

Roll No.....

Total No. of Questions : 09]

[Total No. of Pages : 03

Paper ID [CE305]

(Please fill this Paper ID in OMR Sheet)

B. Tech. (Sem. - 5th)

STRUCTURAL ANALYSIS - II (CE - 305)

Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Four** questions from Section - B.
- 3) Attempt any **Two** questions from Section - C.

Section - A

Q1)

(10 × 2 = 20)

- a) What is moment area method?
- b) Define fixed end moments.
- c) Define Absolute stiffness of members.
- d) Define carry over factor.
- e) Define influence lines.
- f) Define statically indeterminate structures.
- g) Define statically determinate structures.
- h) Define rigid trusses.
- i) Define simple space frame.
- j) What is Muller-Breslau Principle?

Section - B

(4 × 5 = 20)

Q2) Explain portal method for analysis building frames.

Q3) Discuss different types of supports for space trusses.

J - 9283

P.T.O.

- Q4) Explain cantilever method for analysing building for analysis.
- Q5) For the beam shown in Fig. 1, find the slope and deflection at centre of beam.

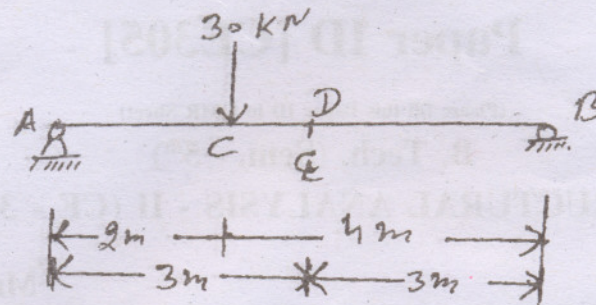


Fig - 1

- Q6) Use the cantilever method to perform an approximate analysis of the frame shown in Fig. 2. The cross section of the columns are all assumed to be equal.

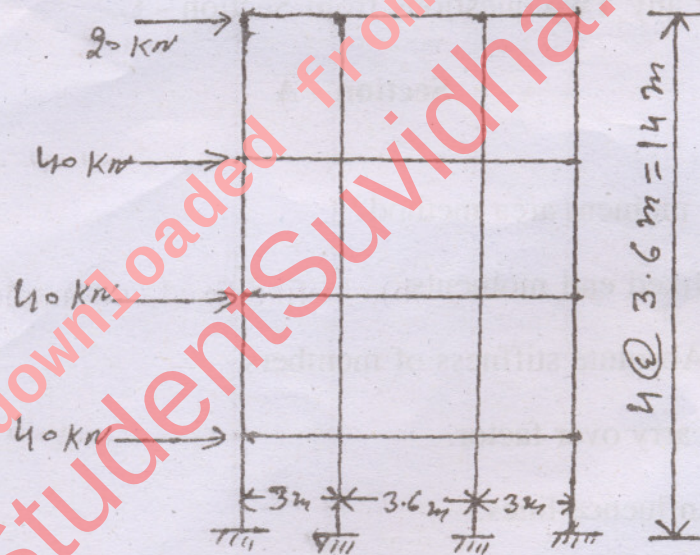


Fig. 2.

Section - C

(2 × 10 = 20)

- Q7) Explain equilibrium and stability conditions for space trusses.
- Q8) Determine the moment over the central support and sketch the shear force and moment diagrams for the beam shown in Fig.3. E is constant and I values are indicated on the beam.

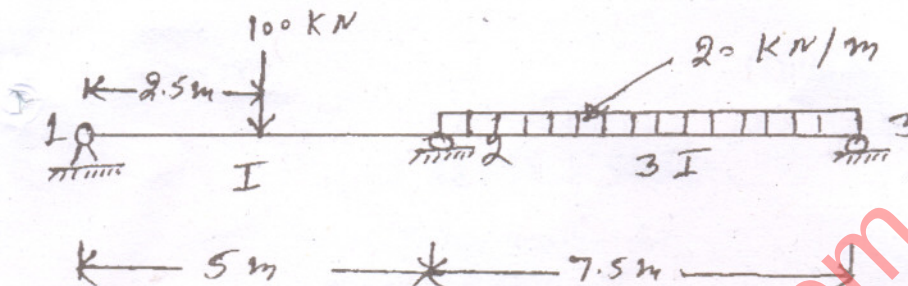


Fig. - 3

Q9) Analyse the frame shown for end moments (Fig. 4).

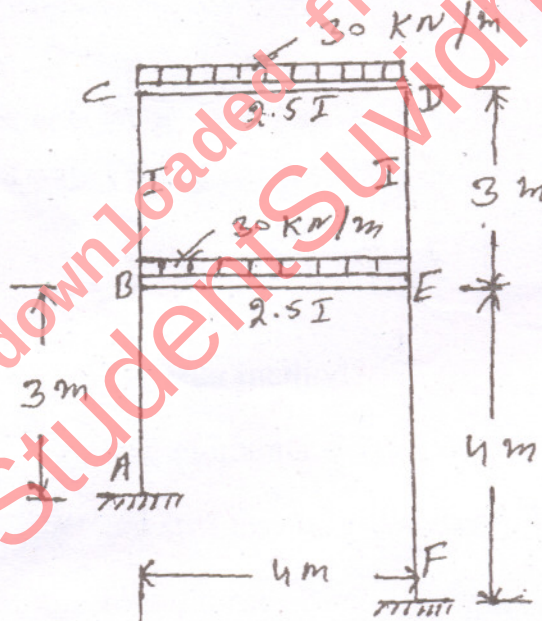


Fig. - 4