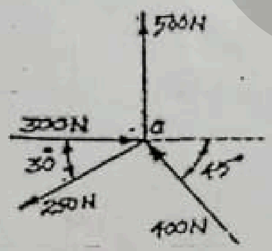
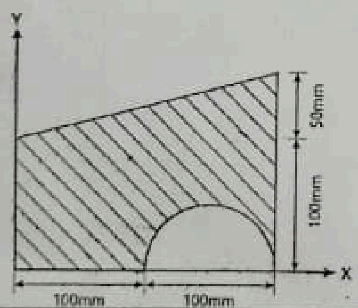
MANJARA CHARITABLE TRUST
RAJIV GANDHI INSTITUTE OF TECHNOLOGY, MUMBAI
Department of Applied Sciences & Humanities

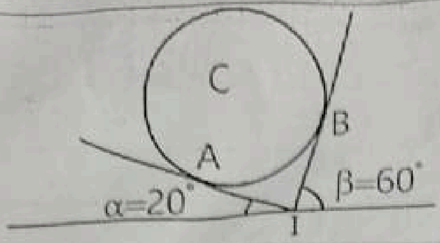
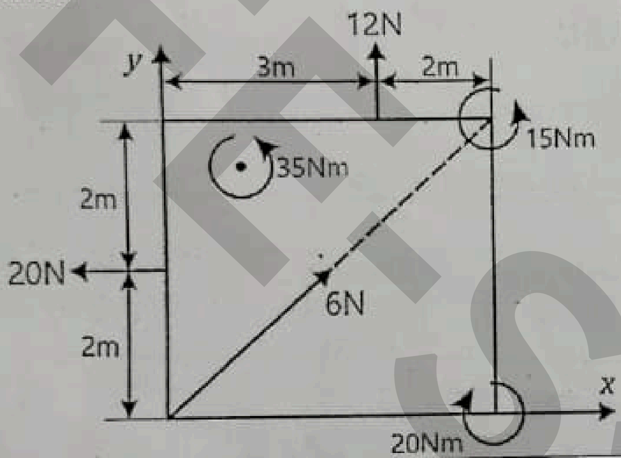
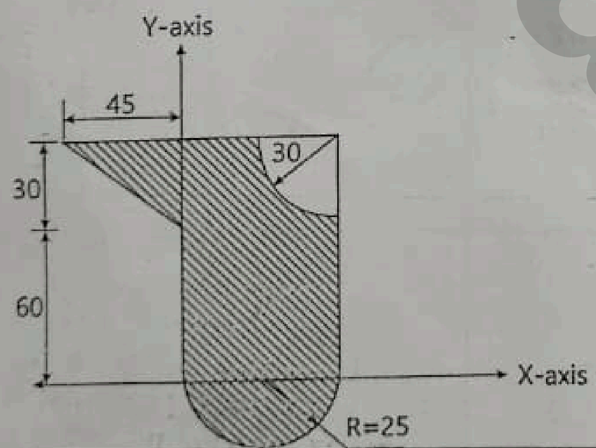
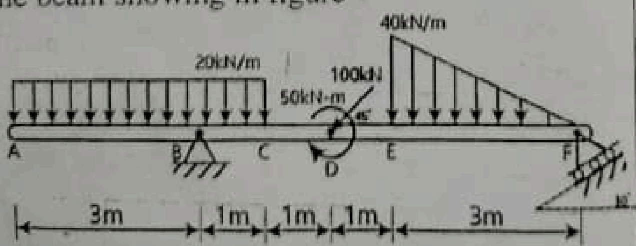
INTERNAL ASSESMENT IA - I

Date: - 16 /10/25

Max. Marks: 20 — Duration: 1 Hour
Class: FE
Name of the Course: Engg. Mechanics
Branch: All

Instructions:
1. Question 1(i,ii,iii)is **compulsory for 10 Marks**
2. From Question 2 to 4 (**Solve any Two**)
3. Figures to the right of the question indicate full marks.
4. Assume the suitable data wherever necessary.
5. Illustrate your answers using neat diagrams wherever necessary.

Questions	Maximum Marks	Bloom's Taxonomy Level	Course Outcomes
Q1. i Find resultant of the force system. 	3	3	CO1
Q1. ii Locate the centroid of the shaded area 	3	3	CO2
Q1. iii A smooth circular cylinder of weight W and radius R rest in a V shape groove whose sides are inclined at angles as shown in fig. to the horizontal as shown. Find the reaction R_A and R_B at the point of contact.	4	3	CO3

<table>
<tr><td>
</td><td></td><td></td><td></td></tr>
<tr><td colspan="4">From Question 2 to 4(Solve any Two)</td></tr>
<tr><td>Q2 Replace the system of forces and couples by a single force and locate the point on the x-axis through which the line of action of the resultant passes.

</td><td>5</td><td>3</td><td>CO1</td></tr>
<tr><td>Q3 Find the centroid of shaded area.

</td><td>5</td><td>3</td><td>CO2</td></tr>
<tr><td>Q4. Find the support reaction at A and B for the beam showing in figure

</td><td>5</td><td>3</td><td>CO3</td></tr>
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