

**SEM – II**  
**APPLIED PHYSICS**  
**(ME/CE)**  
**50 MARKS**

**CIVIL**

**TOPIC 1: MOTION**

**1.1 RECTILINEAR MOTION AND ANGULAR MOTION**

1. Define Distance and Displacement.
2. Define Speed and Velocity.
3. Define Motion and Rectilinear Motion.
4. Define Velocity and Acceleration.
5. Define Kinematics and Inertia.
6. Define Uniform Velocity and Uniform Acceleration.
7. State the three equations of rectilinear motion along with meaning of each symbol.
8. Modify the equations of motion for a body moving under gravity.
9. Derive the equation of distance travelled by a body in  $n^{\text{th}}$  second.
10. Define Angular displacement. State its S.I. unit.
11. Define Angular Velocity. State its S.I. unit.
12. Define Angular Acceleration. State its S.I. unit.
13. Define Frequency and Amplitude.

**1.2 KINETICS AND WORK POWER ENERGY**

1. Define Impulse and Impulsive Force. State their S.I. units.
2. State with one example Newton's Third Law of motion.
3. State Newton's second Law of motion with mathematical expression.
4. State Newton's First Law of motion with suitable one example.
5. Define Momentum. State its S.I. unit.
6. State Work Energy Principle with its mathematical expression.
7. Define Work and Power. State their S.I. units.
8. Define Energy. State its S.I. unit.
9. Define Kinetic Energy and Potential Energy. State its equations.
10. State the Law of conservation of energy.

**1.3 PROJECTILE MOTION AND CIRCULAR MOTION**

1. Define Projectile Motion and Trajectory.
2. Define the terms: Time of Flight and Horizontal Range.
3. What is angle of Projection and Maximum Height?
4. Define the terms: Circular Motion and Uniform Circular Motion.
5. Distinguish between Centripetal Force and Centrifugal Force.
6. Define Centripetal Acceleration.
7. State any two three Applications of Centripetal Force.
8. State any two three Applications of Centrifugal Force.

**TOPIC 2: NONDESTRUCTIVE TESTING OF MATERIALS**