Roll No: | | | | | | | | | | | |

PRESIDENCY UNIVERSITY

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

Presidency University Act, 2013 of the Karnataka Act No. 41 of 2013 | Established under Section 2(f) of UGC Act, 1956
Approved by AICTE, New Delhi | Approved By BCI
Bengaluru

Mid Term Examinations - October 2026

Date: 08/10/2026 **Time:** 09:30 AM - 11:00 AM

Course Code: MEC2500 **Course Name:** Engineering Mechanics

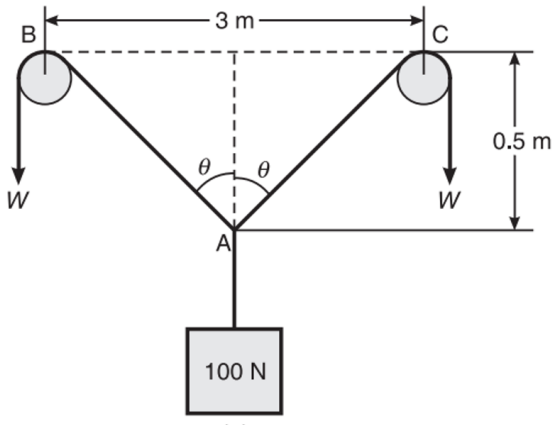
Semester: First Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2
Marks	44	46

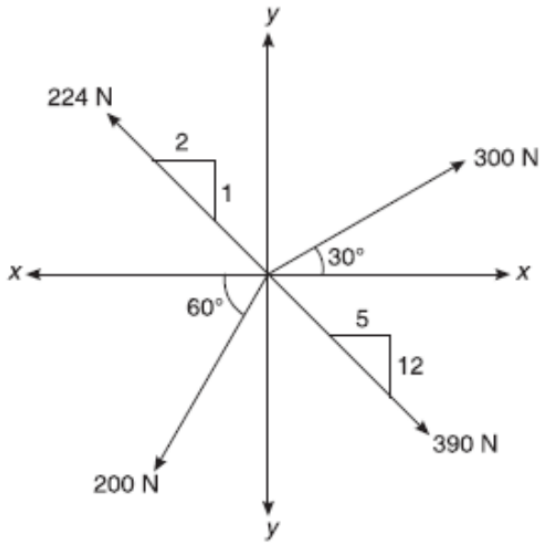
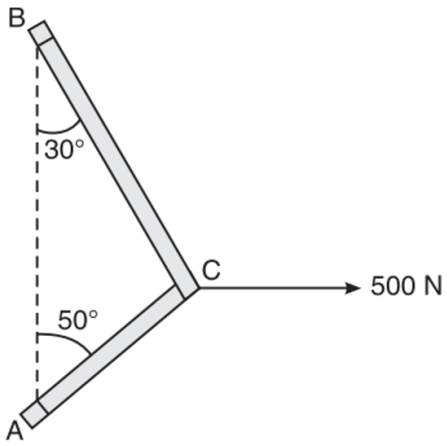
PART A: Answer Following Questions. 10 M

Q.N.	Questions	M	CO	BT
1	Explain different types of forces with examples ?	2	CO1	BT2
2	Explain Equilibrium of forces and give equlibrium conditions ?	2	CO1	BT2
3	Explain Angle of repose and Angle of friction with a neat figure ?	2	CO2	BT2
4	Explain briefly different types of friction ?	2	CO2	BT2
5	Discuss limiting friction with a neat figure?	2	CO2	BT2

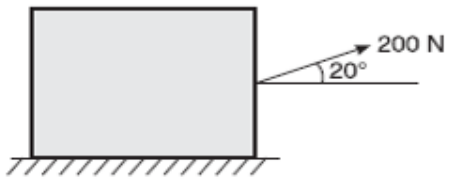
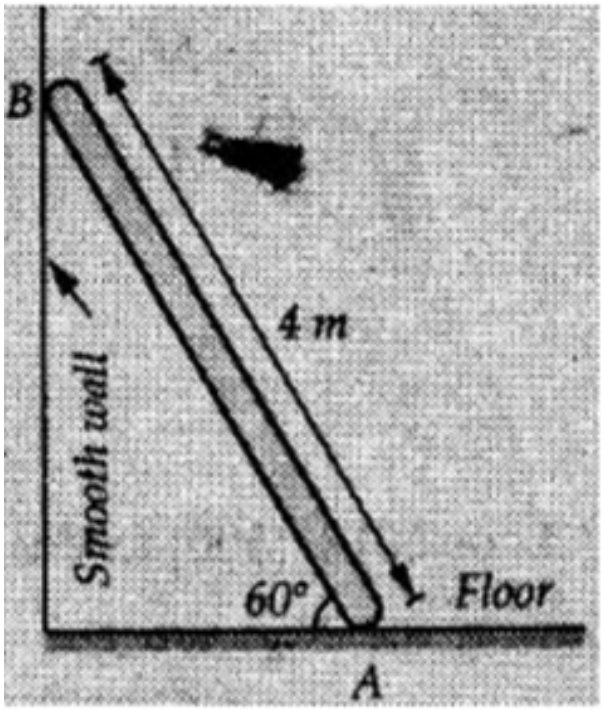
PART B: Answer Any 1 Following Questions. 20 M

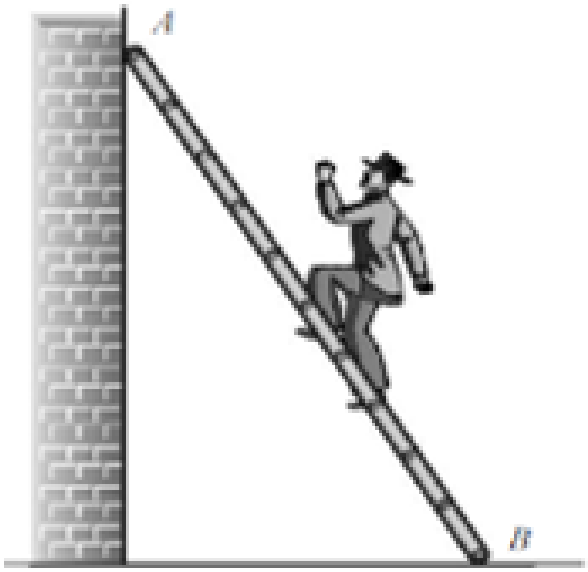
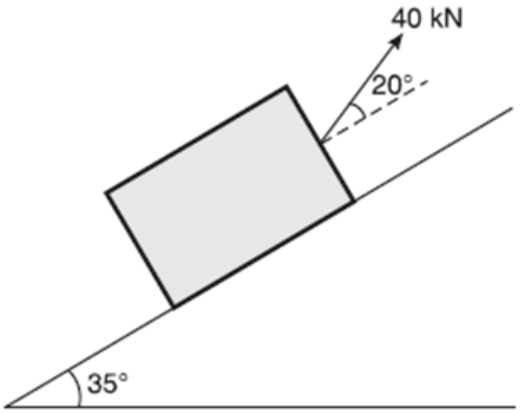
Q.N.	Questions	M	CO	BT
6	a) Discuss the procedure to get the resultant force and orientation of the force? b)Find the value of W, which is required to maintain equilibrium configuration as shown in Fig6a  fig6a	20	CO1	BT3

PTO (Please Turn Over)

7	a)Determine the resultant of the forces acting on the particle shown in fig 6b.  fig 7a b)Determine the forces induced in the members AC and BC of the structure shown in Fig7b below.  fig 7b	20	CO1	BT3

PART C: Answer Any 1 Following Questions. 20 M				
Q.N.	**Questions**	**M**	**CO**	**BT**

8	a)A block shown in fig 8.a is just moved by a force of 200N. The weight of block is 600N. Determine the co-efficient of static friction between the block and the floor.  fig 8a b) A ladder of weight 1000N and length 4m rests as shown in fig 8b. If a 750N weight is applied at 3m from the top of ladder, it is at the point of sliding. Determine the co-efficient of friction between ladder and the floor.  fig 8b	20	CO2	BT3

9	a)A uniform ladder weighing 100N and 5metres long has lower end B resting on the ground and upper end A resting against a vertical wall as shown in Fig9a.. The inclination of the ladder with horizontal is 60°. If the co efficient of friction at all surfaces of contact is 0.25, determine how much distance (up along the ladder) a man weighing 600N can ascent without causing it to slip.  fig 9a b)A body of weight 200 kN is acted upon by a force of 40kN as shown in fig 9b.If the coefficient of friction between the inclined plane and the body is 0.3, check whether the body moves up the plane or remains stationary.  fig9b	20	CO2	BT3