Total No. of Questions : 5 Total No. of Printed Pages : 4



# EK-340

## B.E. (VIth Sem.) (CGPA) Civil Engg. Examination-2016

## THEORY OF STRUCTURE-II

Paper - CE-605

*Time Allowed : Three Hours*

*Maximum Marks : 60*

***Note :*** Attempt all questions.
All questions are equal marks.

Q.I (a) "Indeterminate structure are always better than determinate structures" comment on the statement. 3

(b) Analysis the frame given below by moment distribution method. All members have the same flexural rigidity. 9

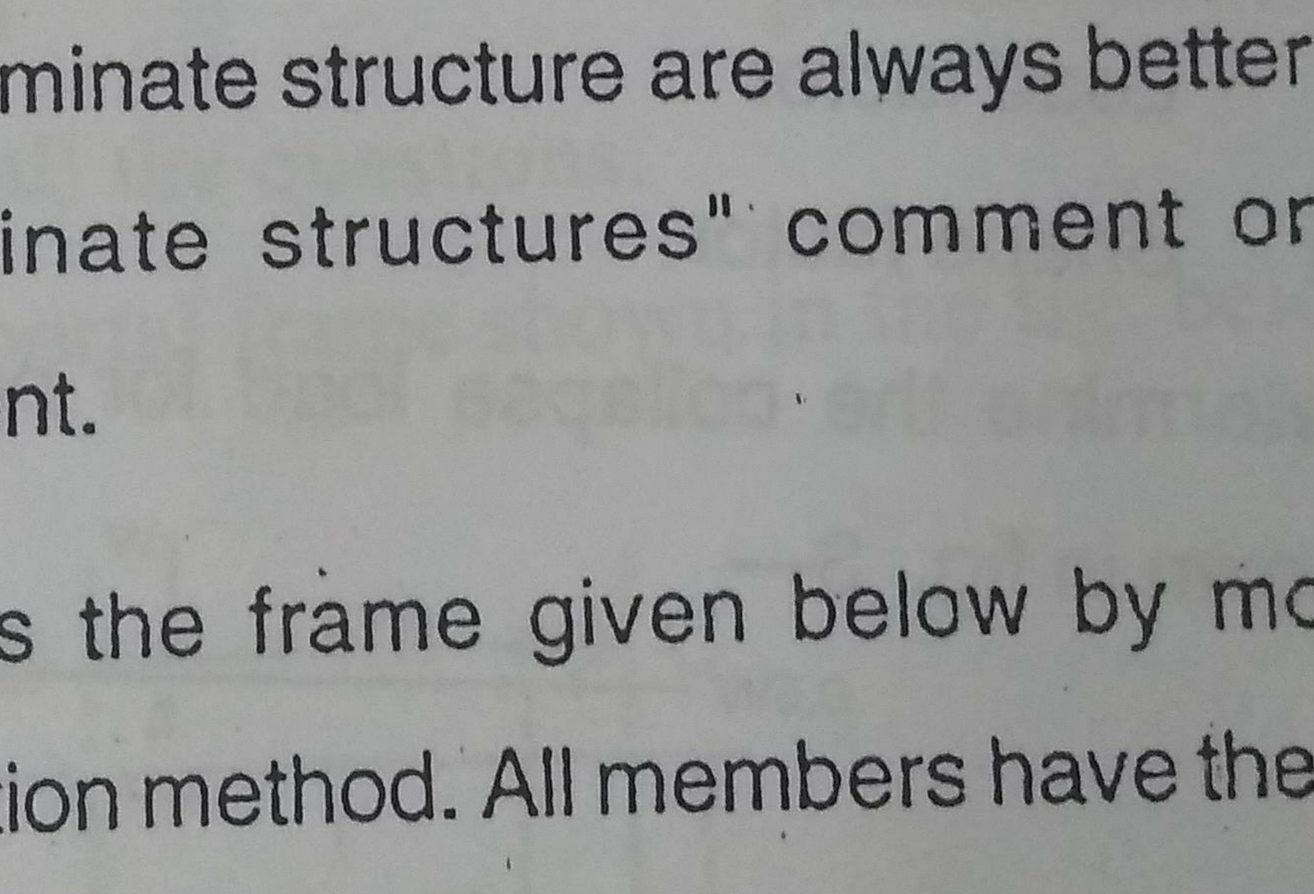



*Fig. 1*

**(2)**

**or**

(a) Define stiffness and carryover factors. 3

(b) Find the support moments for the continuous beam shown below in fig.2 and draw BMD using Kani's method—

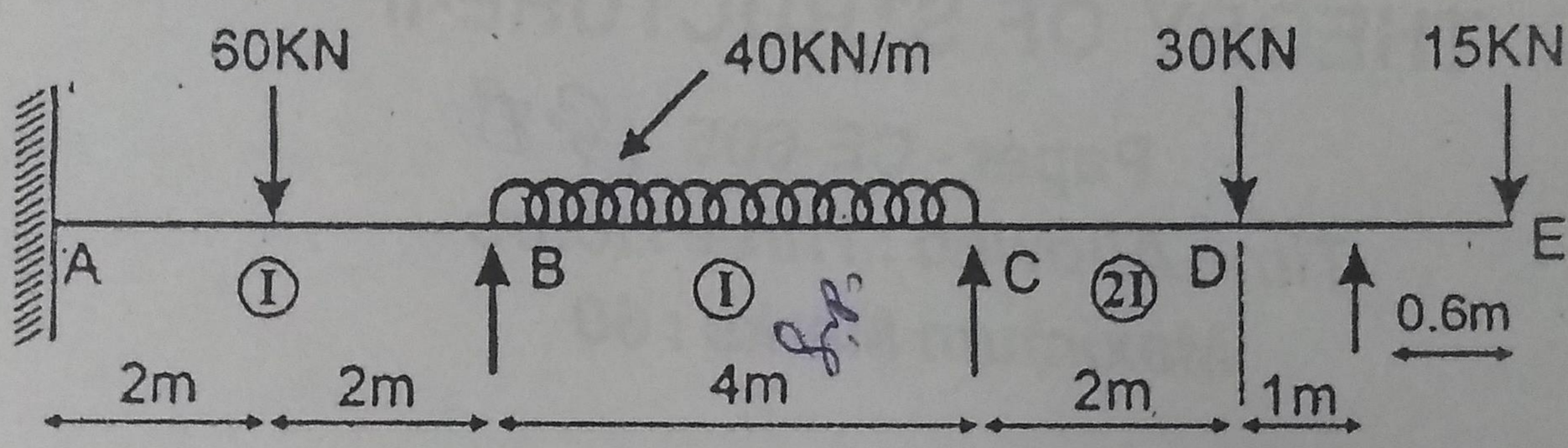



*Figure-2*

Q.II (a) Define— 4

(i) Load factor

(ii) Shape factor

(b) Determine the collapse load for portal frame shown in fig. 3—

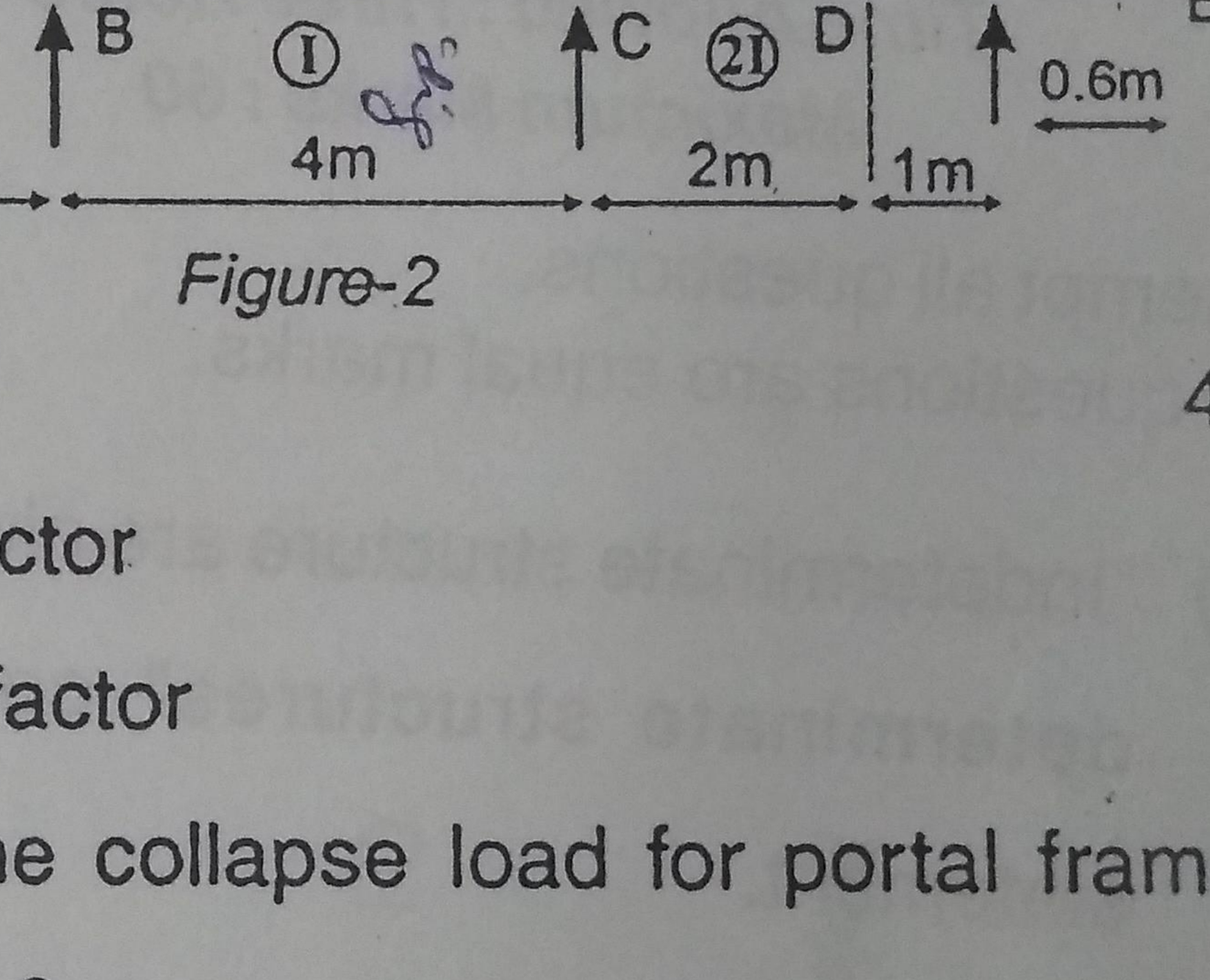



*Figure-3*

**or**

(a) Differentiate between plastic analysis and elastic analysis of structures. 4

(b) The continuous beam having uniform moment capacity Mp has to carry the collapse loads shown in fig.-4 below. Determine the value of Mp—

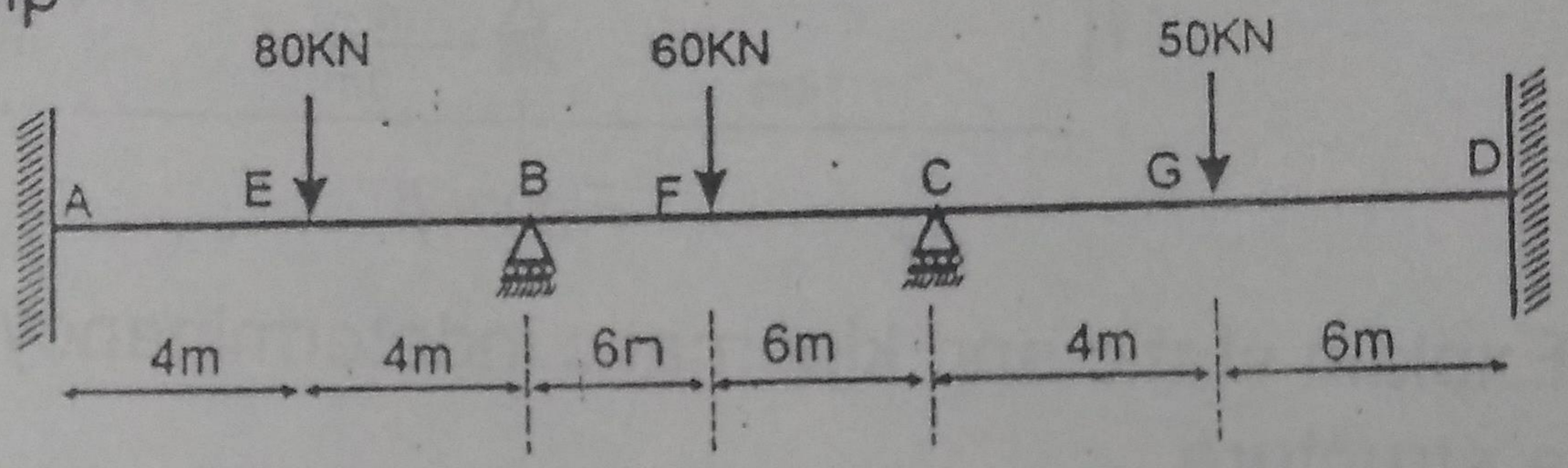



*Figure-4*

Q.III (a) Differentiate between portal and cantilever method of analysis of frames subjected to lateral loads. 4

(b) Analyse the frame shown in fig. 5 by portal method—

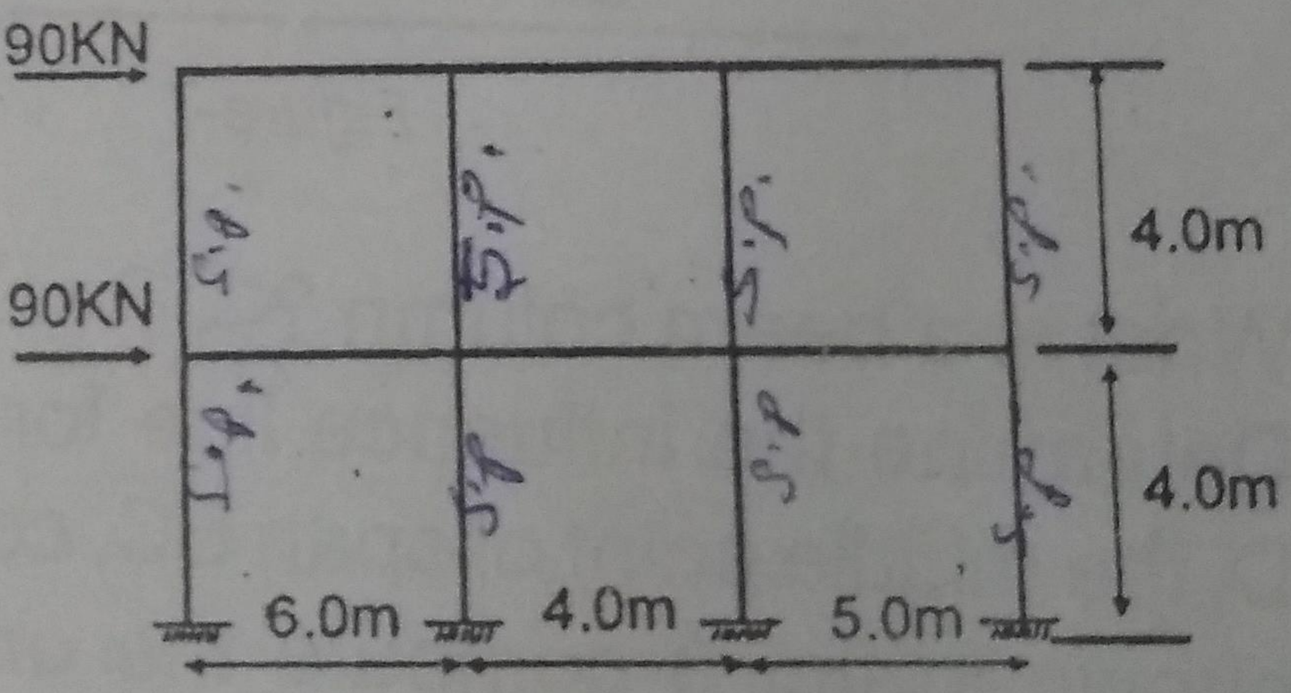



*Figure-5*

**or**

(a) Explain the method of calculation of wind load for a multistoreyed building as per IS : 875 (part-III). 4

(b) Analysis the frame shown in fig. 5 above by cantilever method. 8

Q.IV (a) Compare the flexibility and stiffness methods of matrix structural analysis. 4

(b) Analysis the beam shown in fig. 6 force method of structural analysis. Draw BMD— 8

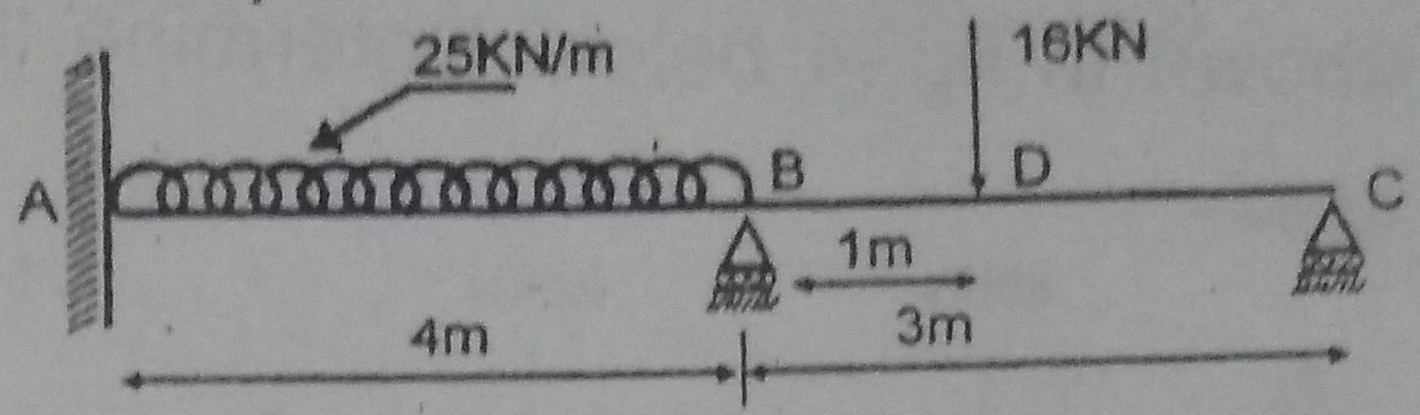



*Figure-6*

**or**

(a) Explain static and kinematic indeterminancy of a structure. 3

(b) Analysis the beam shown in fig. 7 by matrix stiffness method. EI is constant. Draw BMD also. 9

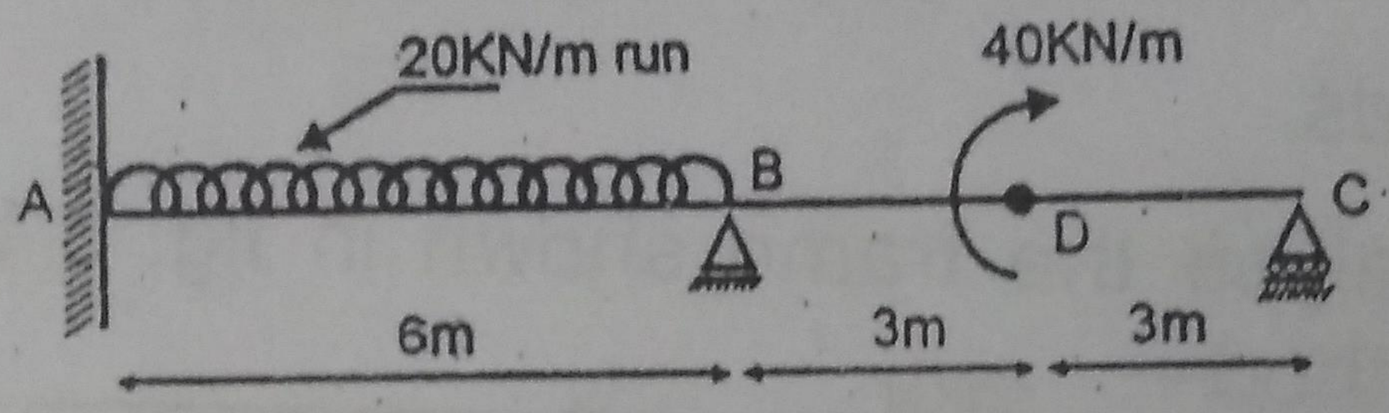
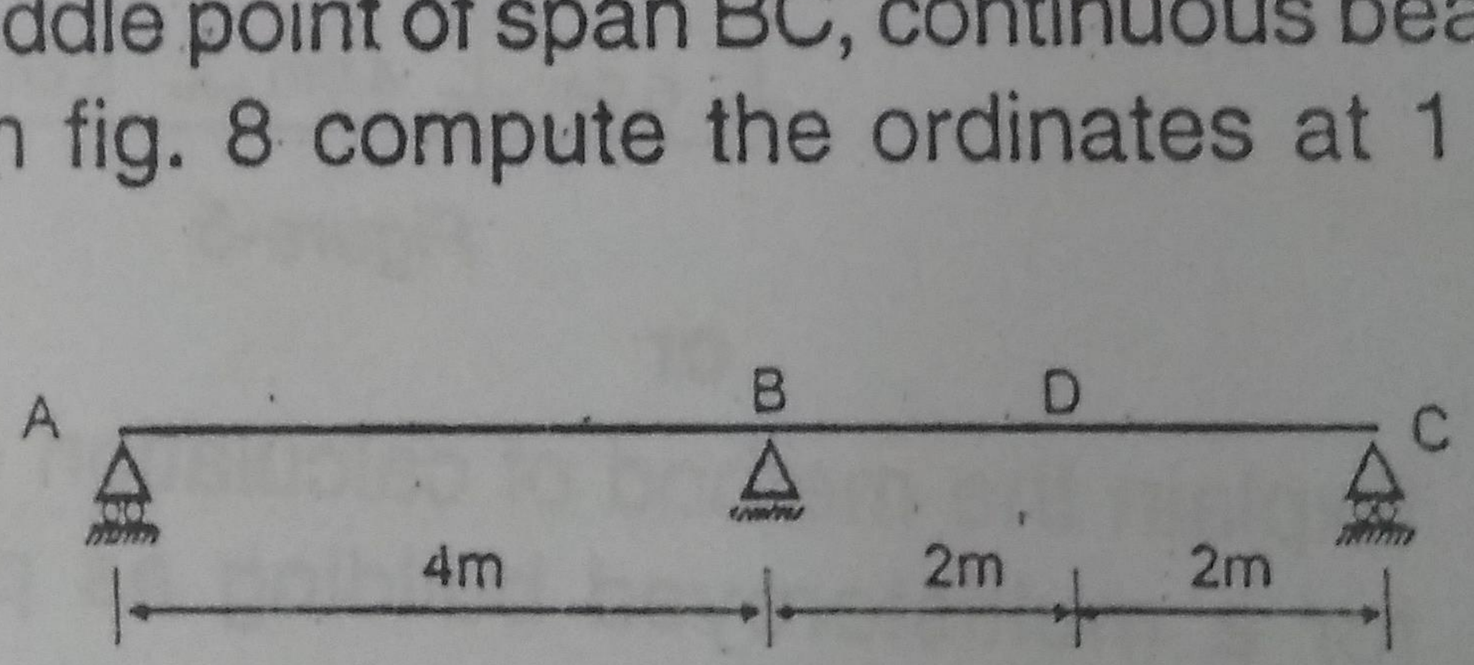



*Figure-7*

Q.V (a) What is a beam column ? 3

(b) Determine the influence line for shear force at D, the middle point of span BC, continuous beam shown in fig. 8 compute the ordinates at 1 m interval. 9




**or** *Figure-8*

(a) State Miller-Breslau principle. 3

(b) Draw influence line diagram for "$R_B$" for continuous beam shown in fig. 8 above. Calculate the ordinates at every 1 m intervals. 9

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