

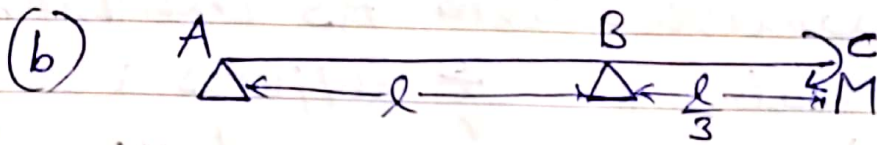
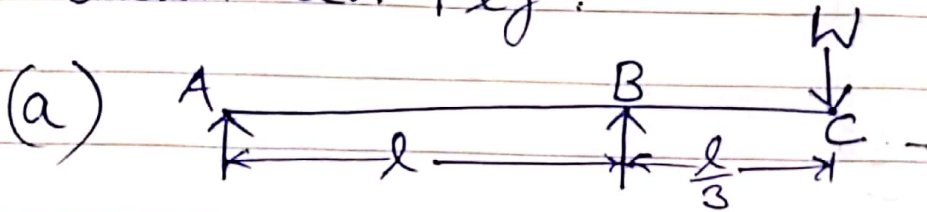
Assignment - 2

classmate

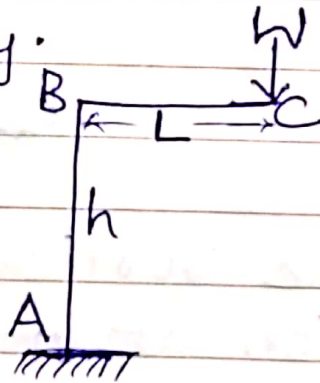
Date _____

Page _____

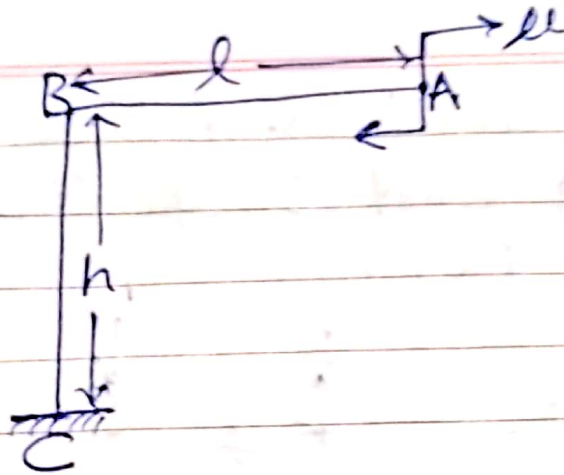
Qno.1 Find the vertical deflection of the overhanging end C of the loaded beam shown in Fig :-



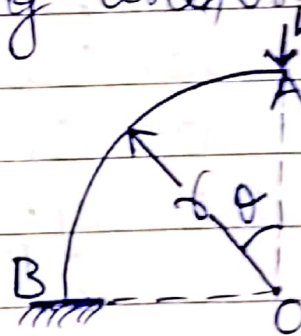
Qno.2 The bend ABC shown below carries a concentrated vertical load W at C. Calculate vertical and horizontal deflections of C, assuming uniform flexural rigidity.



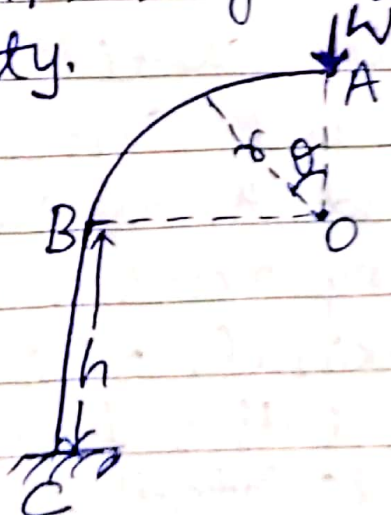
Qno.3 A rigid cantilever frame ABC is fixed at C and carries a couple M at the free end A as shown in the given figure. Neglecting axial deformation and assuming the flexural rigidity EI to be constant throughout the frame, the vertical deflection of A is. Also calculate the rotation at point A.



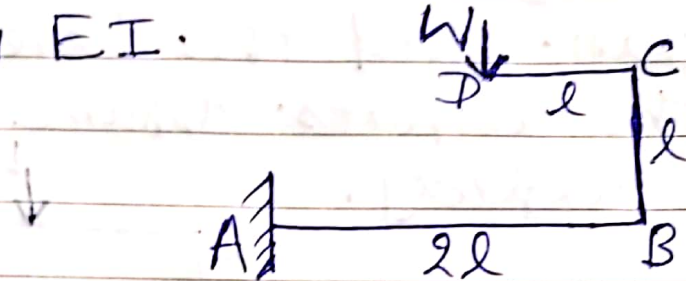
Qno.4 The quadrantal ring AB shown in figure is of radius ' r '. It supports a concentrated load W at the free end A. Calculate the vertical and horizontal deflection of A, assuming uniform flexural rigidity.



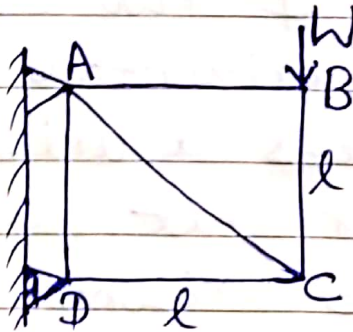
Qno.5 Find the vertical and horizontal deflection at A for the lamp post loaded as shown in fig. Assume uniform flexural rigidity.



Qno.6 Find the Vertical deflection of D for the loaded frame shown in fig:- All members have the same flexural rigidity EI .



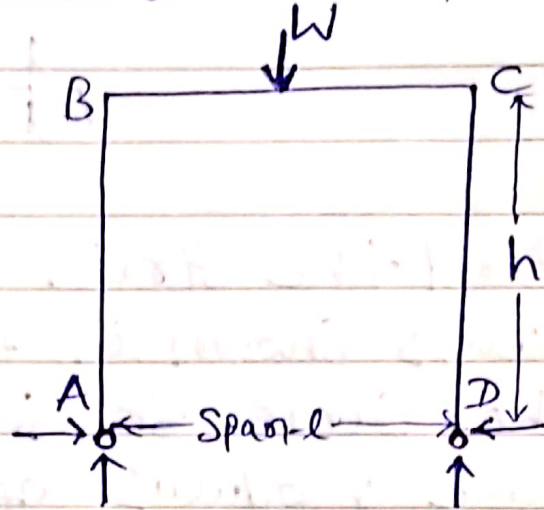
Qno.7 Find the Strain energy stored by the loaded truss shown in fig:- All members have the same sectional Area 'A' and the same modulus of elasticity E . Find also the vertical deflection of the joint B.



Qno.8 A beam of length l is supported at the ends and at its middle point as shown in fig:- The beam carries a uniformly distributed load of w per unit run over the whole span. Determine the reactions at the supports by the Principle of least work.



Qno. 9 A two-hinged rectangular Portal frame ABCD has a span ' l ' and a rise ' h '. It carries a concentrated load W at midspan. Find the horizontal thrust at the supports. Assume uniform flexural rigidity.



Qno. 10 A two-hinged rectangular Portal frame consists of two columns each of length ' l ' and a horizontal beam of length ' l '. It carries a uniformly distributed load of w per unit run on the beam. Find the horizontal thrust at each support and draw the bending moment diagram.

Qno. 11 The bar ABCD shown in Fig. is fixed at A and is laterally supported at B so as to prevent the horizontal deflection at B. When a point load ' P ' is applied at D. Find the reactions at the supports and draw the bending moment diagram.

