

Question Paper

Topic 1: Mechanics

Q1. A car is moving along a straight road at a constant speed. Which of the following statements about the car's motion is true?

The car is accelerating

The car is decelerating

The car is at rest

The car is moving with a variable speed

Answer: The car is at rest

Explanation: If a car is moving at a constant speed along a straight road, it means the car is not accelerating or decelerating. Therefore, the correct statement is that the car is at rest in terms of acceleration.

Q2. A block is placed on a frictionless inclined plane. Which of the following best describes the motion of the block?

The block will move up the plane

The block will move down the plane

The block will remain stationary

The block will oscillate on the plane

Answer: The block will move down the plane

Explanation: In the absence of friction on a frictionless inclined plane, the block will slide down the plane due to the force of gravity. This is because there are no other forces acting to prevent its motion.