



# SMART TEST SERIES

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Name:		Subject:	Physics-11
Roll # :		Unit(s):	3,
Class:	Inter Part-I	Test:	Type 3 - MCQs + SQs Test - Marks=30
Date:		Time:	

**Q.1 Four possible answers A, B, C & D to each question are given. Circle the correct one. (10x1=10)**

- If the force acting on a body is doubled, then the acceleration becomes:  
(A) Constant (B) Double (C) Half (D) One fourth
- The dimension of force are:  
(A)  $MLT^{-2}$  (B)  $M^2LT^{-2}$  (C)  $MT^{-2}$  (D)  $ML^2T$
- The range of projectile is same for the angle of projection of:  
(A)  $30^\circ$  &  $45^\circ$  (B)  $50^\circ$  &  $30^\circ$  (C)  $20^\circ$  &  $60^\circ$  (D)  $30^\circ$  &  $60^\circ$
- For maximum range the angle of projection must be:  
(A)  $30^\circ$  (B)  $45^\circ$  (C)  $60^\circ$  (D)  $90^\circ$
- The maximum range of the projectile is 100 km. Take  $g=10 \text{ ms}^{-2}$ , the initial velocity of the projectile will be:  
(A)  $1000 \text{ kms}^{-1}$  (B)  $1 \text{ kms}^{-1}$  (C)  $10 \text{ kms}^{-1}$  (D)  $100 \text{ kms}^{-1}$
- The trajectory or path of a projectile is:  
(A) straight line (B) parabola (C) hyperbola (D) circle
- Motion of a body along y-axis is:  
(A) one dimensional (B) two dimensional (C) three dimensional (D) four dimensional
- The ballistic missiles are used only for:  
(A) long ranges (B) short ranges (C) medium ranges (D) none of these
- The range of projectile is same for the angle of projection:  
(A)  $(30^\circ, 45^\circ)$  (B)  $(50^\circ, 30^\circ)$  (C)  $(20^\circ, 60^\circ)$  (D)  $(30^\circ, 60^\circ)$
- If a projectile is projected making an angle of  $45^\circ$  with the horizontal, then its range will be:  
(A) zero (B) minimum (C) maximum (D) infinite

**Q.2 Write short answers of the following questions.**

**(10x2=20)**

- Differentiate between distance and displacement.
- Show that rate of change in momentum for an object is equal to applied force.
- Differentiate between elastic and inelastic collision. Explain how would a bouncing ball behave in each case?
- Briefly describe the force due to water flow.
- What is the principle of rocket propulsion?
- Write down two characteristics of a ballistic missile.
- Explain what is meant by projectile motion? Derive expression for range of projectile?
- Show that range of projectile is maximum when thrown at an angle of  $45^\circ$  with horizontal.
- The horizontal range of projectile is four times of its maximum height. What is angle of projection?
- Which quantity remains same at all points on the trajectory of a projectile; either velocity or acceleration? Explain.