AR–1951

Faculty of Engineering & Technology

B. Arch. (Architecture) IV Semester (C.G.S.) Examination

ARCHITECTURAL STRUCTURE–III

(10032)

Paper—04 AR 05

Time : Three Hours] [Maximum Marks : 80

INSTRUCTIONS TO CANDIDATES

(1) All questions carry equal marks.

(2) Due credit will be given to neatness and adequate dimensions.

(3) Assume suitable data wherever necessary.

(4) Illustrate your answers wherever necessary with the help of neat sketches.

(5) Use pen of Blue/Black ink/refill only for writing the answer book.

1. A fixed beam AB of length 12 m carries a point load of 180 kN and 150 kN at a distance of 5 m and 9 m from right end B. Find the fixed end moments and the reactions at the supports. Draw BM and SF diagrams. 16

OR

2. Draw the resultant SF and BM diagrams for the fixed beam as shown in Fig. 1. 16

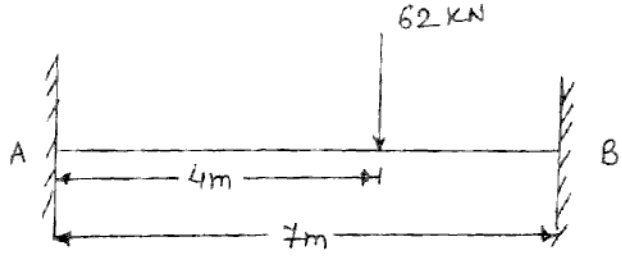

Fig. 1

3. Draw SFD and BMD for continuous beam shown in Fig. 2 and determine moments at supports. 16

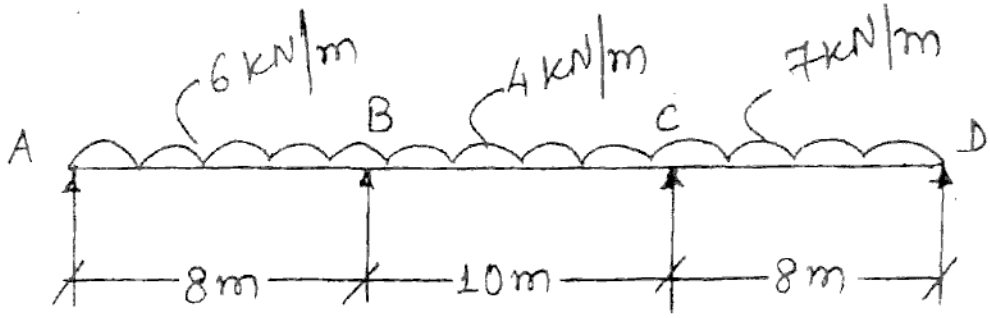

Fig. 2

OR

4. Find the moments at supports using theorem of three moments for beam shown in Fig. 3. Also draw SFD and BMD. 16

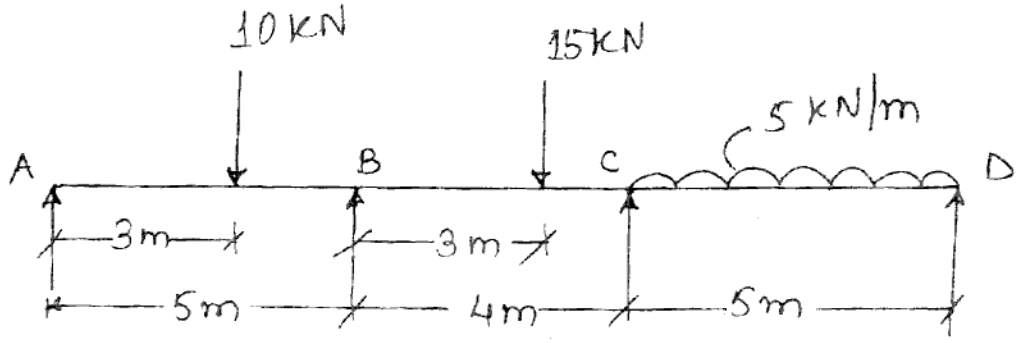

Fig. 3

5. Analyze the portal frame in Fig. 4 by moments distribution method. 16

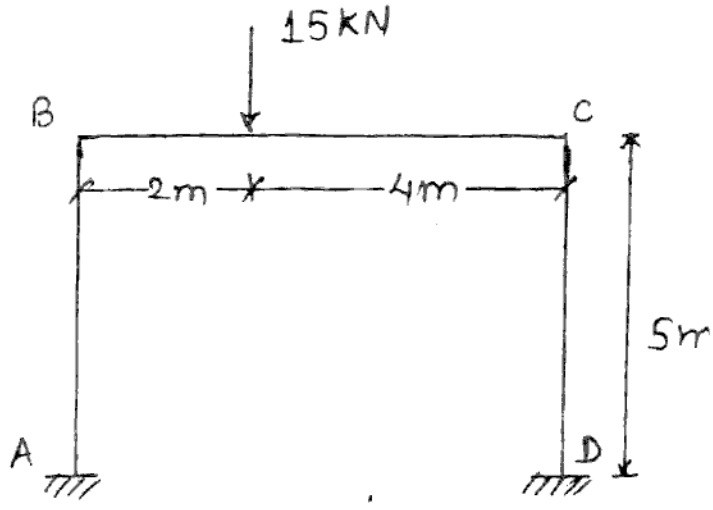

Fig. 4

OR

6. Analyze the portal frame in Fig. 5 by Moments Distribution method. 16

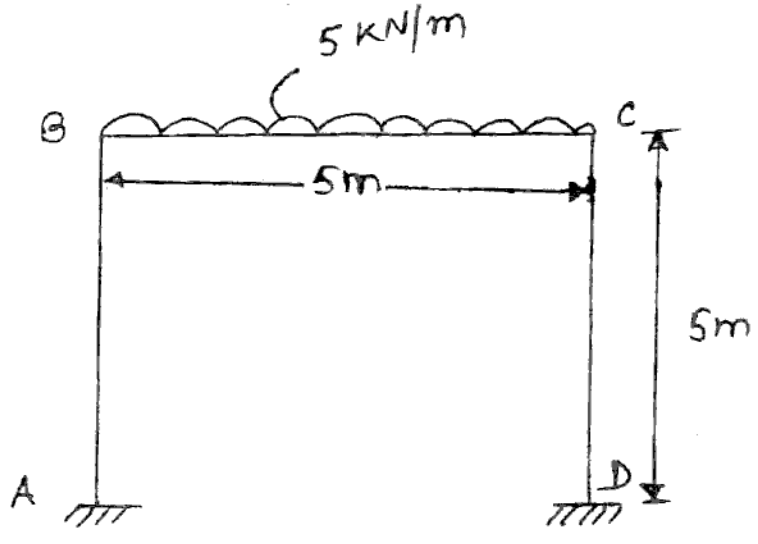

Fig. 5

7. Find the support moments and the reactions at the supports for the beam shown in Fig. 6. 16

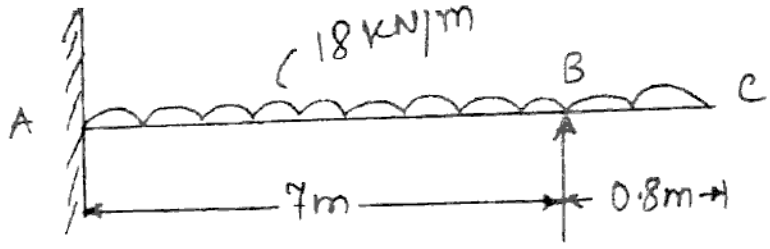

Fig. 6

OR

8. Find the support moments and support reactions for the beam shown in Fig. 7. 16

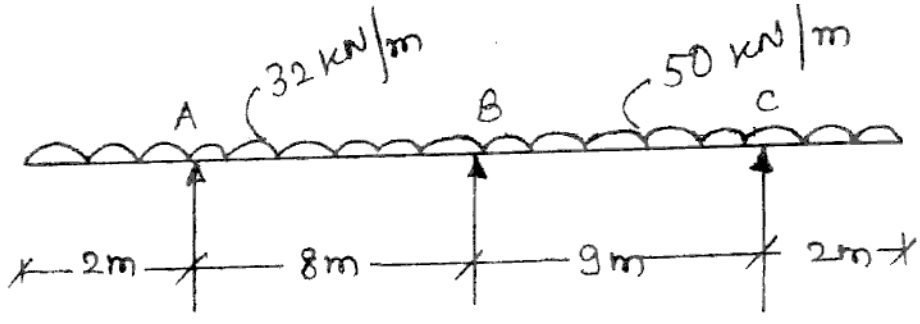

Fig. 7

9. Explain the various methods of soil improvement and also explain necessity of soil improvement. 16

OR

10. Write a short note on "Failure of Foundation Systems and the remedial measures for it". 16