Yakeen NEET 2.0 2026

Physics By Saleem Sir

DPP: 14

Motion in a Straight Line

Q1 A car covers a distance of $2\ \text{km}$ in 2.5 minute, if it covers half of the distance with speed $40\ \text{km/hr}$. the rest distance it will cover with speed
(A) $56\ \text{km/hr}$
(B) $60\ \text{km/hr}$
(C) $50\ \text{km/hr}$
(D) $48\ \text{km/hr}$

Q2 A bicyclist encounters a series of hills. Uphill speed is always v_1 and downhill speed is always v_2. The total distance travelled is ℓ, with uphill and downhill portions of equal length. The cyclists average speed is
(A) $\frac{v_1}{v_2}$
(B) $\frac{v_2}{v_1}$
(C) $\frac{v_1 v_2}{v_1+v_2}$
(D) $\frac{2v_1 v_2}{v_1+v_2}$

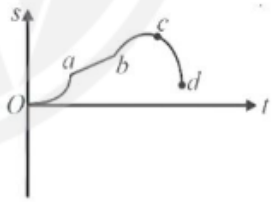
Q3 A motor car covers $\frac{1}{3}$ rd part of total distance with $v_1 = 10\ \text{km/hr}$, second $\frac{1}{3}$rd part with $v_2 = 20\ \text{km/hr}$ and rest $\frac{1}{3}$rd part with $v_3 = 60\ \text{km/hr}$. What is the average speed of the car?
(A) $18\ \text{km/hr}$
(B) $45\ \text{km/hr}$
(C) $6\ \text{km/hr}$
(D) $22.5\ \text{km/hr}$

Q4 A body covers one-third of the distance with a velocity v_1, the second one-third of the distance with a velocity v_2, and the last one-third of the distance with a velocity v_3. The average velocity is:
(A) $\frac{v_1+v_2+v_3}{3}$
(B) $\frac{3v_1v_2v_3}{v_1v_2+v_2v_3+v_3v_1}$
(C) $\frac{v_1v_2+v_2v_3+v_3v_1}{3}$
(D) $\frac{v_1v_2v_3}{3}$

Q5 A car travels a distance d on a straight road in two hours and then returns to the starting point in next three hours. Its average speed is:
(A) $\frac{d}{5}$
(B) $\frac{2d}{5}$
(C) $\frac{d}{2}+\frac{d}{3}$
(D) none of these

Q6 A particle moves in the east direction with $15\ \text{m/sec}$ for 2sec then northwards with $5\ \text{m/s}$ for 8sec. Average speed of the particle is:
(A) $1\ \text{m/s}$
(B) $5\ \text{m/s}$
(C) $7\ \text{m/s}$
(D) $10\ \text{m/s}$

Q7 Displacement time graph of a particle moving in a straight line is shown in figure.



In which part of graph, velocity will be constant?
(A) 0a (B) ab
(C) bc (D) cd

Q8 A body moves $6m$ north, $8m$ east and $10m$ vertically upwards, what is its resultant displacement from initial position
(A) $10\sqrt{2}m$
(B) $10m$
(C) $10/\sqrt{2}m$
(D) $10 \times 2m$

Q9

The numerical ratio of distance to displacement is
(A) Always equal to one
(B) Always less than one
(C) Always greater than one
(D) Equal to or more than one

Answer Key

Q1	(B)
Q2	(D)
Q3	(A)
Q4	(B)
Q5	(B)
Q6	(C)
Q7	(B)
Q8	(A)
Q9	(D)