

9 A homogeneous sphere rests on two parallel rods lie on the same horizontal plane and the distance between them equals the radius of the sphere. Find the pressure on the two rods if the weight of the sphere equals 60 Newton.

10 AB is a uniform rod whose weight is W kg. wt attached by its end A to a hang fixed on a vertical wall. If a horizontal force \vec{F} acts on the rod at B and the rod get equilibrium when it inclined to the vertical by an angle of measure 60° . Find the magnitude of \vec{F} and the reaction of the hang.

11 A weight of magnitude 60 gm. wt is suspended from one end of a string of length 28 cm. The other end is fixed at a point in the ceiling of the room, A force acts on the body so that the body became in equilibrium when it is about 14 cm vertically down the ceiling, If the force is in equilibrium position when it is normal to the string . Find the magnitude of each of the

- 12 A weight of magnitude 200 gm. wt is suspended by two strings of lengths 60 cm, 80 cm from two points on one horizontal line. The distance between them is 100 cm. Find the magnitude of the tension in each of the two strings.
- 13 A particle of weight 200 gm. wt is suspended by two light strings. One of the them inclines to the vertical with an angle of measure θ and the other string inclines to the vertical with an angle of measure 30° . If the magnitude of the tension in the first string equals 100 gm. wt, find θ and magnitude of the tension of the second string.
- 14 A body of weight 800 gm. wt is placed on a smooth plane inclined to the horizontal by angle of measure θ so that $\sin\theta = 0.6$. The body is kept in equilibrium by a horizontal force. Find the magnitude of this force and the reaction of the plane on the body.
- 15 A body of weight (W) newton is placed on a smooth plane inclined to the horizontal by an angle of measure 30° and the body is kept in equilibrium by the effect of force of magnitude 36 newton acts in direction of the line of the greatest slope upwards. Find the magnitude of the weight of the body and the magnitude of the reaction of the plane.
- 16 A smooth metal sphere of weight 3 Newton at rest (stable) between a smooth vertical wall and a smooth plane inclined to the vertical wall with angle of measure 30° . Find the pressure on each of the vertical wall and the inclined plane.
- 17 A rod of length 50 cm and weight 20 newton was suspended from its terminals with two strings such that the two ends are fixed in one point. If the length of the two strings are 30 cm, 40 cm respectively. Find the tension in each of the two strings.