

CLASS XI REVISION WORK SUB : PHYSICS

1. Derive the relation for angular momentum of a rigid body.
2. State conservative and non conservative forces with an example.
3. Derive the three equations of motion using calculus method.
4. Define Impulse. Give its unit.
5. Derive the expression for the velocity of the circular motion of the car on the banked Road and level road.
6. Derive the expression for energy loss in elastic collision. Derive the expression for the final velocity of two colliding bodies in inelastic collision.
7. State work energy theorem for constant force and variable force.
8. Derive the expression for the total energy of the satellite in the orbit.
9. Derive the expression for the period of oscillation of the pendulum using dimensional method.
10. State Kepler's three laws for planetary motion.
11. Derive the expression for the velocity of the satellite in the orbit.
12. State Newton's three laws of motion with example.
13. State law of conservation of momentum.
14. State parallax theorem and perpendicular axes theorem with diagram & expression.
15. Derive the three equations of motion using calculus method and graphical method.
16. Show that $\tau = I \omega$ in case of rotational motion.
17. State the laws of friction.
18. State three laws of motion with an example for each.
19. Derive the expression for the path of the projectile, Time of maximum height and time of flight, maximum range, maximum height. Draw the graph for the path of the projectile.
20. Define uniform circular motion. Derive the expression for centripetal acceleration. Derive the relation between v and ω .

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Numericals from the following topics.

1. friction.

2. systematic errors.

3. applying work energy theorem.

4. motion in a plane.

5. centre of mass.

6. orbital satellite