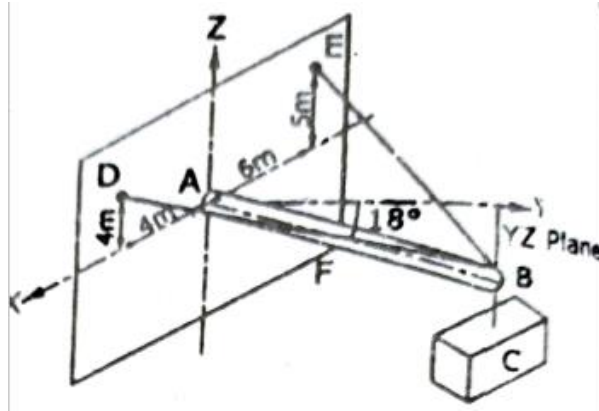


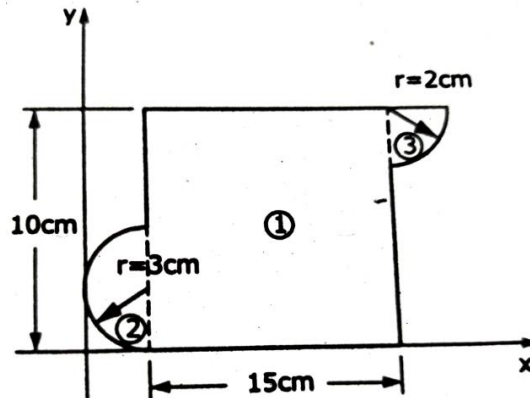
**SNS College of Technology, Coimbatore-35.**  
(Autonomous)

**B.E – Mechatronics Engineering**  
**23MET101 Engineering Mechanics**  
**Assignment Problem**

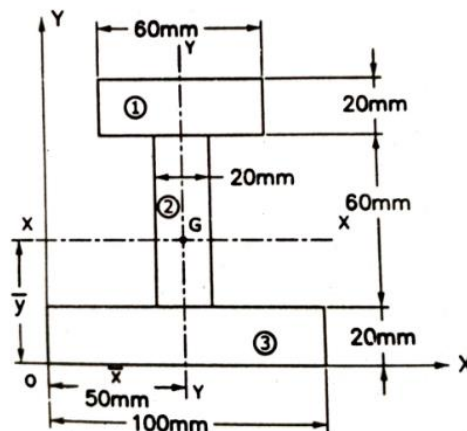
1. A rod AB as shown in diagram is held by a ball and socket joint at A and supports a mass C weighing 1000 N at end B. The rod is in xy plane and is inclined to y axis at an angle of  $18^\circ$ . The rod is 12m long and has negligible weight. Find the forces in cable DB and EB.



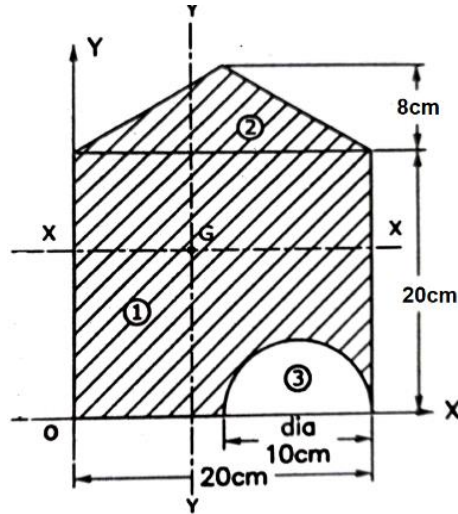
2. Locate the Centroid of the diagram shown in diagram



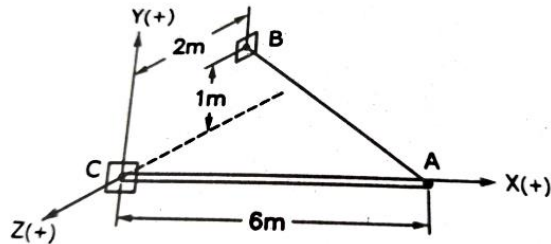
3. Find the Moment of inertia of a I section as shown in diagram about its centroidal axes



4. Find the Moment of inertia of the given section shown in diagram about the horizontal axes.



5. A pipe AC, 6m long is fixed at C, and stretched by a cable from A to a point B on the vertical wall, as shown. If the tension in the cable is 400 N, determine i) the moment of the force exerted at A, about C, and ii) the moment of the force exerted at B, about C



6. Find the Moment of inertia of a channel section as shown in diagram

