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**CBSE TEST PAPER-06**  
**CLASS - XI PHYSICS (Kinematics)**  
**Topic: - Motion in Plane**

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1. What will be the effect on horizontal range of a projectile when its initial velocity is doubled, keeping the angle of projection same? [1]
2. What will be the effect on maximum height of a projectile when its angle of projection is changed from  $30^\circ$  to  $60^\circ$ , keeping the same initial velocity of projection? [1]
3. What is the angular velocity of the hour hand of a clock? [1]
4. A body is moving on a curved path with a constant speed. What is the nature of its acceleration? [2]
5. A stone tied at the end of string is whirled in a circle. If the string breaks, the stone flies away tangentially. Why? [2]
6. What are the two angles of projection of a projectile projected with velocity  $30\text{m/s}$ , so that the horizontal range is  $45\text{m}$ . Take,  $g = 10\text{m/s}^2$ . [2]
7. The blades of an aeroplane propeller are rotating at the rate of 600 revolutions per minute. Calculate its angular velocity. [2]
8. What is a uniform circular motion? Explain the terms time period, frequency and angular velocity. Establish relation between them. [3]
9. A body of mass  $m$  is thrown with velocity ' $v$ ' at angle of  $30^\circ$  to the horizontal and another body B of the same mass is thrown with velocity  $v$  at an angle of  $60^\circ$  to the horizontal. Find the ratio of the horizontal range and maximum height of A and B? [3]
10. At what point of projectile motion (i) potential energy maximum (ii) Kinetic energy maximum (iii) total mechanical energy is maximum [3]