Question Paper

Topic 1: Mechanics

Q1. Which of the following statements best describes Newton's First Law of Motion?
An object in motion will stay in motion unless acted upon by an external force.
The force acting on an object is equal to the mass of the object multiplied by its acceleration.
For every action, there is an equal and opposite reaction.
The total momentum of an isolated system remains constant over time.
Answer: An object in motion will stay in motion unless acted upon by an external force.
Explanation: Newton's First Law of Motion states that an object will remain at rest or in uniform motion in a straight line unless acted upon by an external force.

Q2. If a car is accelerating on a straight road, what can you say about the net force acting on the car?
The net force is zero.
The net force is in the direction of motion.
The net force is opposite to the direction of motion.
The net force is related to the car's mass.
Answer: The net force is in the direction of motion.
Explanation: When a car is accelerating, the net force acting on it is in the same direction as the acceleration, which is also the direction of motion.