

JK Lakshmipat University, Jaipur

Institute of Engineering and Technology

END Term Examination

B.Tech. 3rd Year/ 5th Semester/ 2013-14



Course Name: Theory of Structures

Max Marks: 40

Course Code: CE 501

Time: 03.00 Hr

Instructions:

1. Attempt all sections.
2. Neat diagrams must be drawn wherever necessary.
3. Use of electronic non programmable calculator is allowed.
4. Assume suitable data, if necessary.

Section A

(10 Marks)

Q.1. complete the following statements:

- (a) Structure said to be static determinate if
- (b) A fixed beam of uniform cross section is carrying a point load at its midspan. if the moment of inertia of the middle half-length is now reduced to half of its previous value then the fixed end moments will.....
- (c) Modules of elasticity is ratio of
- (d) Influence line diagram is define as
- (e) Write the generalized form of slope deflection equation.

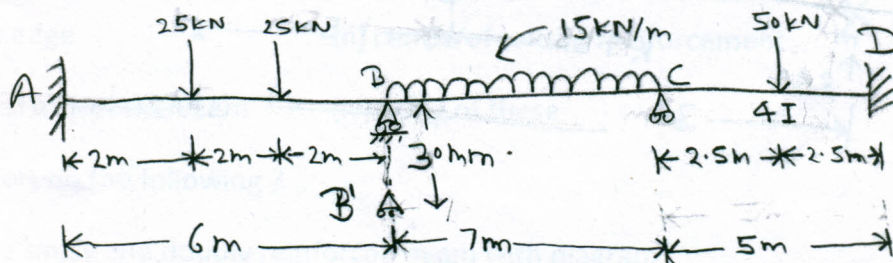
Q.2. What is method of analysis of a truss? Explain the procedure of analysis briefly.

Section B

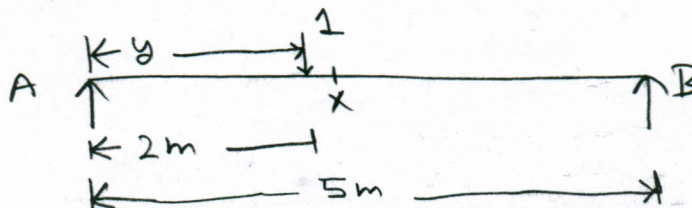
(20 Marks)

Attempt any three question.

Q 3. Analyse the continuous beam shown in fig.owing to the effect of a 30 mm settlement at support B by slope-deflection method. Assume that $E = 200 \text{ kN/mm}^2$ and $I = 50 \times 10^6 \text{ mm}^4$.

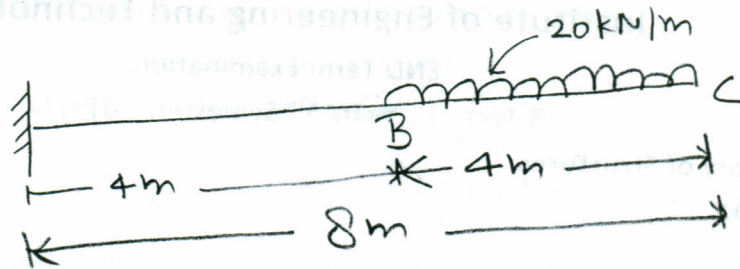


Q 4. A simply supported beam AB has a span of 5m. draw influence line for R_A , R_B , V_x and M_x for a section X at 2 m from left hand support.

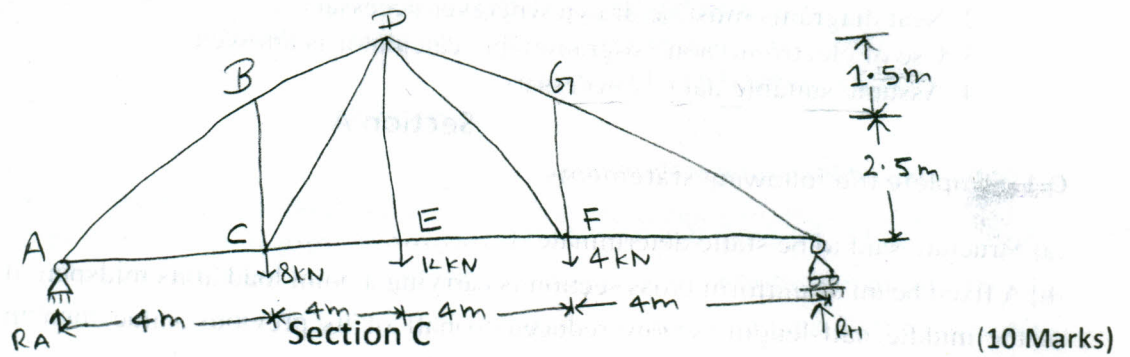


P.T.O.

Q 5. Determine the vertical deflection at free end C of the beam ABC shown in fig. consider $E = 2 \times 10^5 \text{ N/mm}^2$ and $I = 8 \times 10^8 \text{ mm}^4$.



Q.6. using the method of sections, determine the forces in bars BD and CD of the truss. Shown in fig.



Q.7. determine the forces in all members of the truss as shown in fig.

