

OBJECTIVE TYPE QUESTIONS**Chapter # 4****MOTION IN TWO DIMENSION**

1. A. Maximum range attained by a projectile can be found by the formula:
 (a) $\frac{V_o \sin O}{g}$ (b) $\frac{2V_o \sin O}{g}$ (c) $\frac{2V_o^2 \sin 2O}{g}$ (d) $\frac{2V_o^2 \sin 2O}{2g}$
2. In the absence of air friction projectile has maximum range when fired at an angle.
 (a) 30° with the horizontal (b) 45° with the vertical
 (c) 30° with the vertical (d) 60° with the horizontal
3. During the projectile motion, the horizontal component of velocity
 (a) Change with time (b) Becomes zero
 (c) Does not change but remains constant. (d) Increases with time
4. The maximum height of a projectile is directly proportional to.
 (a) The initial velocity (b) Launch angle
 (c) Square of the initial velocity
 (d) The friction between the tyres of cycle and road vanished.
5. A body is moving in a circle at a constant speed which of the following statements about the body is true?
 (a) There is no acceleration. (b) There is no force acting on it
 (c) There is force acting at a tangent to the circle
 (d) There is force acting towards the centre of the circle
6. The rate at which a body rotates about an axis expressed
 (a) Velocity (b) Angular acceleration
 (c) Angular momentum (d) None of these
7. The rate of change of angular displacement is.
 (a) Angular momentum (b) angular acceleration
 (c) Angular velocity (d) velocity
8. The acceleration in uniform circular motion.
 (a) Varies inversely with the velocity of the particle.
 (b) Varies inversely with the radius of the orbit.
 (c) Varies directly with the square of the velocity.
 (d) is both (b) and (c)
9. If a body is rotating in a circle with variable linear speed, it must have:
 (a) Only centripetal acceleration. (b) Only tangential acceleration
 (c) Both centripetal and tangent acceleration (d) None of these
10. The direction of angular velocity can be find out by _____.
 (a) Left hand rule (b) Angular displacement
 (c) Direction of movement (d) Right hand rule
11. If a particle moves in a circle describing equal angles in equal intervals, then
 (a) Angular velocity change and linear velocity constant.
 (b) Angular velocity constant and linear velocity constant
 (c) Angular velocity constant and linear velocity changes.
 (d) None of these
12. The rate of change of angular displacement with time is called:
 (a) Angular acceleration. (b) Linear velocity
 (c) Angular velocity (d) None of these
13. The centripetal acceleration produced in a rotating body is commonly due to the change in _____ of the velocity.
 (a) Magnitude (b) Direction (c) Value (d) None of these
14. An object is hunched in an arbitrary direction in space with a certain initial velocity and of moves freely under gravity. Its path will be a.
 (a) Straight line (b) circle (c) parabola (d) hyperbola
15. The velocity component with which a projectile covers certain vertical distance is minimum at the moment of:
 (a) Projection (b) Hitting the ground
 (c) Highest point (d) None pf these
16. A projectile has its speed maximum at the moment of
 (a) Projection (b) Hitting the ground (c) Both of these (d) None of these
17. The horizontal range of a projectile depend upon.
 (a) The angle of projection (b) The velocity of projection
 (c) Both of these (d) None of these
18. If a projectile is projected at an angle of 35° , it hits certain target. It will have the same range if it is projected at an angle of
 (a) 45° (b) 55° (c) 90° (d) 70°
19. The linear and angular velocity of a particle, moving about the centre of a circle of radius r, are related by

- (a) $\vec{v} = \vec{\omega} \times \vec{r}$ (b) $\vec{v} = \vec{r} \times \vec{\omega}$ (c) $\vec{\omega} = \vec{v} \times \vec{r}$ (d) $\vec{\omega} = \vec{r} \times \vec{v}$
20. A ball is thrown at 40 m/s with the angle of projection of 30° with the horizontal, the vertical velocity, of the projectile after 1 sec.
 (a) 20 m/s (b) 15 m/s (c) 10 m/s (d) Zero
21. A car moving at a constant speed of 20 ms^{-1} on a circular path of radius 100m what is the acceleration?
 (a) 0.4 ms^2 (b) 6 sec (c) 4.0 ms^3 (d) 33 ms^2
22. The missile is fired at 20 m/s at 60° with respect to the horizontal, the horizontal and vertical component of the velocity at the maximum height is respectively :
 (a) 10 m/s, 10 m/s (b) 10 m/s, 5 m/s
 (c) 10 m/s, 0 (d) 0, 10 m/s
23. A 100 kg body is rotating in circular path of radius 200m, at 50 m/sec. find the centripetal force acting on the body.
 (a) 225 N (b) 125 N (c) 525 N (d) 500 N
24. If a body covers 5 rotations in 2 seconds, around a path of radius 2m the linear velocity of body is
 (a) $\pi \text{ m/s}$ (b) $10 \pi \text{ m/s}$ (c) $5 \pi \text{ m/s}$ (d) $20 \pi \text{ m/s}$
25. The angular speed of an hour's hand of a watch in radian / minute is
 (a) $\pi/6$ (b) $\pi/30$ (c) $\pi/180$ (d) $\pi/360$

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1	2	3	4	5	6	7	8	9	10
c	b	c	c	d	d	c	D	c	d
11	12	13	14	15	16	17	18	19	20
c	c	b	c	c	c	d	B	b	c
21	22	23	24	25					
c	C	b	b	d					