CBSE TEST PAPER-04

CLASS - XI PHYSICS (Kinematics)

Topic: - Motion in Plane

1. What is "Trajectory of a projectile? [1]

2. A projectile is fired at an angle of 30^o with the horizontal with velocity 10m/s. At what angle with the vertical should it be fired to get maximum range? [1]

3. What is the value of angular speed for 1 revolution? [1]

4. What is the angle between two forces of 2N and 3N having resultant as 4N? [2]

5. What is the angle of projection at which horizontal range and maximum height are equal? [2]

6. Prove that for elevations which exceed or fall short of 45^o by equal amounts the ranges are equal? [2]

7. At what range will a radar set show a fighter plane flying at 3 km above its centre and at distance of 4 km from it? [2]

8. Derive expressions for velocity and acceleration for uniform circular motion. [3]

   OR Derive expression for linear acceleration in uniform circular motion.

9. Derive an equation for the path of a projectile fired parallel to horizontal. [3]

10. (a) Define time of flight and horizontal range? [3]

    (b) From a certain height above the ground a stone A is dropped gently. Simultaneously another stone B is fired horizontally. Which of the two stones will arrive on the ground earlier?