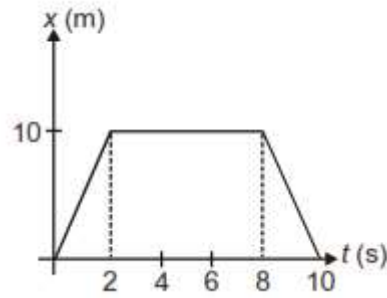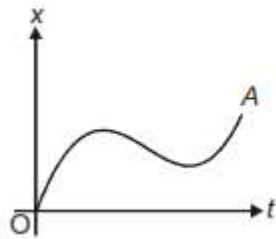11. The position-time graph for a particle moving along a straight line is shown in figure. The total distance travelled by it in time t = 0 to t = 10 s is


(1) Zero   (2) 10 m   (3) 20 m   (4) 80 m

12. The position-time graph for a body moving along a straight line between O and A is shown in figure. During its motion between O and A, how many times body comes to rest?

(1) Zero   (2) 1 time   (3) 2 times   (4) 3 times

13. A particle shows distance-time curve as given in this figure. The maximum instantaneous velocity of the particle is around the point
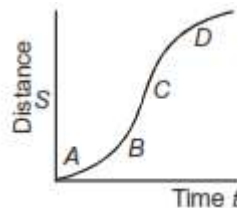

(1) A   (2) B   (3) C   (4) D

14. The displacement-time graph of a moving particle is shown below. The instantaneous velocity of the particle is negative at the point
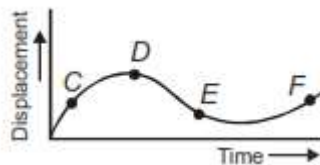
(1) E   (2) F   (3) C   (4) D

15. The two ends of a train moving with constant acceleration pass a certain point with velocties u and 3u. The velocity with which the middle point of the train passes the same point is

(1) 2u   (2) $\frac{3}{2}u$ (3) $\sqrt{5}u$ (4) $\sqrt{10}u$

16. The displacement-time graph for two particles A and B is as follows. The ratio $\dfrac{V_A}{V_B}$ is
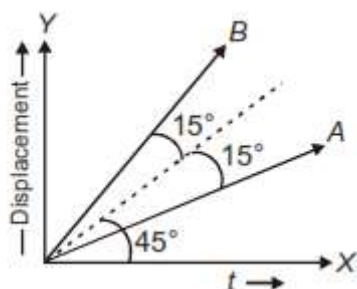
(1) $1:2$ (2) $1:\sqrt{3}$ (3) $\sqrt{3}:1$ (4) $1:3$

17. A boy standing at the top of a tower of 20 m height drops a stone. Assuming $g = 10ms^{-2}$ the velocity with which it hits the ground is

(1) 5.0 m/s   (2) 10.0 m/s   (3) 20.0 m/s   (4) 40.0 m/s

18. The water drops fall at regular intervals from a tap 5 m above the ground. The third drop is leaving the tap at the instant the first drop touches the ground. How far above the ground is the second drop at that instant? $\left(Take\ g = 10ms^{-2}\right)$

(1) 3.75 m   (2) 4.00 m   (3) 1.25 m   (4) 2.50 m

19. A body is projected vertically upward with speed 40 m/s. The distance travelled by body in the last second of upward journey is

[take g = 9.8 m/s^2 and neglect effect of air resistance]

(1) 4.9 m   (2) 9.8 m   (3) 12.4 m   (4) 19.6 mol.

20. A particle experiences a constant acceleration for 20 sec after starting from rest. If it travels a distance S_1 in the first 10 sec and a distance S_2 in the next 10 sec, then

(1) $S_1 = S_2$ (2) $S_1 = S_2/3$ (3) $S_1 = S_2/2$ (4) $S_1 = S_2/4$