

Physics Assignment

Kinematics:

A car accelerates uniformly from rest and reaches a speed of 30 m/s in 10 seconds. What is the acceleration?

- (A) 2 m/s²
- (B) 3 m/s²
- (C) 4 m/s²
- (D) 5 m/s²

Newton's Laws of Motion:

A 10 kg block is placed on a surface with a frictional force of 20 N acting against its motion. If a force of 50 N is applied, what is the net force on the block?

- (A) 20 N
- (B) 30 N
- (C) 50 N
- (D) 70 N

Work, Energy, and Power:

If a ball is thrown vertically upward with an initial speed of 20 m/s, what will be its speed at the highest point?

- (A) 0 m/s
- (B) 5 m/s
- (C) 10 m/s
- (D) 20 m/s

Thermodynamics:

Which law of thermodynamics states that energy can neither be created nor destroyed?

- (A) Zeroth Law
- (B) First Law
- (C) Second Law
- (D) Third Law

Waves:

The speed of sound is maximum in:

- (A) Solids
- (B) Liquids
- (C) Gases
- (D) Vacuum

Electric Charges and Fields:

The SI unit of electric charge is:

- (A) Volt
- (B) Ampere
- (C) Coulomb
- (D) Farad

Current Electricity:

If the resistance of a wire is doubled, what happens to the current for the same voltage?

- (A) Remains same
- (B) Doubles
- (C) Halves
- (D) Becomes zero

Magnetism and Matter:

The unit of magnetic field strength is:

- (A) Tesla
- (B) Ohm
- (C) Coulomb
- (D) Joule

Optics:

The speed of light is maximum in:

- (A) Glass
- (B) Water
- (C) Air
- (D) Vacuum