



ASSIGNMENT NO. 1

SUBJECT: PHYSICS

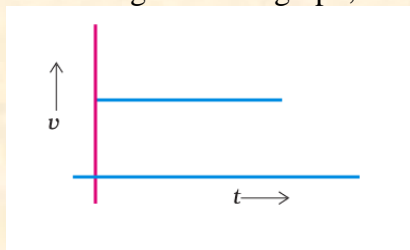
CLASS-IX

APRIL'2025

CH 7: MOTION

Q1. Choose the correct option:

- i. From the given $v - t$ graph, it can be inferred that the object is



- (a) in uniform motion
(b) at rest
(c) in non-uniform motion
(d) moving with uniform acceleration
- ii. If the displacement time graph of a particle is parallel to the time axis, the velocity of the particle is.
a) unity b) infinity c) zero d) none of these
- Q2. In each of the following questions, two statements are given- one labeled Assertion (A) and the other labeled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:
- a) Both A and R are true, and R is correct explanation of the assertion.
b) Both A and R are true, but R is not the correct explanation of the assertion.
c) A is true, but R is false.
d) Both assertion and reason are false.
- (a) **Assertion:** The acceleration with negative sign only represents the direction of acceleration and it may represent retardation.
Reason: The acceleration is a vector quantity and it is called retardation only when its direction is opposite to the velocity.
- (b) **Assertion:** An object can have constant speed but variable velocity.
Reason: Velocity changes due to change in direction, though speed is same.

Q3. A ball is thrown vertically upward. It rises up to a height of 10 m and come back to the initial position. Calculate:

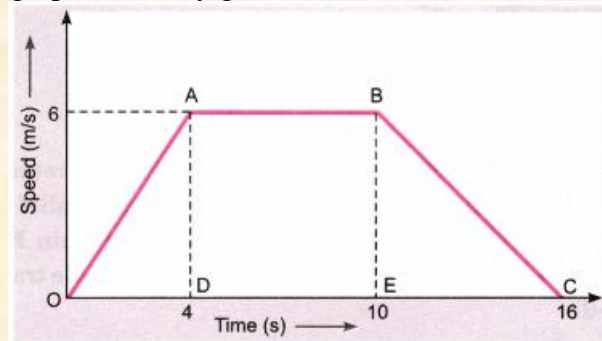
- (a) the total distance covered by the ball
- (b) the displacement of the ball

Q4. What is the difference between uniform velocity and non-uniform velocity?

Q5. A train traveling at 36 km/h speeds up to 72 km/h in 10 seconds. What is the acceleration of the train?

Q6. A bullet moving with 10 meter per second hits a wooden plank. The bullet stops after penetrating the plank 2 cm deep. Calculate the velocity of the bullet.

Q7. Study the speed-time graph of a body given here and answer the following questions:



- (a) What type of motion is represented by OA?
- (b) What type of motion is represented by AB?
- (c) What type of motion is represented by BC?
- (d) Find out the acceleration of the body.
- (e) Calculate the retardation of the body.
- (f) Find out the distance travelled by the body from A to B.