



SMART TEST SERIES

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Name:		Subject:	Physics-11
Roll # :		Unit(s):	3,
Class:	Inter Part-I	Test:	Type 2 - SQs Test - Marks=40
Date:		Time:	

SHORT QUESTIONS TEST

1- Write short answers to any 7 questions: (7x2=14)

- (i) Define average and instantaneous velocity. Also give their units.
- (ii) Motion with constant velocity is a special case of motion with constant acceleration. Is this statement true? Discuss.
- (iii) Define positive and negative acceleration along with their directions.
- (iv) Write two objectives of velocity time graph.
- (v) State Newton's Second and Third Law of Motion.
- (vi) Show that rate of change in momentum for an object is equal to applied force.
- (vii) Show that range of projectile is maximum when projectile is thrown at an angle of 45° with horizontal.
- (viii) Define and derive formula of range of projectile.
- (ix) If the angle of projection of a projectile is zero. What is its maximum height?
- (x) Which quantity remains same at all points on the trajectory of a projectile; either velocity or acceleration? Explain.

2- Write short answers to any 7 questions: (7x2=14)

- (i) Define instantaneous velocity of a moving body.
- (ii) Explain the circumstances in which the velocity 'v' and acceleration 'a' of a car are: (a) Parallel (b) Perpendicular to one another. (c) Anti-parallel
- (iii) How is distance calculated from velocity-time graph?
- (iv) Name of quantities which can be calculated from velocity-time graph and how there can be calculated.
- (v) What is the significance of slope of velocity-time graph?
- (vi) An object is thrown vertically upward. Discuss the sign of acceleration due to gravity, relative to velocity, while the object is in air.
- (vii) Why motor cycle's safety helmet is padded?
- (viii) What is effect on the speed of a fighter plane chasing another when it opens fire? What happens to the speed of pursued plane when it returns the fire?
- (ix) Show that range of projectile is maximum when thrown at an angle of 45° with horizontal.
- (x) If the angle of projection of a projectile is zero. What is its maximum height?

3- Write short answers to any 6 questions: (6x2=12)

- (i) What is meant by instantaneous acceleration? Write its formula.
- (ii) A man standing on the top of a tower throws a ball straight up with initial velocity v_i and at the same time throws a second ball straight downward with the same speed? Which ball will have larger speed when it strike the ground.
- (iii) A ball is dropped from a height of 490 m. How long does the ball take to reach the ground?
- (iv) Why the first law of motion also called law of inertia.
- (v) A 1500 Kg car has its velocity reduced from 20 ms^{-1} to 15 ms^{-1} in 3.0 seconds. How large was the average retarding force?
- (vi) A 1500 kg car has its velocity reduced from 20 ms^{-1} to 15 ms^{-1} in 3.0 seconds. How large was the average retarding force?
- (vii) Write down the impact on the bodies when a lighter body collides with a massive body at Rest. Explain by the mathematical relation.
- (viii) What is the principle of rocket propulsion?
- (ix) Find the angle of projection of projectile for which its maximum height and horizontal range are equal.