REG.NO.:

VIT®

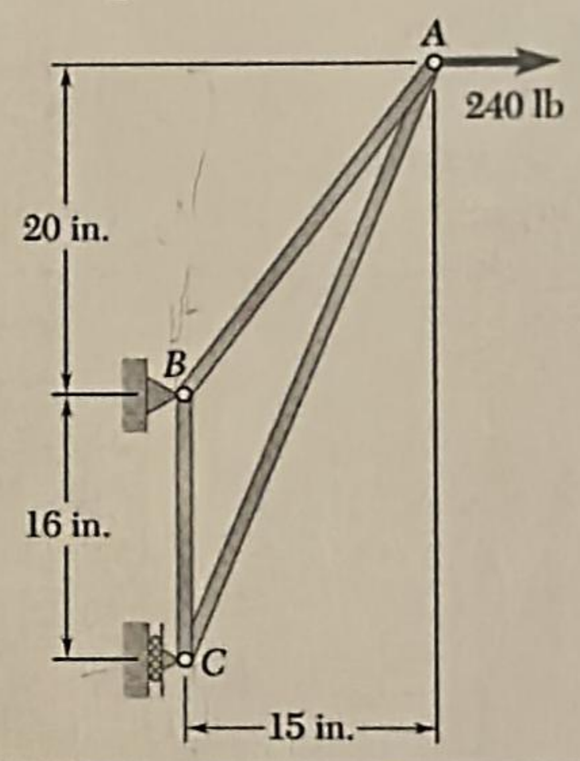
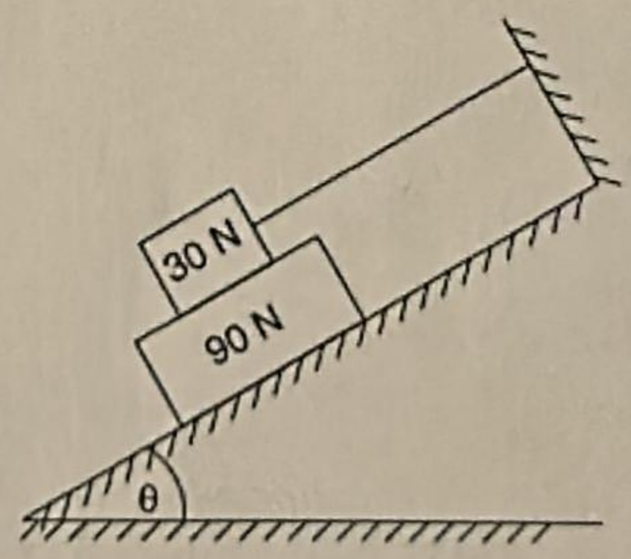
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

SCHOOL OF CHEMICAL ENGINEERING
CONTINUOUS ASSESSMENT TEST -2
FALL SEMESTER 2025-2026

SLOT: G2+TG2

Programme Name & Branch : BCM
Course Code : BMEE201L
Course Name : Engineering Mechanics
Faculty Name(s) : Dr. M. Midhun Kumar
Class Number(s) : VL2025260103820
Date of Examination : 11-10-2025 (Saturday)
Exam Duration : 90 minutes **Maximum Marks: 50**

General instruction

Q. No	Question	Marks	Course Outcome (CO)	Bloom's Taxonomy (BL)
1.	Determine the force in each member of the given truss, also state whether each member is in tension (T) or compression (C). 	10	CO2	BL3
2.	What should be the value of the angle θ in Figure so that the motion of the 90 N block impends down the plane? The coefficient of friction, μ, for all surfaces is 1/3. 	10	CO1	BL3

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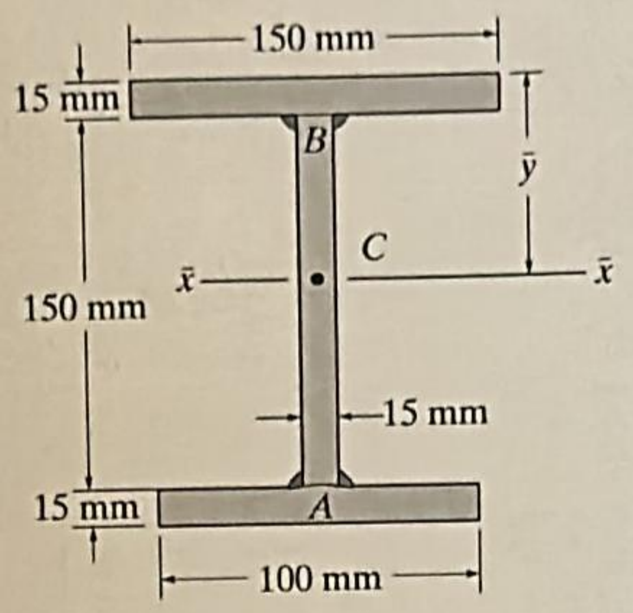
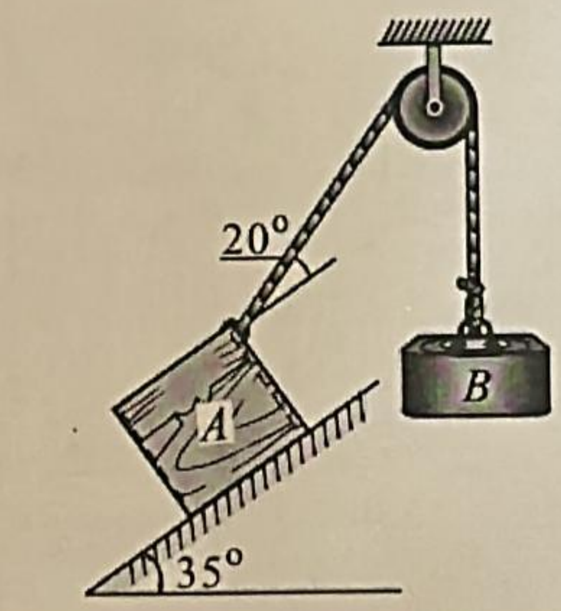
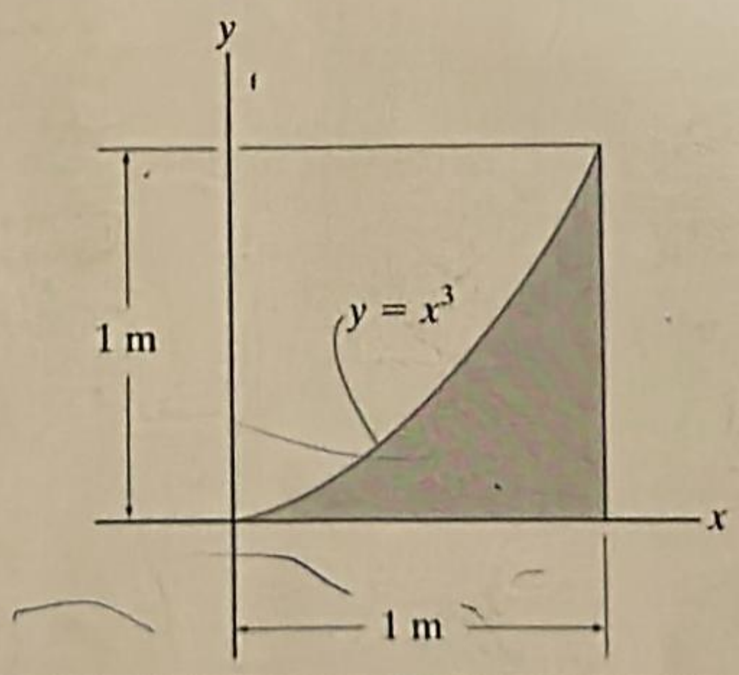
3.	Determine the location of $\bar{y}$ of the centroid C of the beam having the cross-sectional area shown. 	10	CO3	BL3
4.	Block A of weight 2000 N is kept on an inclined plane at 35° as shown in the figure. It is connected to weight B by an inextensible string passing over a smooth pulley. Determine the weight of B so that B just moves down. μ=0.2. 	10	CO1	BL3
5.	Determine the centroid $(\bar{x}, \bar{y})$ of the shaded area given below. 	10	CO3	BL4

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