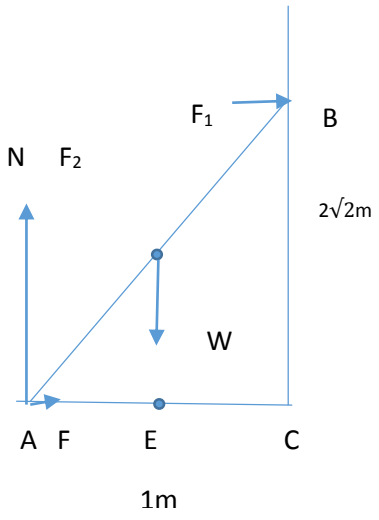
SYSTEMS OF PARTICLES AND ROTATIONAL MOTION

General Instructions: Answer all the questions. If you are unable to answer any question, go through the page number that is given against that particular question in the text book. You can find the answer.

Test Paper-II

MAX MARKS: 30 **TIME: 90Mts**

1	Give the conditions for the mechanical equilibrium of a rigid body.	P158	2
2	Explain with examples the effect of forces that produce rotation without translation in a body?	P159	3
3	Show that moment of a couple does not depend on the point about which you take the moments.	P160	2
4	What is meant by Mechanical Advantage? What is its importance?	P160	3
5	What are the differences between the Centre of mass and Centre of gravity of a body?	P162	2
6	How will you determine the Centre of gravity of an irregular shaped body?	P161	3
7	A metal bar 70 cm long and 4.oo kg in mass supported on two knife-edges placed 10cm from each end. A 6.00 kg load is suspended at 30 cm from one end. Find the reactions at the knife-edges	P162	3
8	A 3m long ladder weighing 20 kg leans on a frictionless wall. Its feet rest on the floor 1m from the wall as shown in figure. Find the reaction forces of the wall and the floor.	P163	3



9	What is the analogue of mass in rotational motion? Give the expression for finding the same.	P163	1
10	Define Moment of inertia of a body. Give the factors on which the moment of inertia of a body depends upon. What is the moment of inertia and kinetic energy of a light rod of length' l' with a pair of masses rotating about an axis through the Centre of mass of the system and perpendicular to the rod. The total mass of the system is M.	P164	3
11	What is meant by radius of gyration of a body? Give the dimensions of it.What is its value for a rod, about the perpendicular axis at its mid-point?	P164	3
12	Give the practical use of Moment of Inertia.	P164	2