ENG4.5

Fourth Semester B.Arch. Degree Examination, June-July 2009
Structures - IV

Time: 3 hrs.   Max. Marks:100

Note: 1.Answer any FIVE full questions.
2.Any missing data may be suitably assumed.

1 a. Define i) Determinate structure   (04 Marks)
ii) Indeterminate structure
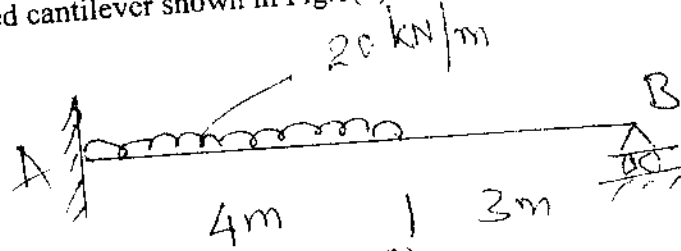b. Analyse the propped cantilever shown in Fig.1(b) and draw S.F.D. & B.M.D.   (16 Marks)

Fig.1(b)

2 a. Determine the degree of indeterminacy of the propped cantilever.   (03 Marks)
b. Analyse the propped cantilever shown in Fig.2(b) and draw S.F.D. & B.M.D.   (17 Marks)
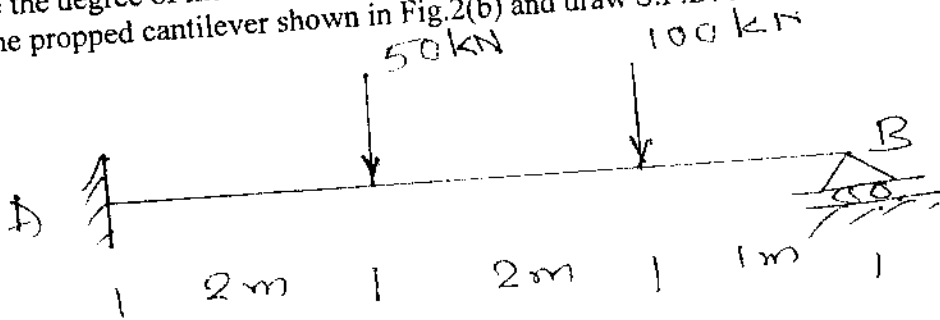

Fig.2(b)

3 a. What is the fixed beam? What are the advantages of fixed beam over simply supported beam?   (05 Marks)
b. Derive the expression for fixed end moments for a fixed beam carrying a point load eccentrically placed on the span.   (15 Marks)

4 Find the fixing moments and support reactions of a fixed beam AB of length 6m, carrying a uniformly distributed load of 4 kN/m over the left half of the span. Draw S.F.D and B.M.D.   (20 Marks)

5 A continuous beam ABCD, simply supported at A, B, C and D is loaded as shown in Fig.5. Find the support moments using Clapeyron's theorem. Draw SF and BM diagram.   (20 Marks)
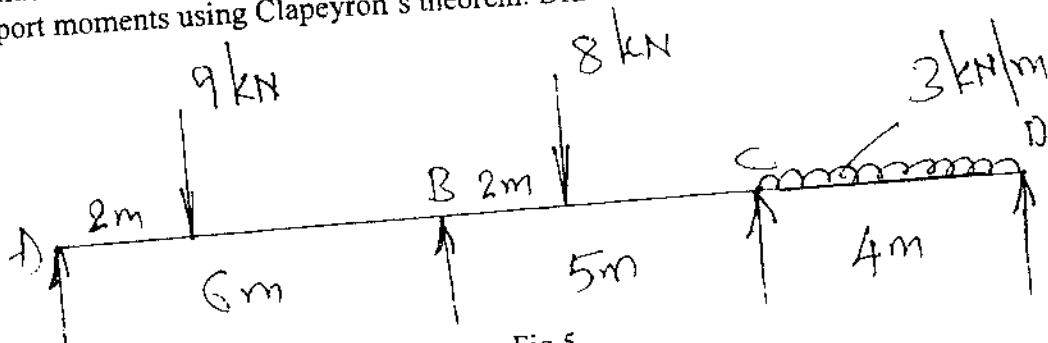

Fig.5

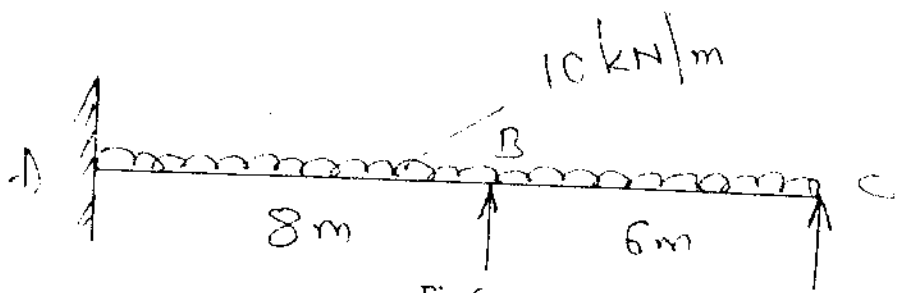6 Analyse the continuous beam shown in Fig.6, using Clapeyron's theorem and draw B.M.D.

(20 Marks)

Fig.6

7 Analyse the continuous beam loaded as shown in Fig.7 by moment distribution method. Sketch B.M.D.
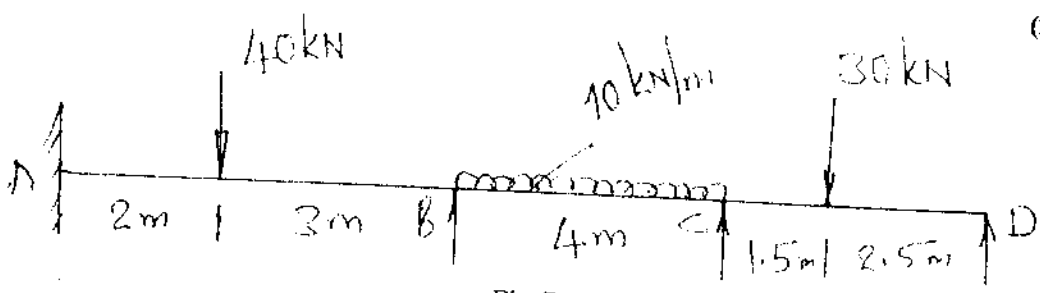
(20 Marks)

Fig.7

8 Analyse the structure loaded as shown in Fig.8 by moment distribution method. Draw B.M.D.
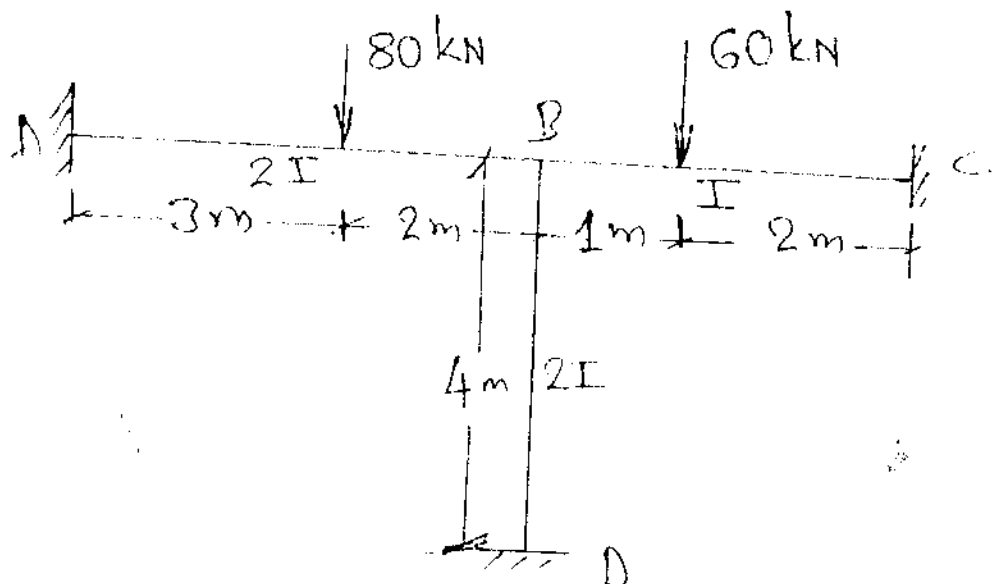
(20 Marks)

Fig.8

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