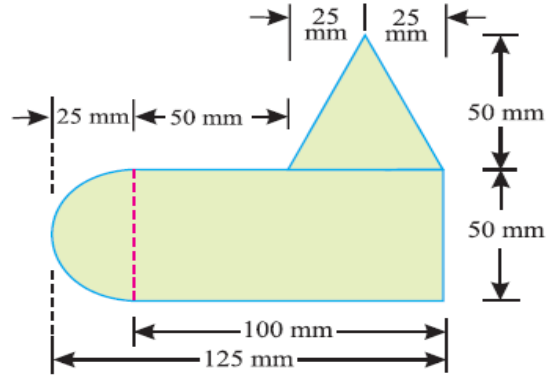
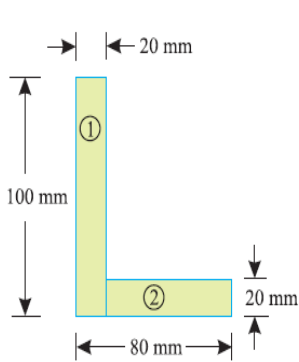


ENGINEERING MECHANICS IMPORTANT QUESTIONS

Q1] Find the centroid of an unequal L- section 100 mm × 80 mm × 20 mm.



Q2] A uniform lamina shown in Fig. consists of a rectangle, a circle and a triangle. Determine the centre of gravity of the lamina. All dimensions are in mm.

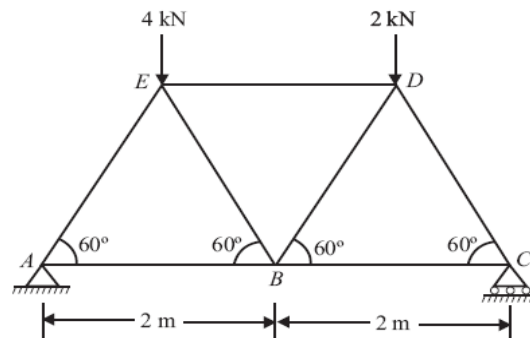
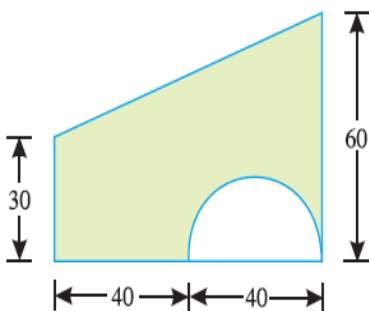
Q3] Find the centre of gravity of an inverted *T*-section with flange 60 mm × 10 mm and web 50 mm × 10 mm.

Q4] Find the Moment of Inertia of L-Section (Take figure of Q-1).

Q5] Locate the centroid for following laminas:

- a) Circle b) semi-circle c) isosceles triangle d) Rectangle

Q6] A semicircular area is removed from a trapezium as shown in Fig.(dimensions in mm). Determine the centroid of the remaining area (shown hatched).



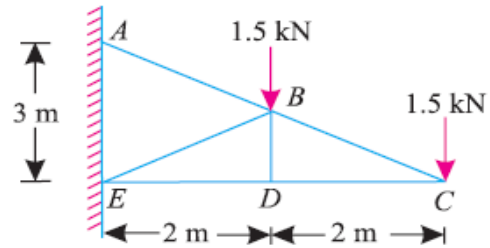
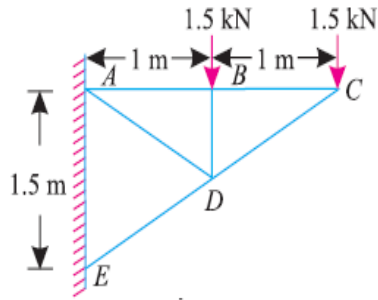
Q7] Define and explain the term: (a) Perfect frame (b) Imperfect frame (c) Deficient frame (d) Redundant frame.

Q 8] What are the assumptions made in the analysis of a simple truss?

Q9] Determine the reaction and the forces in each member of a simple triangle truss supporting two loads of 4kN and 2kN as shown in fig.

Q10] Determine the forces in the various members of a pin-jointed frame as shown in Fig.

ENGINEERING MECHANICS IMPORTANT QUESTIONS

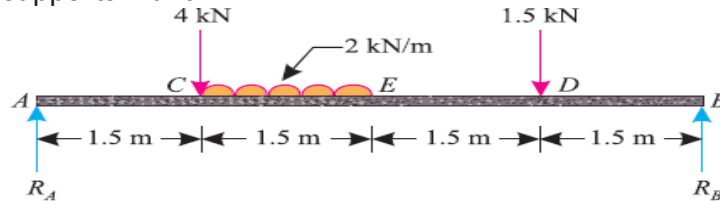


Q11] A cantilever truss of 4 m span is carrying two point loads of 1.5 kN each as shown in Fig.

Q12] Name the methods, which are employed, for finding out the forces in a truss.

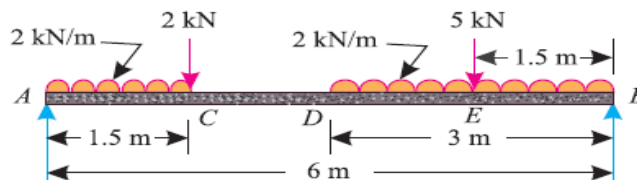
Q 13] Define a beam. What are the different types of beams and different types of loading?

Q14] A simply supported beam, AB of span 6 m is loaded as shown in Fig. Calculate the reactions at the supports A and B.

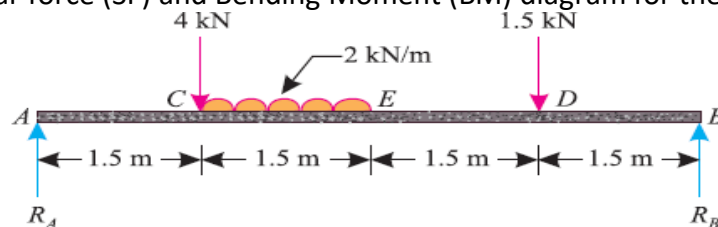


Q15] A simply supported beam AB of span 4 m is carrying a point loads of 5, 2 and 3 kN at 1, 2 and 3 m respectively from the support A. Calculate the reactions at the supports A and B.

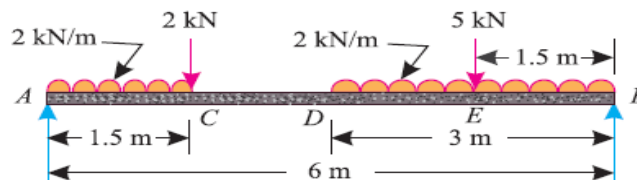
Q16] A simply supported beam AB of span 6 m is loaded as shown in Fig. Calculate the reactions at the supports A and B.



Q17] Draw shear force (SF) and Bending Moment (BM) diagram for the beam.



Q18] Draw SFD and BMD for the beam.



ENGINEERING MECHANICS IMPORTANT QUESTIONS

Q19] Draw SFD and BMD for the beam (Fig as shown below).

Q20] Draw SFD and BMD for the beam (Fig as shown below).

