PHYSICS ASSIGNMENT FOR CLASS 11Sc

1.Abomber plane moves horizontally with a speed 500m/s and a bomb released from it, strikes the ground in 10 seconds.Find the angle at which it strikes the ground(g=10m/s2).

2.If range and height of a prohectile are equal, then find the angle of projection with the horizontal.

3.A cricket ball is projected upwards from the top of tower with a velocity 50m/s making an angle30 degree with the horzontal.The height of tower is 70m.After how many seconds from the instant of following will ball reach the ground?

4.A bullet is fired from a gun with a speed of 1000m/s in order to hit a target 100m away.At what height above the target should be gun be aimed?

5.A stone tied to the end of string 80cm long is whirled in horizontal circle with a constant speed.If the stone makes 14 revolutions in 25 seconds , what is the magnitude of acceleration of the stone?

6.An object is being thrown at a speed of 20m/ s in a direction 45 degree above the horizontal.Find the time taken by the object to return to the same level.

7.The angle between the vectors A= 5i+ 5j and B= 5i- 5j will be

(a) zero (b) 90 degree (c) 45 degree (d) 0 degree.

8.A bird flies ( -3m, 4m,-3m) to ( 7m, - 2m, -3m) in the xyz coordinates.The bird's displacement in unit vectors is given by

( a) 4i+2j- 6k (b) 10i- 6j (c) 4i- 2j (d) 10i+6j- 6k

9.A coast guard ship locates a pirate ship at a distance 560m.It fires a canon ball with an initial speed 82m/s. At what angle from horizontal the ball must be fired so that it hits the pirate ship?

( a) 54 degree (b) 125 degree ( c) 27degree ( d) 18degree

10.what is a projectile? Show that its path is parabolic.Also find the expressions fir(i) maximum height attained ( ii) time of flight.