

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

CLASS: BE
BRANCH: CIVIL

SEMESTER : V
SESSION : MO/18

SUBJECT: CE5001-STRUCTURAL ANALYSIS II

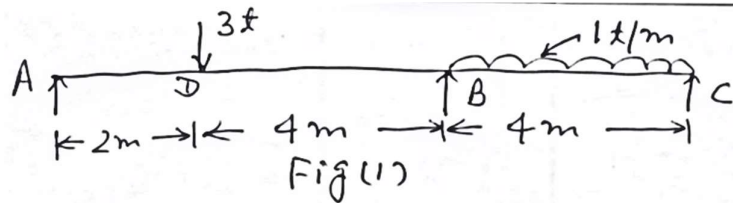
TIME: 03:00

FULL MARKS: 60

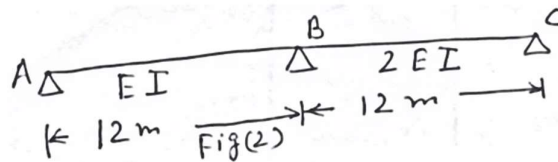
INSTRUCTIONS:

1. The question paper contains 7 questions each of 12 marks and total 84 marks.
2. Candidates may attempt any 5 questions maximum of 60 marks.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

- Q.1 A continuous beam ABC 10m rests on supports A,B and C at the same level and is loaded as shown in fig.1. Determine the moments over the beam. Also calculate the reactions at the supports. Use three moment theorem. [12]

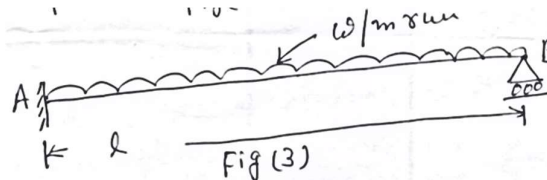


- Q.2 Draw the ILD for the reaction at A for the continuous beam as shown in fig.2. Compute the ordinate at the interval of 2m. [12]



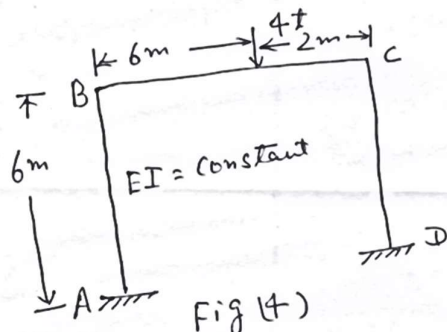
- Q.3 A beam of span l is fixed at one end and simply supported at the other end. It carries a uniformly distributed load of w per unit run over the whole span. Find the reaction at the simply supported end by the principle of least work. [12]

- Q.4 Find the reaction at the roller support of the given system shown in Fig. 3. By the system flexibility method. [12]



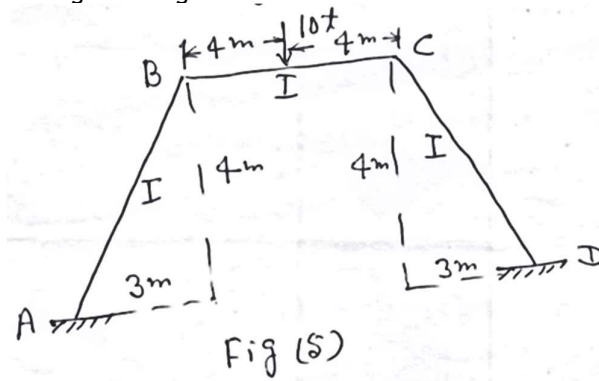
- Q.5 A two hinged parabolic arch of span L and rise y_c carries a uniformly distributed load of w/unit run over the whole span. Find the horizontal thrust. [12]

- Q.6 Analyse the frame using slope - deflection methods shown in fig. 4. [12]



Q.7 Analyse the frame shown in fig. 5. using moment distribution method.

[12]



*****26.11.18*****E