

Department of Civil Engineering
CE 039 Advanced Structural Analysis
End Semester Examination

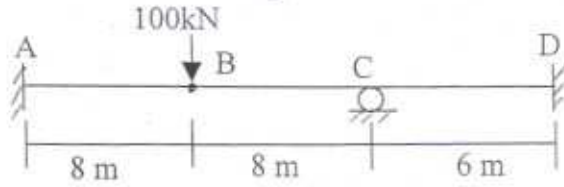
Max.Marks:36

Time: 3 Hr.

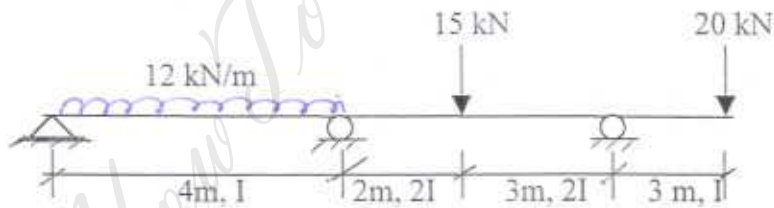
Note : Attempt All Five Questions. Assume missing data if any suitably. Students can see their answer sheets on 08-12-06 at 10AM.

Q.No.1 A cable suspends across a gap of 300m and carries a uniformly distributed load of 7 kN/m. Calculate the maximum tension if the maximum sag is 1/30. Also compute sag at 70m. (6)

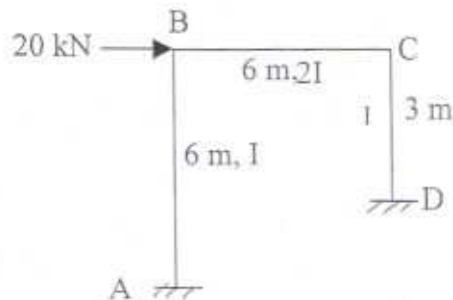
Q.No.2 Analyse the continuous beam shown below using flexibility method. The beam has internal hinge at B. Consider EI constant. (6)



Q.No.3 Analyse the continuous beam shown below and draw the bending moment diagram using stiffness matrix method. Consider E constant. (6)



Q.NO.4 Analyse the portal frame using the flexibility matrix method with element approach and draw the bending moment diagram. The support reaction at D should be selected as redundant force. (9)



Q.No.5

Obtain the deflection for the tapered column of circular cross section as shown below. A concentrated load of 120 kN is acting on the top of the column. Minimum two elements are to be taken to represent the structure. Take E constant. (9)

