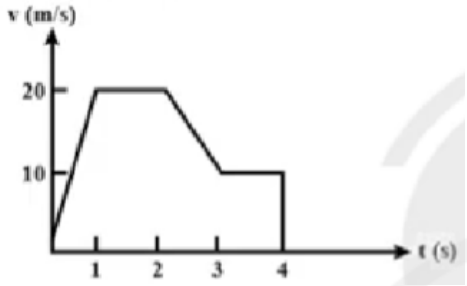
Yakeen NEET 2.0 2026

Physics By Saleem Sir

Motion in a Straight Line

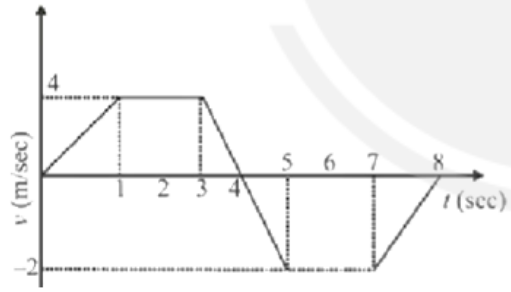
DPP: 8

Q1 The variation of velocity of a particle moving along straight line is shown in the figure. The distance travelled by the particle in 4 s is



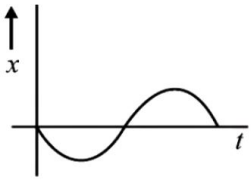
(A) 25 m
(B) 30 m
(C) 55 m
(D) 60 m

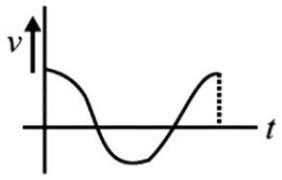
Q2 The v - t graph of a linear motion is shown in adjoining figure. The distance from origin after 8 seconds is:

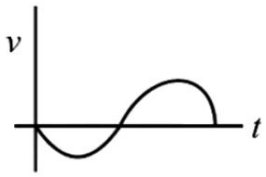


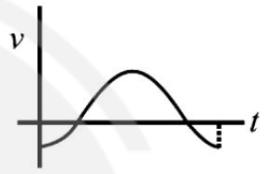
(A) 18 meters
(B) 8 meters
(C) 16 meters
(D) 6 meters

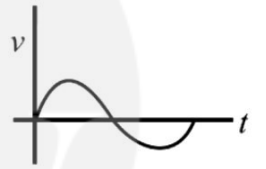
Q3 If position time graph of a particle is sine curve as shown, what will be its velocity-time graph



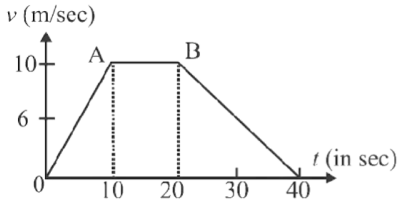
(A)


(B)


(C)


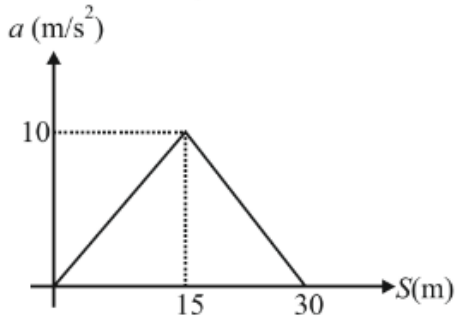
(D)


Q4 The adjoining curve represents the velocity-time graph of a particle, its acceleration values along OA, AB and BC in metre $/\sec^2$ are respectively



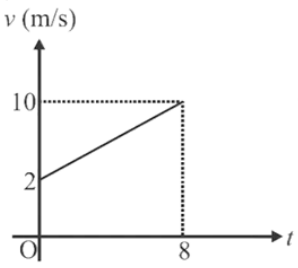
(A) $1, 0, -0.5$
(B) $1, 1, 0.5$
(C) $1, 0, 0.5$
(D) $1, 0.5, 0$

Q5 The particle moves with rectilinear motion given the acceleration-displacement (a-S) curve is shown in figure, determine the velocity after the particle has traveled 30 m. If the initial velocity is 10 m/s.



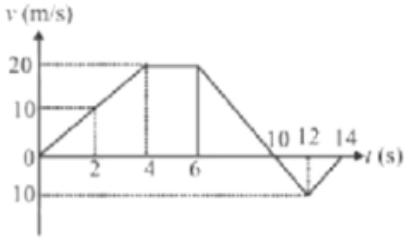
(A) $10\ \mathrm{m/s}$
(B) $40\ \mathrm{m/s}$.
(C) $20\ \mathrm{m/s}$.
(D) $60\ \mathrm{m/s}$.

Q6 Figure shows the graph of velocity versus time for a particle going along x-axis. Initially at $t = 0$ particle is at $x = 3\ \mathrm{m}$. Find position of particle at $t = 2\ \mathrm{s}$. (in m)



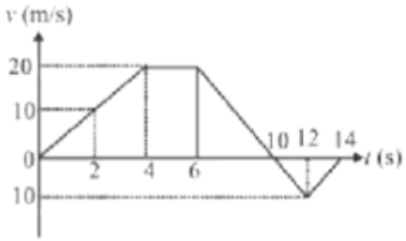
(A) $9\ \mathrm{m}$
(B) $3\ \mathrm{m}$
(C) $12\ \mathrm{m}$
(D) $6\ \mathrm{m}$

Q7 Velocity-time graph of a particle moving in a straight line is shown in figure. In the time interval from $t = 0$ to $t = 14\ \mathrm{s}$, find average velocity



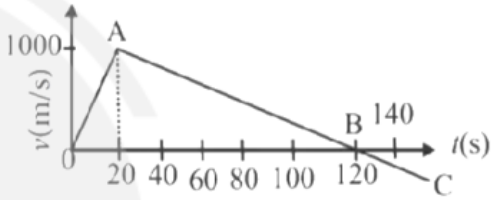
(A) $\left(\frac{50}{7}\right)\ \mathrm{m/s}$
(B) $\left(\frac{25}{7}\right)\ \mathrm{m/s}$
(C) $\left(\frac{20}{7}\right)\ \mathrm{m/s}$
(D) $\left(\frac{15}{7}\right)\ \mathrm{m/s}$

Q8 Velocity-time graph of a particle moving in a straight line is shown in figure. In the time interval from $t = 0$ to $t = 14\ \mathrm{s}$, find average speed of the particle.



(A) 20 m/s
(B) 40 m/s
(C) 10 m/s
(D) 30 m/s

Q9 A rocket is launched upward from the earths surface whose velocity time graphs shown in figure. Then maximum height attained by the rocket is:



(A) $1\ \mathrm{km}$
(B) $10\ \mathrm{km}$
(C) $100\ \mathrm{km}$
(D) $60\ \mathrm{km}$

Answer Key

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