

B.Tech. SEM - V (Civil) 2014 Course (CBCS) : WINTER - 2018
SUBJECT: STRUCTURAL ANALYSIS - II

Day: Thursday
 Date: 29/11/2018

W-2018-2387

Time: 02.30 PM TO 05.30 PM
 Max Marks : 60

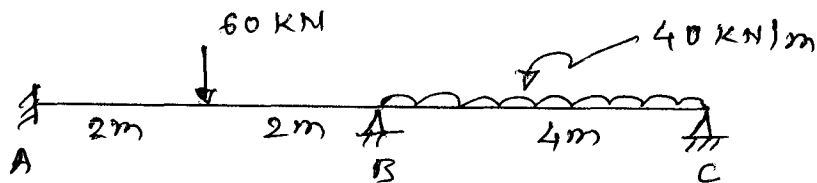
N.B. :

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Assume suitable data, if necessary.
- 4) Draw neat and labeled diagrams wherever necessary.

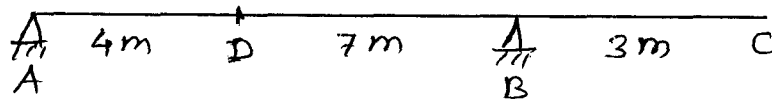
Q.1 What is elastic and plastic moment capacity? (10)

OR

Q.1 Calculate value of M_p for beam loaded with ultimate loads as shown in figure. (10)

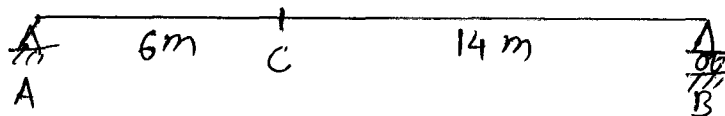


Q.2 Draw an ILD for support reactions, Shear Force and Bending Moment at 'D'. (10)



OR

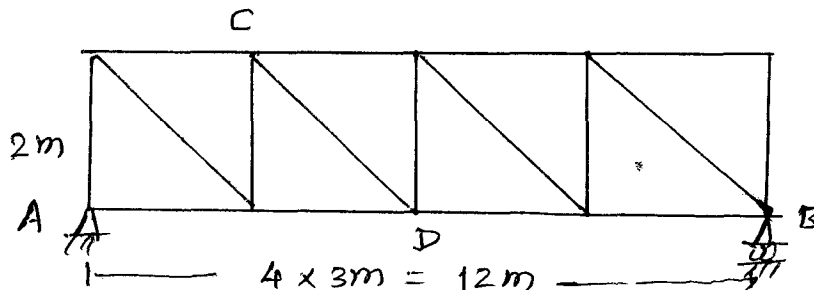
Q.2 An udl of intensity 50 kN/m and length 6m moves over the beam shown in figure. Calculate maximum bending moment developed at 'C'. (10)



Q.3 What is an ILD? Explain its application for trusses along with example. (10)

OR

Q.3 An udl of intensity 40kN/m and length greater than the span, traverse over the truss. Calculate maximum forces developed in member CD. (10)

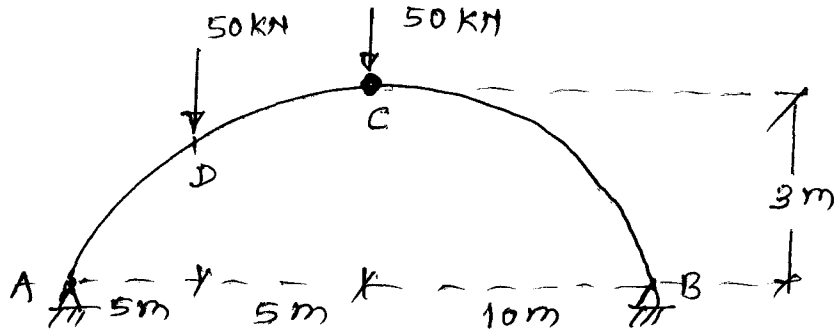


Q.4 A three hinged parabolic arch of span 'l' and rise 'h'. Derive an expression for normal thrust and radial shear at section with used notations. (10)

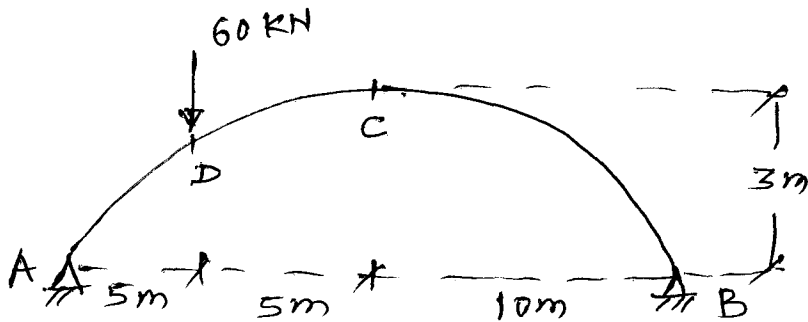
OR

P.T.O.

- Q.4 A three hinged arch is loaded as shown in figure. Calculate bending moment at 'D'. (10)



- Q.5 Two hinged parabolic arch is loaded as shown in figure. Calculate bending moment at 'D'. (10)



OR

- Q.5 For two hinged arch shown in Q. 5 calculate normal thrust and radial shear at 'C'. (10)

- Q.6 Explain assumptions in portal method and cantilever method. Also explain difference between these methods. (10)

OR

- Q.6 Analyze the frame using portal method. (10)

