



Class Test 1

F.E. (All) Sem: I

Sub: Engineering Mechanics

Total marks 20

Time: 50 min

Q.1 Solve any two of the following (8)

- a) State and prove Varignon's Theorem (4)
- b) Determine magnitude and direction of the resultant for given force system (Refer Fig-1) (4)
- c) Determine the resultant with respect to point O of the force system shown in Fig.2 (4)

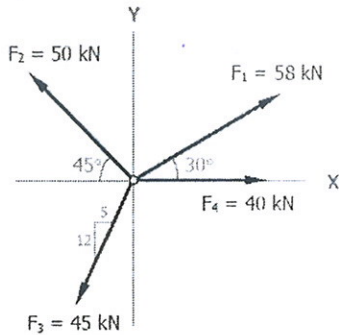


Fig 1

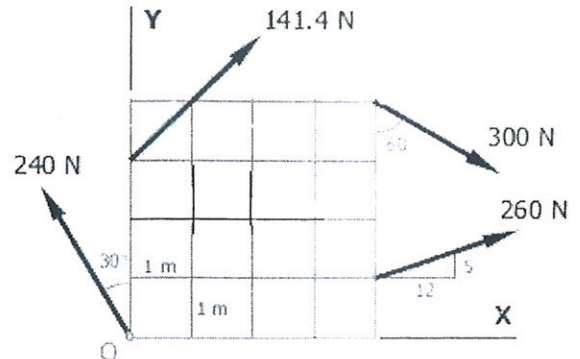


Fig 2

Q.2 Solve any two of the following (12)

- a) The cylinders in Fig. 3 have the indicated weights and dimensions. Assuming smooth contact surfaces, determine the reactions at A, B, C, and D on the cylinders. (6)

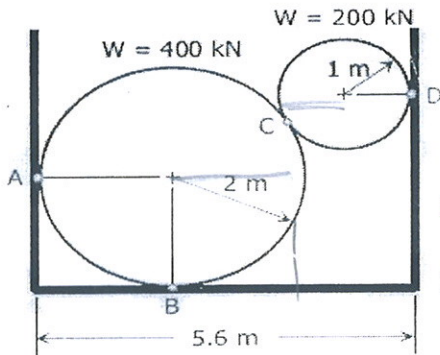


Fig 3

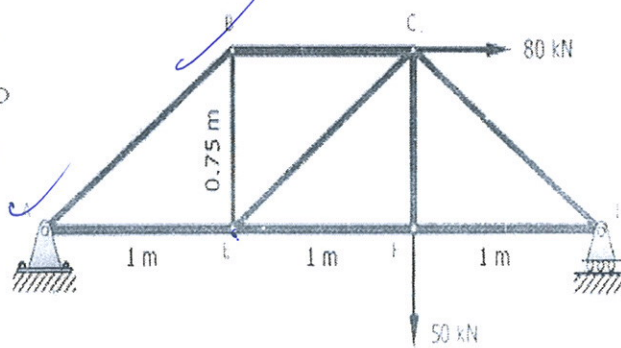


Fig 4

- b) Find the force acting in all members of the truss shown in Fig. 4 by method of Joints (6)
- c) Determine the reaction at all the supports of the beam as shown in fig.5 (6)

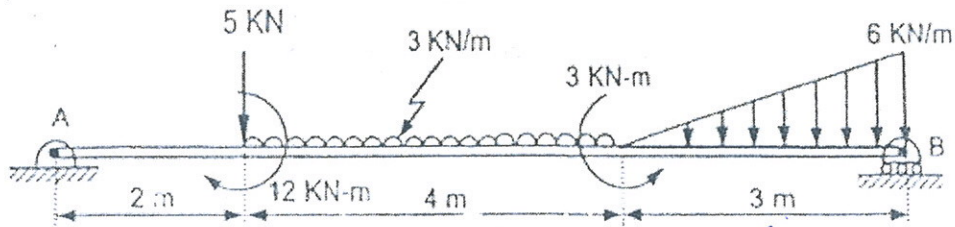


Fig 5