CBSE

MOTION IN A PLANE WS 15

Class 11 - Physics

Section A

1. A man stands on the roof of a 15.0-m-tall building and throws a rock with a speed of 30.0 m/s at an angle of 33.0^{o} above the horizontal. You can ignore air resistance. Calculate the maximum height above the roof that the rock reaches. **[1]**

   a) 12.6 m b) 11.7 m

   c) 13.6 m d) 14.2 m

2. One of the rectangular components of a velocity of 80 kmh^{-1} is 40 kmh^{-1}. Find the other component. **[1]**
3. Can any of the components of a given vector have greater magnitude than that of the vector itself? **[1]**
4. Three vectors not lying in a plane can never end up to give a null vector. Justify. **[1]**

Section B

5. A force is inclined at 30° to the horizontal. If its rectangular component in the horizontal direction is 50 N, find the magnitude of the force and its vertical component. **[2]**