Chapter No. 3

1. The projectile motion is

   a. one dimension   b. two dimension   c. three dimension   d. four dimension

2. When a body moves with constant acceleration then velocity time graph is

   a. parabola   b. hyperbola   c. st.line   d. curve

3. The unit of momentum in S.I system is

   a. N m   b. N^2 m   c. N m^2 d. N s

5. The dimensional unit of impulse is

   a. MLT   b. MLT^{-1} c. $ML^{-1}T^{-1}$ d. $M^{-1}L^{-1}T^{-1}$

6. The range of projectile is directly proportional to:

   (A) $\sin^2 \theta$ (B) $\sin 2\theta$ (C) $\sin \theta$ (D) $2\sin \theta$

7. A cricket ball is hit so that it travels straight up in air and it acquires 3 seconds to reach the maximum height. Its initial velocity is:

   (A) 10 ms^{-1} (B) 15 ms^{-1} (C) 29.4 ms^{-1} (D) 12.2 ms^{-1}

8. The horizontal range of projectile at 30^0 with horizontal is the same as that at an angle of:

   (A) 45^0 (B) 60^0 (C) 90^0 (D) 120^0

9. Change in momentum is also called as:

   (A) Force   (B) Acceleration   (C) Torque   (D) Impulse

10. Water flows out from a pipe at 3 kg/s and its velocity changes from 5 m/s to zero on striking the wall. The force due to water flow is:

    (A) 3 N   (B) 5 N   (C) 10 N   (D) 15 N

11. Slope of velocity-time graph represents:

    (A) Average acceleration   (B) Average velocity

    (C) Average speed   (D) Instantaneous acceleration

12. A projectile is thrown upwards with initial velocity "V_i" making an angle "θ" with the horizontal. The maximum horizontal range is given by:

    (A) $\dfrac{v_i^2}{g}$ (B) $\dfrac{v_i^2}{2g}$ (C) $\dfrac{v_i^2}{g}\sin 2\theta$ (D) $\dfrac{v_i^2}{2g}\sin 2\theta$

13. Area under velocity-time graph is numerically equal to

    (A) Average acceleration   (B) speed   (C) distance covered   (D) average velocity

14. When a projectile reaches at maximum height, vertical components of the velocity becomes

    (A) small   (B) maximum   (C) zero   (D) $v i\cos\theta$

15. A bullet shot straight up returns to its starting point in 10 s. Its initial speed was

    (A) 9.8 m/s   (B) 49 m/s   (C) 24.5 m/s   (D) 98 m/s

16. When a ball is thrown straight up, its acceleration at highest point is

    a. Zero   b. horizontal   c. downward   d. upward