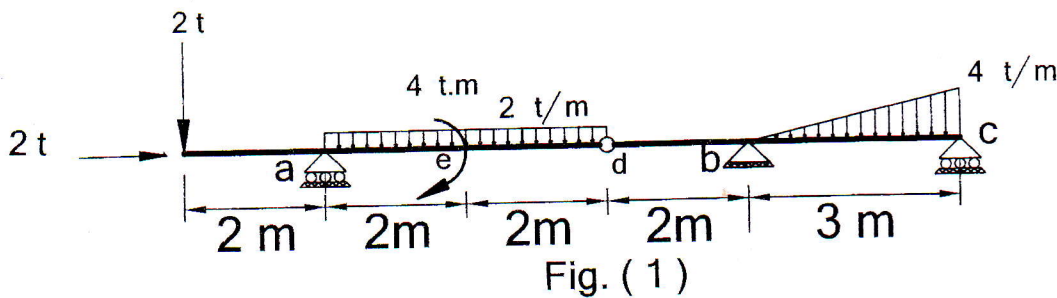


Theory of Structures (CVE ١٠٢)

Answer the following questions:

- ١ - Find the reactions for the given compound beam abcd shown in Fig.(١), and then draw the N.F., S.F., and B.M. diagrams.

(٢٠ marks)



- ٢ - The following continuous beam abcd shown in Fig.(٢) is simply supported at a, b and c and it is intermediate hinge at c, Find the value of the force P such that max +ve B.M. in span bc equals to the max. -ve B.M. in the same span. Further draw the N.F., S.F., and B.M. diagrams.

(٢٥ marks)

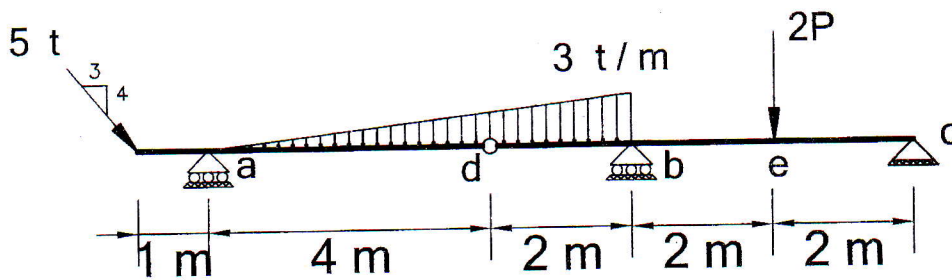
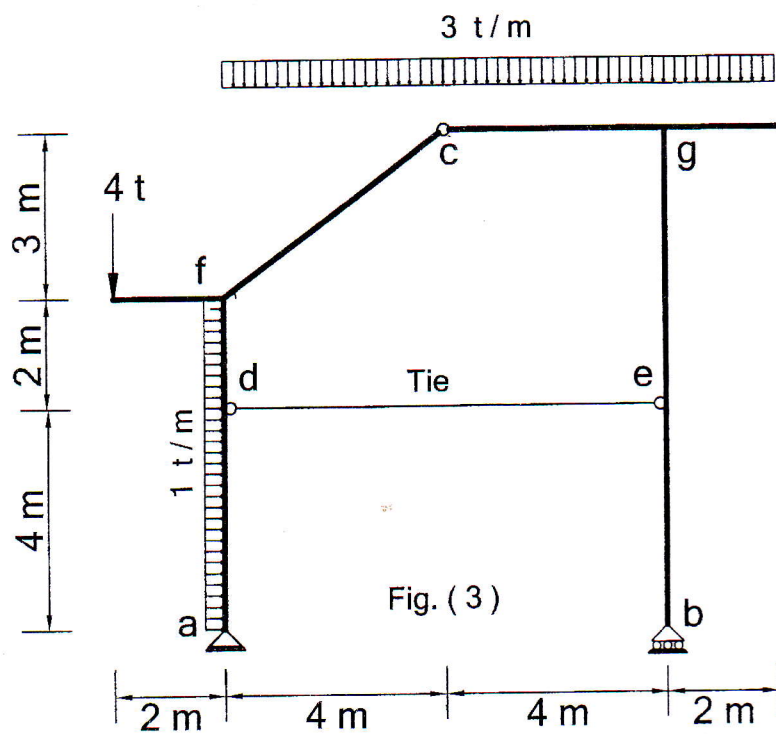


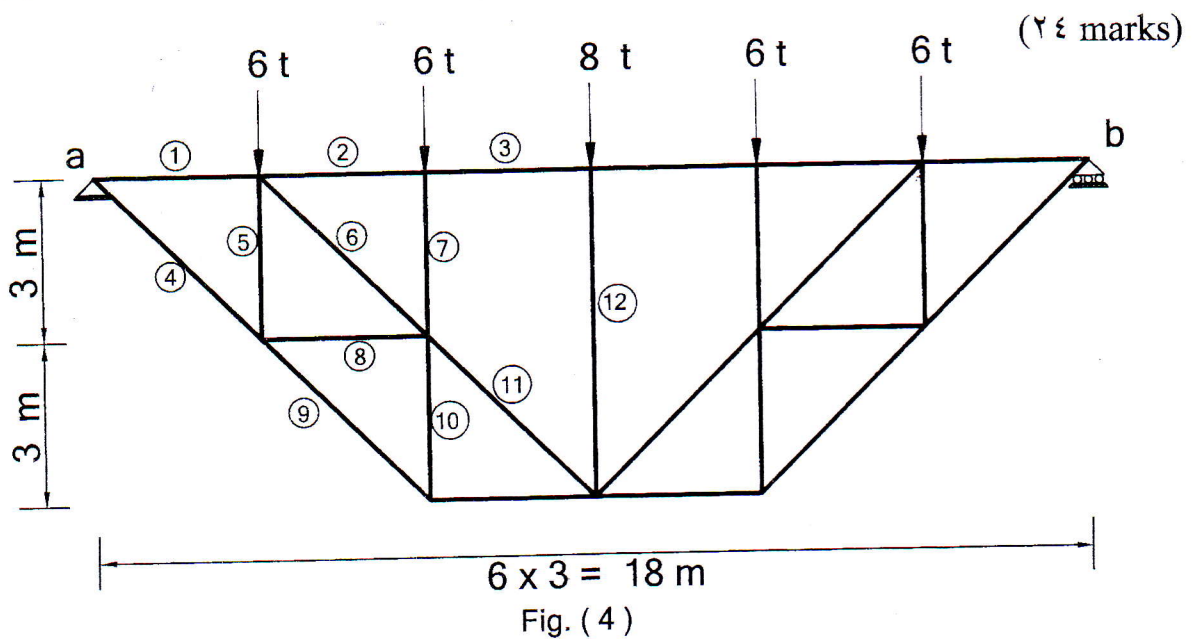
Fig. (2)

- ٣ - The given frame shown in Fig.(٣) is hinged at a and simply supported at b and it has intermediate hinge at c. Find the external reactions at a and b and the internal reaction force in the tie de, and then, draw the N.F., S.F., and B.M. diagrams.

(٣٥ marks)



ξ—Find the forces in the marked members from 1 to 12 for the given truss shown in Fig.(ξ), and it is necessary put and write the results in the box table.



ο—Determine the centroid and the principal axes and the principal moment of inertia for the given cross -section shown in Fig.(ο).

