2014

STRUCTURAL ANALYSIS-II
Paper : CE 503

Full Marks : 100

Time : Three hours

***The figures in the margin indicate full marks
for the questions.***

*Answer **any five** questions.*

1.   What are the advantages and disadvantages of
      a fixed beam ? A fixed beam of span *l* carries
      two points loads '*w*' each placed symmetrically
      at a distance '*a*' from each support. Find the
      fixing moment at the supports and the bending
      moments at the centre. Find also the deflections
      under either load and at the centre.   5+15=20

2.   Analyse the continuous beam shown in *figure* 1
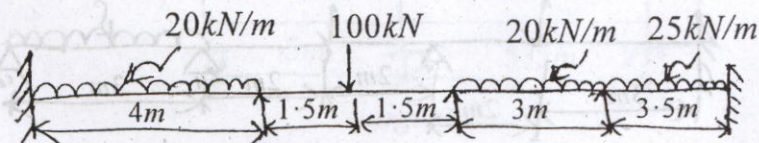   and draw BMD and SFD.   20

figure 1

3. A two-hinged arch is loaded as shown in *figure* 2. Determine :

    (a) Horizontal thrust and moments at different sections and draw BMD.   20

    (b) Radial shear and normal thrust at 5*m* from left support.
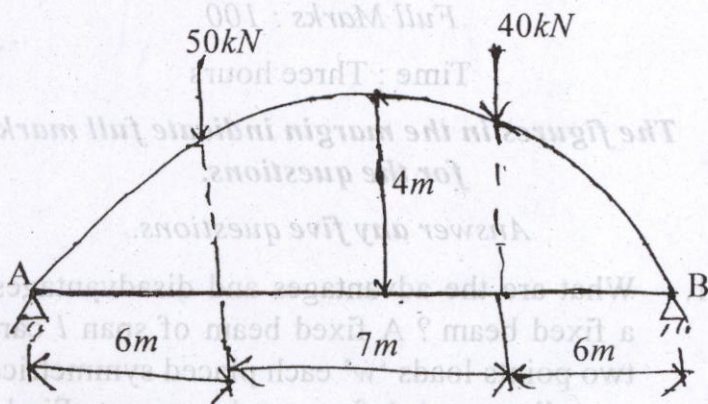

figure 2

4. Analyse the continuous beam shown in *figure* 3 by moment distribution method and compare the values with 3 moments method. Assume EI as constant.   20
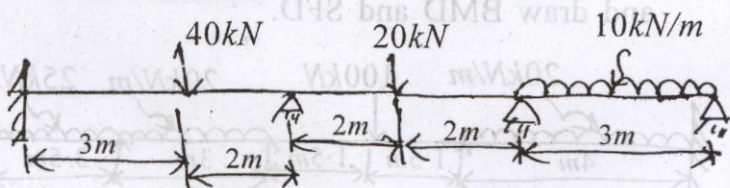

figure 3

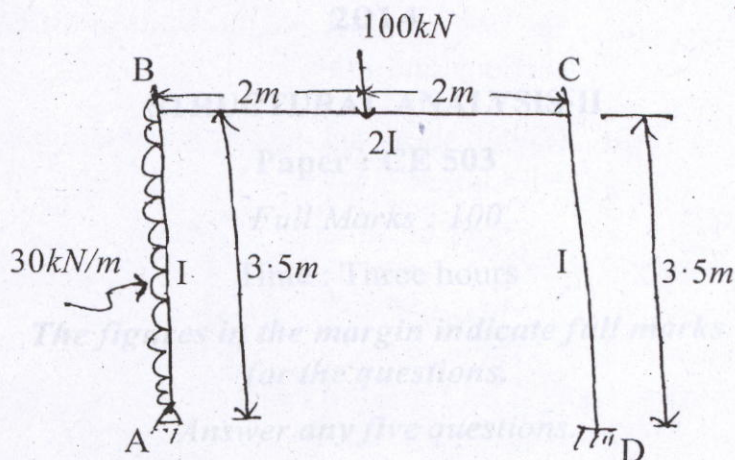5. Analyse the portal frame shown in *figure* 4 by moment distribution method and draw BMD. 20

figure 4

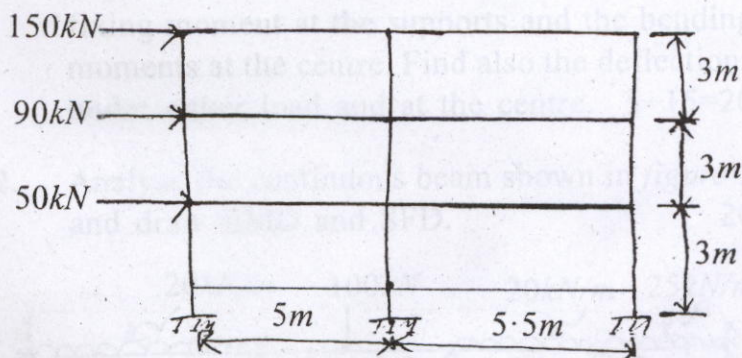6. Analyse the building frame shown in *figure* 5 by portal method. 20

figure 5