BTS(C) – V– (S) – 09 – 029 – D

B. Tech Degree V Semester (Supplementary) Examination July 2009

CE 502 A/B ANALYSIS OF STRUCTURES I

(2006 Scheme)

Time : 3 Hours Maximum Marks : 100

PART – A

(Answer ***ALL*** questions)

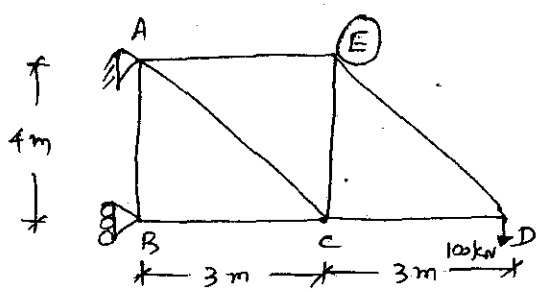
(8 x 5 = 40)

I. (a) Explain briefly about unit load method.
(b) Explain briefly about will iot - Mohr diagram.
(c) State and prove reciprocal virtual work theorem.
(d) Derive three moment equation applied to continuous beam.
(e) Write the steps involved (wirh equation) in slope deflection method.
(f) Write the steps involved in moment distribution method.
(g) Write short note on:
  (i) Carry over factors
  (ii) Distribution factors
(h) Differentiate between fore method and displacement method.

PART – B

(4 x 15 = 60)

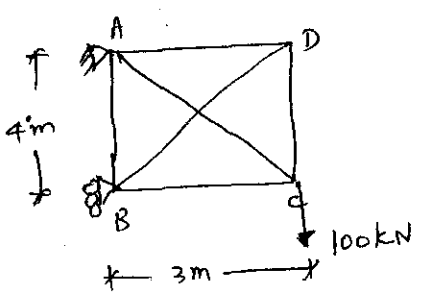
II. Determine the vertical displacement at joint of E of the truss shown in the figure. Area of cross section is 300 mm^2 for tension members and 250 mm^2 for compression members. Take E = 210 Gpa. (15)



OR

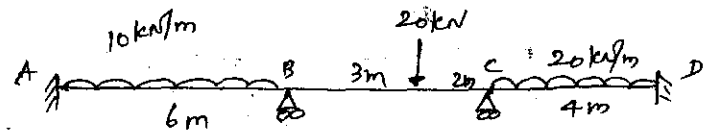
III. Determine the forces in the members of the truss shown in the figure. Take E = 200 Gpa. (15)

Members	Area
AC & BD	2500 mm^2
AD & BC	2000 mm^2
CD & AB	1000 mm^2



(Turn Over)

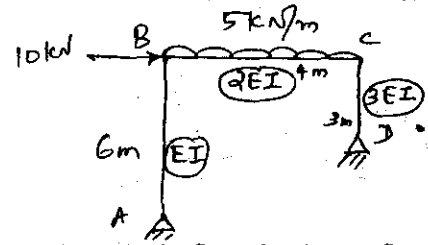
IV. Analyse the beam shown in the figure by theorem of three moments. Draw SFD and BMD. (15)



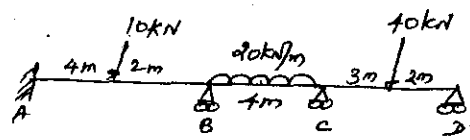
(EI = constant)

OR

V. Analyse the frame shown in the figure by strain energy method. Draw SFD and BMD. (15)



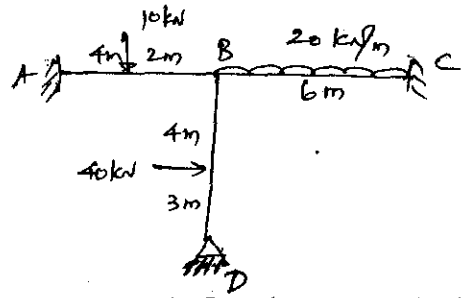
VI. Analyse the beam shown in the figure by slope deflection method. Draw SFD and BMD. (15)



(EI = constant)

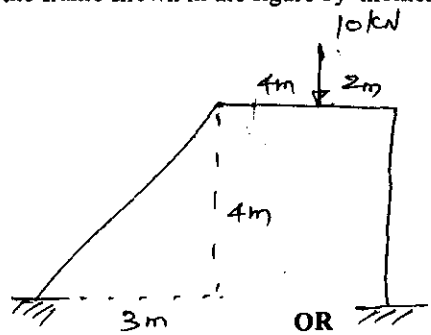
OR

VII. Analyse the frame shown in the figure by slope deflection method. Draw SFD and BMD. (15)



(EI = constant)

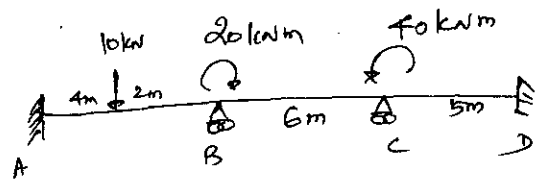
VIII. Analyse the frame shown in the figure by moment distribution method. Draw BMD. (15)



(EI = constant)

OR

IX. Analyse the beam shown in the figure by moment distribution method. Draw BMD and SFD. (15)



(EI = constant)

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