Yakeen NEET 2.0 2026

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DPP: 4

Motion in a Straight Line

Q1 The distance traveled by a body in 5 seconds is 50 meters. If the body moves with uniform velocity, its speed is:
(A) 5 m/s
(B) 10 m/s
(C) 25 m/s
(D) 50 m/s

Q2 An object moves with a constant speed of 20 m/s. What is the displacement after 5 seconds?
(A) 20 meters
(B) 50 meters
(C) 100 meters
(D) 200 meters

Q3 If the distance S covered by a moving car in rectilinear motion with a speed v in time t is given by S = vt, then the car undergoes;
(A) a uniform acceleration
(B) a non-uniform acceleration
(C) a uniform velocity
(D) a non-uniform velocity

Q4 The position (x) of a particle at any time t is given by the equation $x = bt$, where b is a positive constant. Which of the following option given below is correct ?
(A) Velocity is constant
(B) Acceleration is variable
(C) Velocity is variable
(D) None of these

Q5 If for a particle position $x \propto t^2$, then:
(A) Acceleration is variable
(B) Velocity is constant
(C) Acceleration is constant
(D) None of these

Q6 The displacement of a particle, moving in a straight line, is given by $s = 2t^2 + 2t - 4$ where s is in meters and t in seconds. The acceleration of the particle is

(A) 8 m/s^2
(B) 5 m/s^2
(C) 7 m/s^2
(D) 4 m/s^2

Q7 If displacement (x) of a particle is given as $x = 3t^2 - 4 \ (m)$; Find nature of its acceleration at t = 1 sec.
(A) Uniform
(B) Non uniform
(C) Zero
(D) Can't say

Q8 The displacement of particle is given by
$x = a_0 + \frac{a_1 t}{2} - \frac{a_2 t^2}{3}$
What is its acceleration?
(A) $\frac{2a_2}{3}$
(B) $-\frac{2a_2}{3}$
(C) a_2
(D) zero

Q9 The displacement x of a particle along a straight line at time t is given by $x = a_0 - a_1 t + a_2 t^2$. The acceleration of particle
(A) a_0
(B) a_1
(C) $2a_2$
(D) a_2

Q10 Which one of the following equations represent the motion of a body with finite constant acceleration. In these equations y denotes the position of the body at time t and a, b and c are the constant of the motion -
(A) $y = a/t + bt$
(B) $y = at$
(C) $y = at + bt^2$
(D) $y = at + bt^2 + ct^3$

Q11 Which of the following relations representing displacement x of a particle describes motion with constant acceleration?
(A) $x = 6 - 7t^{-2}$
(B) $x = 3t^2 + 5t^3 + 7$
(C) $x = 9t^2 + 8$
(D) $x = 4t^{-2} + 3t^{-1}$

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Answer Key

Q1	(B)
Q2	(C)
Q3	(C)
Q4	(A)
Q5	(C)
Q6	(D)

Q7	(A)
Q8	(B)
Q9	(C)
Q10	(C)
Q11	(C)

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