

Yakeen NEET 2.0 2026

Physics by Saleem Sir

DPP: 2

Motion in a Straight Line

- Q1** The displacement of a particle, starting from rest (at $t = 0$ s) is given by $s = (6t^2 - t^3)m$. The time in seconds, at which the particle will obtain zero velocity again is:
 (A) 2 (B) 4
 (C) 6 (D) 8
- Q2** The displacement of a body along x -axis depends on time as $\sqrt{x} = 3t + 5$. Then the velocity of body
 (A) Increase with time
 (B) Independent of time
 (C) Decrease with time
 (D) None of these
- Q3** A particle is moving along x -axis such that $x = 2 - 5t + 6t^2$. What is acceleration of the particle when its velocity is zero?
 (A) Zero
 (B) 12 m/s^2
 (C) -5 m/s^2
 (D) $5/12 \text{ m/s}^2$
- Q4** A car is moving with a velocity of 20 m/s . The driver accelerated it for 10 seconds and reached a velocity of 40 m/s . What is the average acceleration?
 (A) 3 m/s^2
 (B) 2 m/s^2
 (C) 1 m/s^2
 (D) zero
- Q5** The displacement of a particle is given by $y = a + bt + ct^2 - dt^4$. The initial velocity and initial acceleration are respectively:
 (A) $b, -4d$
 (B) $-b, 2d$
 (C) $b, 2c$
 (D) $2c, -4d$
- Q6** The correct statement from the following is
 (A) A body having zero velocity will not necessarily have zero acceleration
 (B) A body having zero velocity will necessarily have zero acceleration
 (C) A body having uniform speed can have only uniform acceleration
 (D) A body having non-uniform velocity will have zero acceleration
- Q7** A particle moves along a straight line such that its displacement at any time t is given by $s = t^3 - 6t^2 + 3t + 4$ metres. The velocity when the acceleration is zero is:
 (A) 3 m/s
 (B) -12 m/s
 (C) 42 m/s
 (D) -9 m/s
- Q8** The relation $t = \sqrt{x} + 3$ describes the position of a particle where x is in meters and t is in seconds. The position, when velocity is zero, is
 (A) 2 m
 (B) 4 m
 (C) 5 m
 (D) Zero



Answer Key

Q1 (B)

Q2 (A)

Q3 (B)

Q4 (B)

Q5 (C)

Q6 (A)

Q7 (D)

Q8 (D)



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