

Question Paper

Topic 1: Mechanics

Q1. Which of the following is an example of kinetic energy?

- A. A car parked on the side of the road
- B. A moving bicycle
- C. A stationary rock
- D. A book on a shelf

Answer: B. A moving bicycle

Explanation: Kinetic energy is the energy of motion. In this case, the moving bicycle possesses kinetic energy.

Q2. What is the relationship between force, mass, and acceleration according to Newton's second law of motion?

- A. $\text{Force} = \text{Mass} \times \text{Acceleration}$
- B. $\text{Force} = \text{Mass} / \text{Acceleration}$
- C. $\text{Force} = \text{Acceleration} / \text{Mass}$
- D. $\text{Force} = \text{Mass} + \text{Acceleration}$

Answer: A. $\text{Force} = \text{Mass} \times \text{Acceleration}$

Explanation: Newton's second law of motion states that the force acting on an object is equal to the mass of the object multiplied by its acceleration.