE-503

Paper ID : [A2080]

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

Q.l) Answer briefly :

a) What is Muller Breslau principle?

b) What is static indeterminacy?

c) What is the significance of influence lines?

d) What do you understand by sway frames?

e) What is the fixed end moment for a beam subjected to UDL over its entire length?

f) What are the various steps of solving a problem by method of consistent deformation?

g) What is stiffness?

h) Draw the ILD for reaction at support for simply supported beam.

i) Explain tension Coefficient.

j) Explain law of reciprocal deflections?

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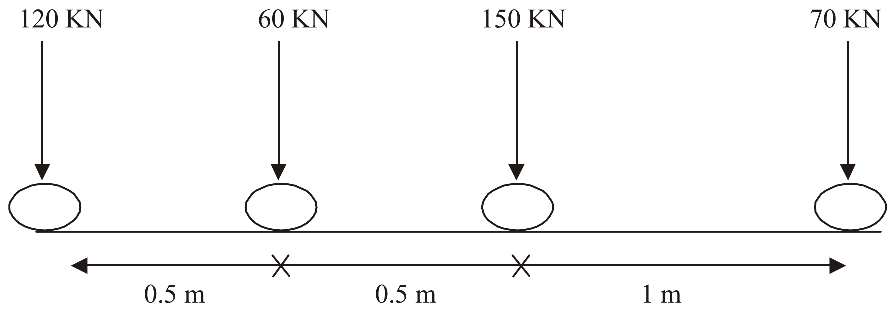
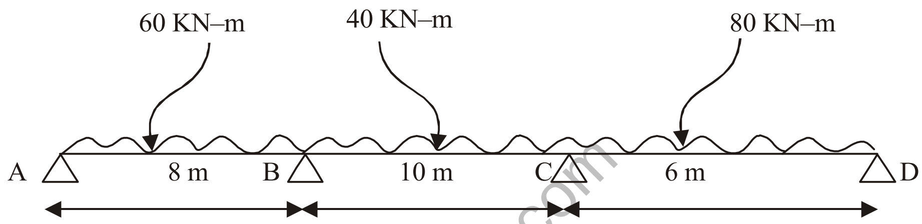
SECTION-B

Q.2) Write short note on substitute frames.

Q.3) The load system shown below moves from left to right on girder of span 10m. Find absolute bending moment for the girder.



Q.4) Analyse the continuous beam by moment distribution method. All members have same flexural rigidity.



Q.5) A live load of 50 KN per m 8m long moves on a Simply supported girder of span 10m Find the maximum bending moment which can occur at a section 4m from the left end.

Q.6) Show that the parabolic shape is a funicular shape for a three hinged arch subjected to a uniformly distributed load over to its entire span.

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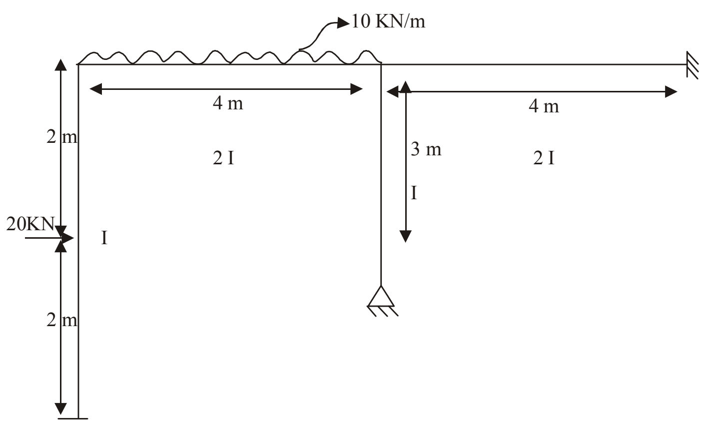
SECTION-C

Q.7) Analyse the frame shown by slope deflection method and draw the B.M diagram.



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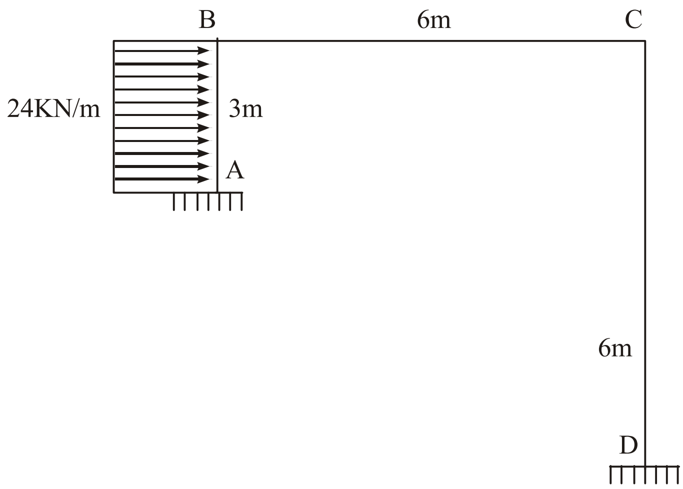
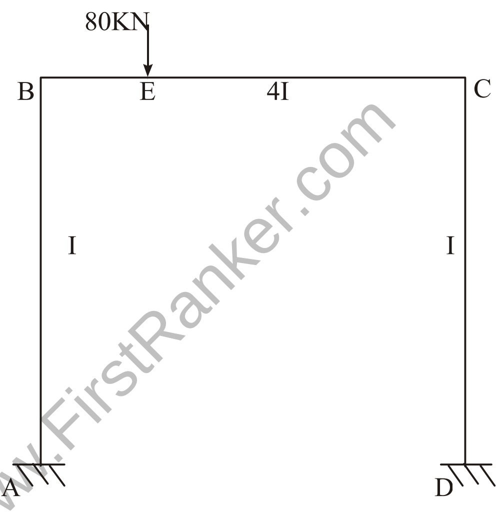
Q.8) Find the moments for the portal frame shown and draw the bending moment diagram for the frame. All members have same flexural EI=43500 KNm^2. Find horizontal deflection.



Q.9) Analyse the frame shown in figure using Kani's Method.



AB=BC=CD=5m and BE=1.5m

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