



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)

- The dimension of velocity are:
(A) LT (B) MLT (C) LMT⁻¹ (D) LT⁻¹
- 10 N and 20 N are acting on a body of mass 2 Kg, the minimum acceleration will be:
(A) 10 ms⁻² (B) 20 ms⁻² (C) 60 ms⁻² (D) 5 ms⁻²
- The average and instantaneous acceleration will be equal when a body moves with:
(A) constant velocity (B) constant acceleration (C) variable acceleration (D) retardation
- The area under velocity time graph is equal to:
(A) Distance (B) Power (C) Force (D) Work
- Distance travelled by free falling object in first second is:
(A) 4.9 m (B) 9.8 m (C) 19.6 m (D) 10 m
- An object of mass 1 kg moving with acceleration of 1 ms⁻² will experience a force of:
(A) 10⁻² N (B) 10⁻³ N (C) 1 N (D) 1 dyne
- SI unit of impulse is:
(A) kgms⁻¹ (B) N.m (C) N.S (D) N.m²
- A force of 20N acts along x-axis, its x-component is:
(A) 0N (B) 10N (C) 20N (D) 30N
- For a rocket, the change in momentum per second of the ejecting gases is equal:
(A) Acceleration of the rocket (B) Momentum of rocket (C) Velocity of the rocket
(D) Thrust acting on rocket
- A ball is thrown up with 20 ms⁻¹ at an angle of 60° with x-axis, the velocity of the ball at the top position is:
(A) 0ms⁻¹ (B) 10ms⁻¹ (C) 20ms⁻¹ (D) 16ms⁻¹

Q.2 Write short answers of the following questions.

(10x2=20)

- Amam standing on the top of a tower thrown a ball straight up with initially 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.
- A ball is dropped from a height of 490 m. How long does the ball take to reach the ground?
- What is effect on the speed a fighter plane chasing another when it opens fire? What happens to the speed of pursued plane when it returns the fire?
- A rubber ball and lead ball of same size, are moving with same velocity. Which ball have greater momentum and why?
- A 1500 kg car has its velocity reduced from 20ms⁻¹ to 15 ms⁻¹ in 3.0 seconds. How large was the average retarding force?
- Explain what is meant by projectile motion. Give an example.
- Show that range of projectile is maximum when projectile is thrown at an angle of 45° with horizontal.
- Find the angle of projection of projectile for which its maximum height and horizontal range are equal.
- Derive formula for the time of Flight of a Projectile.
- Which quantity remains same at all points on the trajectory of a projectile; either velocity or acceleration? Explain.