Q1: what is meant by moment or torque?

1. State the formula and also define the unit of it

Q2: what is the principle of moment also explain the principle of how the see saw is balanced ?

1. Ali and his father sit on the end of the see saw 4 cm away from the pivot where should ali's mother sit in order to balance the see saw ? where the weight of ali is 300N , father 900N and mother weight 600N

Q3: define the relationship of force and momentum with derivation ? A. What is meant by Impulse? Q3: a force of 8 N is applied to Ball for 1.06 min Calculate 1. The impulse on ball 2. Change in momentum of the ball

1. Define the law of conservation of momentum

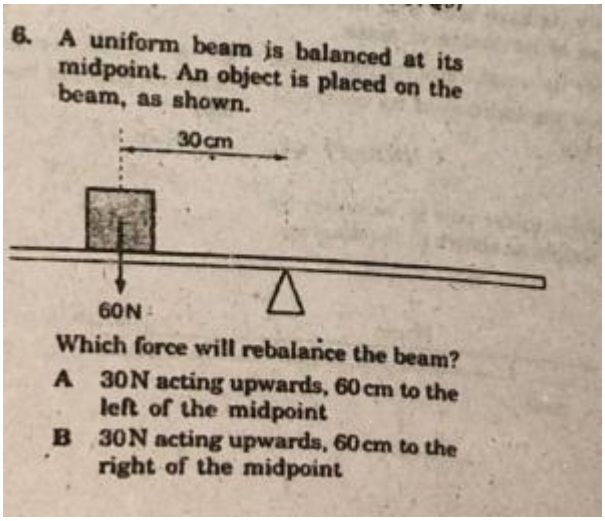
2. Calculate the momentum of 3 kg ball moving with the velocity of 9 cm/min ?

3. A trolley contain a mass of 8kg and moving with a velocity of 7 m/s collides with a ball which is at rest , the ball has a mass of 2 kg , the trolley stops and the ball then starts to move calculate with what velocity the ball is moving after the collision ?

4. All prove the momentum doesn't get lost

Q4: a Bus is moving with the velocity of 30m/s of mass 3000kg comes to rest in 2 min after the collision calculate: 1. The change In momentum of the car 2. The stopping force applied to the car All the answer should be in SI units

Q5:



C 45N acting downwards, 45 cm to the right of the midpoint

D 90N acting downwards, 20 cm to the left of the midpoint

/////P1/Q7/

Q6:

7. A metal cone with a circular base is placed on a flat surface.

The stability of the cone depends on

A its weight only.

B the diameter of its base and the position of its centre of mass.

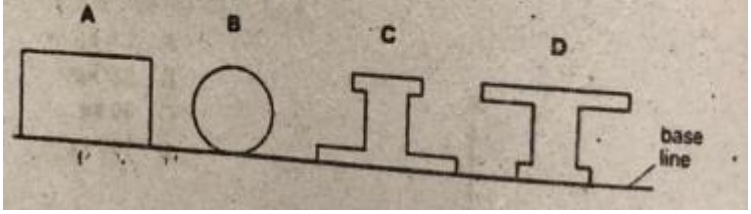
C the diameter of its base only.

D the position of its centre of mass only.

Q7:

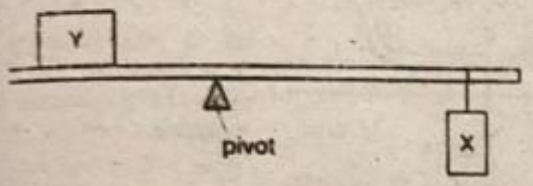
8. The diagram shows four shapes, cut from the same piece of card.

Which shape has its centre of mass nearest to the base line?



Q8:

10. An object Y is in a fixed position on a rod. A weight X is moved and the position of a pivot is adjusted until the rod balances on the pivot, as shown.



The experiment is repeated in a region where the gravitational field strength is lower.

What is done to keep the rod balanced?

	pivot	X
A	move left	no movement
B	move right	move left
C	no movement	move right
D	no movement	no movement

Q9:

Question 3

A builder needs to determine the density of a solid cube of wood.

He places the 50 cm mark of a uniform metre rule on a pivot, so that the rule balances.

He then places the cube on the rule with its centre of gravity directly above the 75 cm mark. A mass of 0.050 kg is moved along the rule until balance is restored. This is shown in Fig. 1.1.

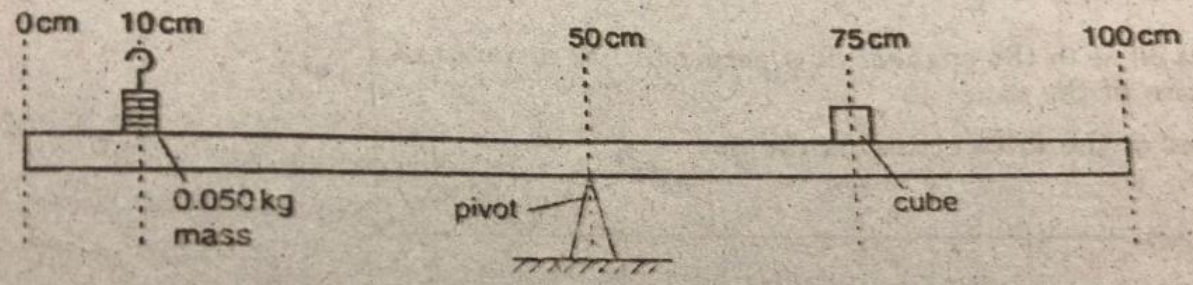


Fig. 1.1 (not to scale)

Q10: define elastic and plastic ? also define the following terms

a. Load
b. Extension
c. Spring constant
d. Elastic limit
e. Limit of proportionality

Q11: Define Hooke's Law and also state the formula of Hooke's Law and explain it with the help of diagram and the graph ?