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09ENG4.5

Fourth Semester B.Arch. Degree Examination, June/July 2019
Structures – IV

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. Distinguish between determinate and indeterminate structures with examples. (06 Marks)
 b. For the propped cantilever shown in Fig.Q1(b). Find the support reactions and draw SFD and BMD. (14 Marks)

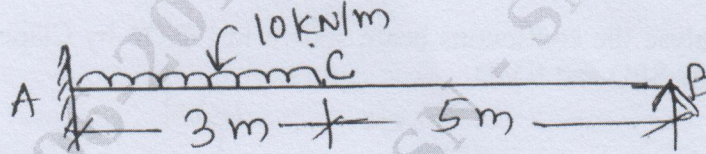


Fig.Q1(b)

- 2 a. Determine degree of redundancy for the followings [Refer Fig.Q2(a)].

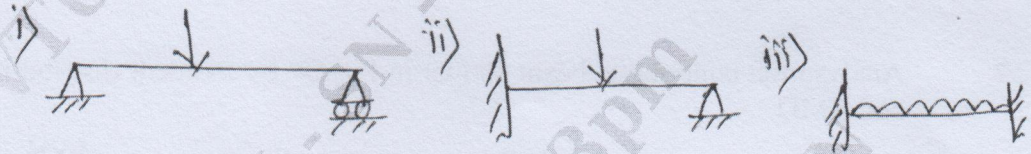


Fig.Q2(a)

- b. Determine the reaction components in the beam shown in Fig.Q2(b). Take $EI = \text{constant}$. (04 Marks)
 (16 Marks)

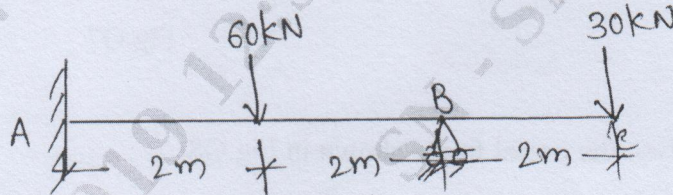


Fig.Q2(b)

- 3 Analyse the fixed beam shown in Fig.Q3. Draw SFD and BMD. (20 Marks)

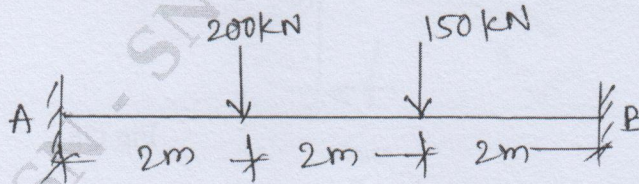


Fig.Q3

- 4 Analyse the fixed beam of span 6m subjected to a concentrated couple of 300kN.m applied at a point C, 4m from left end support. Draw SFD and BMD. (20 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

- 5 Analyse the continuous beam shown in Fig.Q5 by theorem of three moments and draw SFD and BMD. (20 Marks)

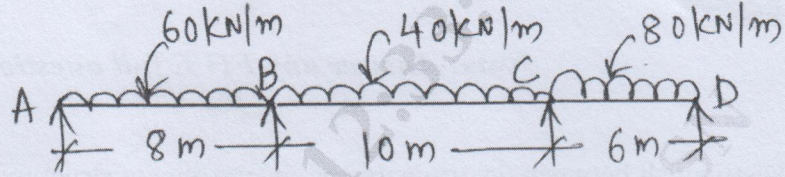


Fig.Q5

- 6 Analyse the continuous beam shown in Fig.Q6 by Clapeyron's theorem of three moments. Draw SFD and BMD. (20 Marks)

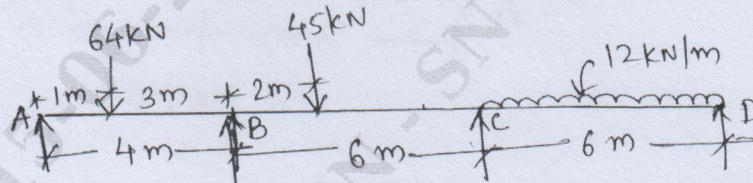


Fig.Q6

- 7 Analyse the continuous beam shown in Fig.Q7 by moment distribution method. Draw SFD and BMD. (20 Marks)

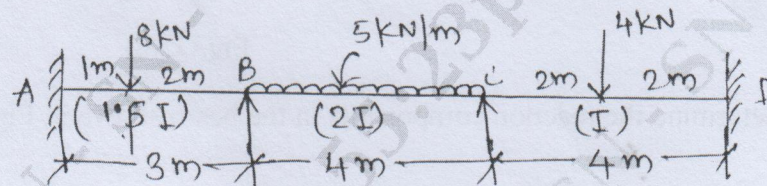


Fig.Q7

- 8 Analyse the portal frame shown in Fig.Q8. (20 Marks)

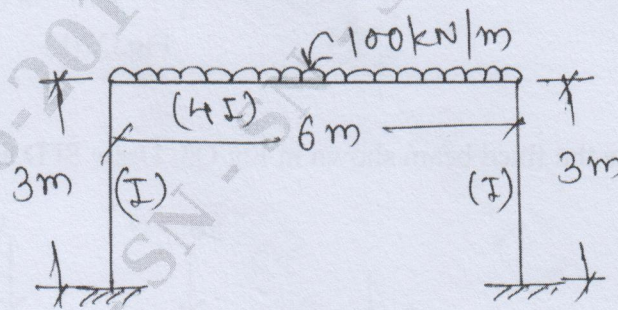


Fig.Q8
