



# Loreto Convent Intermediate College

Lucknow

## HOLIDAY HOMEWORK

### CLASS - X

### SUBJECT - PHYSICS

1. The moment of a force of 25 N about a point P is 20 N m. Calculate the distance of the point of application of the force from the point P.
2. Two forces each of magnitude 5 N act vertically upwards and downwards respectively at the two ends of a uniform rod of length 2 m which is pivoted at its centre. Draw a diagram of the arrangement and determine the resultant moment of forces about the mid-point of the rod.
3. Two girls of masses 40 kg and 55 are sitting on one side of a see-saw at distances 1.5 m and 2.8 m respectively from its centre. Where should a man of mass 75 kg sit to balance it?
4. A uniform metre rule balances horizontally on a knife edge placed at the 45 cm mark when a weight of 15 gf is suspended from one end. (i) Draw a diagram of the arrangement. (ii) What is the weight of the rule?
5. A uniform metre rule of mass 100 g is balanced on a fulcrum at mark 40 cm by suspending an unknown mass  $m$  at the mark 20 cm. (i) Find the value of  $m$ . (ii) To which side the rule will tilt if the mass  $m$  is moved to the mark 10 cm? (iii) What is the resultant moment now? (iv) How can it be balanced by another mass of 50 g?

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