BATCH EX

1. MOTION

CONTENTS

MOTION

Concepts : ***Introduction of motion, physical quantity***

1. A body whose position with respect to fixed point in surrounding does not change, is said to be in a state of -
(A) rest (B) motion (C) vibration (D) oscillation

2. A body is said to be in motion if :
(A) Its position with respect to fixed point in surrounding objects remains same
(B) Its position with respect to fixed point in surrounding objects keep on changing
(C) Both (A) and (B)
(D) Neither (A) nor (B)

3. In five minutes distance between a pole and a car changes progressively. What is true about the car ?
(A) Car is at rest (B) Car is in motion
(C) Nothing can be said with this information (D) None of the above

4. The motion along a straight line is called _____ motion.
(A) rectilinear (B) rotational (C) circular (D) linear

5. Rest and motion both are-
(A) relative terms (B) absolute terms (C) can't say (D) None of these

6. If both observer and moving body are moving with the same velocity of 5 m/s in the same direction then distance between them-
(A) will increase (B) will decrease (C) won't change (D) may or may not change

7. Vector quantities are those, which can be defined completely only if :
(A) both magnitude and direction are given (B) only direction is given
(C) only magnitude is given (D) None of these

8. Which of the following does not need direction to be defined completely ?
(A) Speed (B) Velocity (C) Force (D) Displacement

9. Examples of vector quantities are :
(A) velocity, length and mass (B) speed, length and mass
(C) time, displacement and mass (D) velocity, displacement and force

10. Which of the following is not a vector quantity ?
(A) Speed (B) Velocity (C) Weight (D) Acceleration

11. What is true about scalar quantities ?
(A) Scalar quantities also have direction. (B) Scalars can be added arithmetically.
(C) There are special law to add scalars. (D) Scalars have special method to represent.

12. Time is an example of :
(A) Scalar (B) Vector (C) Scalar or vector (D) Neither scalar nor vector

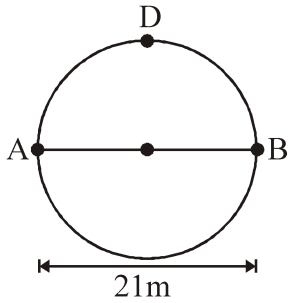
13. Out of energy and acceleration which is vector ?
(A) Acceleration (B) Energy (C) Both (D) None of these

MOTION

Concepts : *Distance, Displacement*

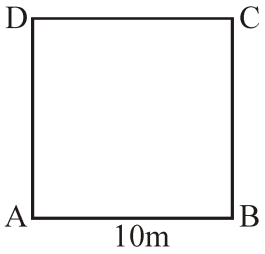
1. A distance is always-
   (A) shortest length between two points (B) path covered by an object between two points
   (C) product of length and time (D) None of the above
2. Which of the following is not characteristic of displacement ?
   (A) It is always positive.
   (B) It has both magnitude and direction.
   (C) It can be zero.
   (D) Its magnitude is less than or equal the actual path length of the object.
3. Ram reached Rahul's house walking 10 km in 20 minute towards South. Displacement will be
   (A) 0.5 km in South direction (B) 10 km in South direction
   (C) 0.5 km in North direction (D) 10 km in North direction
4. Displacement can be :
   (A) More than distance (B) Always equal to distance
   (C) Less than or equal to distance (D) None of these
5. ABC is the shortest path length between the two points and ADC is the actual path length. Then which of the two corresponds to displacement :
   (A) ADC (B) ABC
   (C) Can't say (D) None of these
6. Odometer is a device, which is used to measure :
   (A) Distance (B) Displacement
   (C) Speed (D) None of these
7. A ball is thrown vertically upward and after ascending a height of 15m it comes back to the same point. The total displacement of the ball is :
   (A) zero (B) 15 m
   (C) 30 m (D) 98 m
8. The numerical ratio of displacement to distance is :
   (A) < 1 (B) $= 1$
   (C) > 1 (D) ≤ 1

9. An object travel from A to B via 'D' then, displacement and distance will be :



(A) 10.5,66 (B) 10.5,33 (C) 21,66 (D) 21,23

10. A person goes from A to C through path 'ADC' in a square park, then displacement will be equal to-



(A) $\sqrt{\text{Diagonal AC}}$ (B) (AD + DC) (C) Diagonal AC (D) None of these

MOTION

Concepts : *Speed & Velocity*

1. When a body covers equal distance in equal intervals of time in a particular direction, its motion is said to be :
(A) Non-uniform (B) Uniform (C) Accelerated (D) Back and forth

2. The motion of a body covering different distances in equal intervals of time is said to be :
(A) Non-uniform (B) Uniform (C) Accelerated (D) Back and forth

3. A particle moves with a uniform velocity :
(A) The particle must be at rest (B) The particle moves along a curved path
(C) The particle moves along a circle (D) The particle moves along a straight line

4. A particle covers equal distances in equal intervals of times, it is said to be moving with uniform :
(A) Speed (B) Velocity (C) Acceleration (D) Retardation

5. A particle is travelling with a constant speed. This means :
(A) Its position remains constant as time passes.
(B) It covers equal distance in equal interval of time
(C) Its acceleration is zero
(D) It does not change its direction of motion

6. A speed -
(A) is always positive (B) is always negative
(C) may be positive as well as negative (D) is neither zero nor negative

7. In 10 minutes, a car with speed of 60 kmh^{-1} travels a distance of :
(A) 6 km (B) 600 km (C) 10 km (D) 7 km

8. The SI unit of the velocity is -
(A) m/s (B) km/s (C) cm/s (D) mm/s

9. A 400 m long train passes a railway platform at a speed of 144 km/hr. If it takes 25 sec. to cross the bridge, the length of the bridge is.
(A) 1328 m (B) 600m (C) 1400 m (D) 2128 m

10. Rutu swims 90m long pool. He covers 180 m in 1 minute by swimming from one end to the other and back along the same straight path. Velocity will be -
(A) 1.5 m/s (B) 3 m/s (C) 4.5 m/s (D) 0 m/s

MOTION

Concepts : ***Average speed & Average velocity***

1. A body travels equal distances in equal time intervals. Then motion is of following type :

   (A) Uniform speed (B) Non-uniform speed

   (C) Uniform velocity (D) Instantaneous speed

2. A car travelling on a busy road is an example of :

   (A) Uniform motion (B) Non-uniform motion

   (C) Constant speed (D) Constant velocity

3. A boy travels 50km with 5km/hr and then for next 4hr travels with a uniform speed of 20km/hr. What is the average speed for the whole journey ?

   (A) 62/7km/hr (B) 65/7km/hr (C) 60/7km/hr (D) 9km/hr

4. A quantity has value of -6.0 ms^{-1}. It may be the-

   (A) speed of a particle (B) velocity of a particle

   (C) position of a particle (D) displacement of a particle

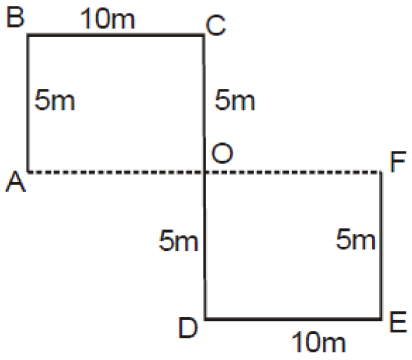
5. At a particular instant the speedometer of a vehicle shows 30km/hr. It is _____of vehicle.

   (i) Average speed (ii) Instantaneous speed (iii) Average velocity (iv)) Instantaneous velocity

   (A) Only (ii) (B) Only (iv)

   (C) Both (i) and (iii) (D) Both (ii) and (iv)

Answer the questions from 6 to 8 on the basis of information given below :



A body moves from A to F along the path shown below in 10s.

6. What is the total displacement ?

(A) 50m (B) 30m (C) 10m (D) 20m

7. What is the average speed for the whole path ?

(A) 2m/s (B) 5m/s (C) 10m/s (D) 4m/s

8. What is the average velocity for the whole path ?

(A) 2m/s (B) 5m/s (C) 10m/s (D) 4m/s

9. The unit(s) of average speed and average velocity is/are :

(A) m/s (B) km/hr (C) m/s^2 (D) Both (A) and (B)

10. A body is moving in a circle with constant speed 10m/s, circumference of the circle is 40m. Then the average speed and average velocity in 4 second is :

(A) 10m/s and 10m/s (B) 10m/s and 0m/s

(C) 10m/s and 5m/s (D) 0m/s and 0m/s

11. A body covered 30km in 10hr. The average speed for the whole journey will be -

(A) 3km/hr (B) 6km/hr

(C) 2km/hr (D) None of these

12. A boy goes from one point to another with a velocity of 40 m/s and returns to the same point with a velocity of 80m/s. Then what would be the average velocity during the whole journey ?

(A) 60m/s (B) Zero (C) 40m/s (D) 80m/s

13. If a body covers a distance 'd' with velocity 'v_1' and another distance 'd' with same velocity 'v_2' ,then average velocity for the whole journey would be equal to :

(A) $\frac{v_1 + v_2}{2}$ (B) $\frac{2v_1v_2}{v_1 + v_2}$ (C) $\frac{v_1 + v_2}{2v_1v_2}$ (D) $\frac{2(v_1 + v_2)}{v_1v_2}$

14. If a body covers some distance with speed 'v_1' for time 't_1' and some another distance with speed 'v_2' for some time 't_2'. Then what would be the average velocity for the whole duration.

(A) $\frac{v_1 + v_2}{2}$ (B) $\frac{v_1t_1 + v_2t_2}{t_1 + t_2}$ (C) $\frac{v_1v_2}{v_1 + v_2}$ (D) $\frac{2v_1v_2}{v_1 + v_2}$

15. A particle covers each 1/3 of total distance with the speed V_1, V_2 and V_3 respectively. Find the average speed of the particle

(A) $\frac{V_1V_2V_3}{V_1V_2 + V_2V_3 + V_1V_3}$ (B) $\frac{2V_1V_2V_3}{V_1V_2 + V_2V_3 + V_1V_3}$

(C) $\frac{3V_1V_2V_3}{V_1V_2 + V_2V_3 + V_1V_3}$ (D) $\frac{3V_1V_2}{V_1V_2 + V_2V_3}$

MOTION

Concepts : ***Acceleration***

1. A car increase its speed from 20 kmh^{-1} to 50 kmh^{-1} is 10 sec., its acceleration is-
(A) 30 ms^{-2} (B) 3 ms^{-2} (C) 18 ms^{-2} (D) 0.83 ms^{-2}

2. When the distance travelled by an object is directly proportional to the time, it is said to travel with :
(A) zero velocity (B) constant speed
(C) constant acceleration (D) uniform velocity

3. C.G.S. unit of acceleration is-
(A) ms^{-2} (B) cm s^{-2} (C) ms^2 (D) cm s^2

4. What is the change in velocity when a body accelerates with $2m/s^2$ starting with an initial velocity of 5m/s for a time of 10s.
(A) 20m/s (B) 25m/s (C) 15m/s (D) 30m/s

5. Acceleration and retardation have units which -
(A) are same (B) are different (C) May be different (D) None of these

6. Acceleration and velocity could be :
(A) Positive (B) Negative (C) Zero (D) All of these

7. What is the name given to change in velocity per unit time ?
(A) Average velocity (B) Acceleration (C) Relative velocity (D) None of these

8. If a body is travelling in a zig-zag path. Then which of the following quantities may be constant :
(A) Speed (B) Velocity (C) Acceleration (D) Both (A) and (C)

9. A body cover equal distances in equal time intervals along a circle. Which quantities would remain constant for his motion ?
(A) Speed (B) Velocity (C) Acceleration (D) Displacement

10. A car accelerated uniformly from 18 km/h to 36 km/h in 5 s. The acceleration in ms^{-2} is :
(A) 1 (B) 2 (C) 3 (D) 4

11. A train starting from a railway station and moving with uniform acceleration, attains a speed of 40 kmh^{-1} in 10 minutes, Its acceleration is :
(A) 18.5 ms^{-2} (B) 1.85 cms^{-2} (C) 18.5 cms^{-2} (D) 1.85 ms^{-2}

12. The brakes applied to a car produce a negative acceleration of 6 ms^{-2}. If the car stops after 2 seconds. The initial velocity of the car is :
(A) 6 ms^{-1} (B) 12 ms^{-1} (C) 24 ms^{-1} (D) zero

13. A body is moving along a straight line at 20 ms^{-1} under goes an acceleration of 4 ms^{-2}. After 2 s, its speed will be:
(A) 8 ms^{-2} (B) 12 ms^{-1} (C) 16 ms^{-2} (D) 28 ms^{-2}

MOTION

Concepts : *Graphical Problems*

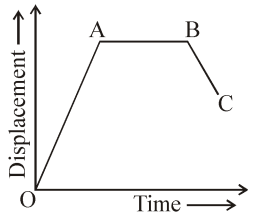
1. Slope of a Displacement-Time graph is negative. That means the velocity is :

(A) Positive (B) Negative (C) Constant (D) Zero

2. Area between Speed-Time graph gives :

(A) Distance (B) Velocity (C) Speed (D) None of these

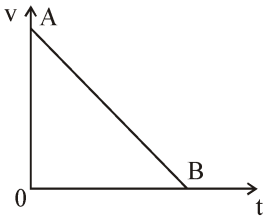
3. In figure BC represents a body moving :



(A) Backward with uniform velocity (B) Forward with uniform velocity

(C) Backward with non-uniform velocity (D) Forward with non-uniform velocity

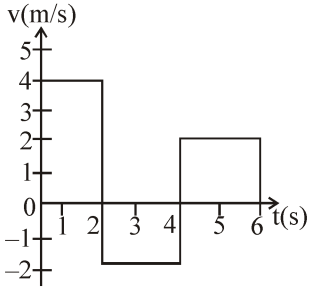
4. In Velocity-Time graph AB (Figure) shows that the body has :



(A) A uniform acceleration (B) A non-uniform retardation

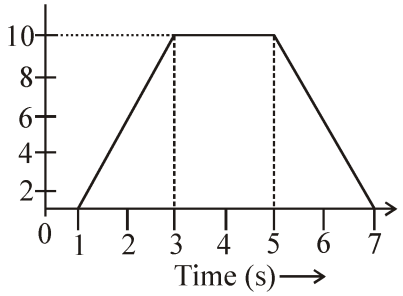
(C) Uniform speed (D) Initial velocity OA and is moving with uniform retardation

5. The Velocity-Time graph of a body moving in a straight line is shown in figure. The displacement and distance travelled by the body in 6 seconds are respectively.



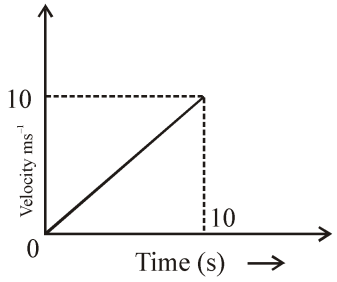
(A) 8, 16 (B) 12, 8 (C) 6, 8 (D) 16, 8

6. For the Velocity-Time graph shown in figure, the distance covered by the body in the last two seconds of its motion is what fraction is of the total distance covered in all the seven seconds ?



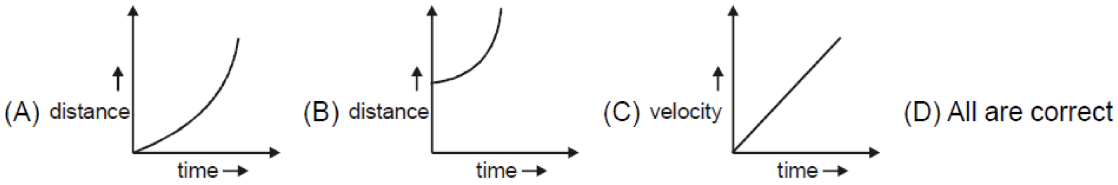
(A) 1/2 (B) 1/4 (C) 1/3 (D) 2/3

7. What would be the value of average velocity for the duration 0-10s in the graph shown below ?

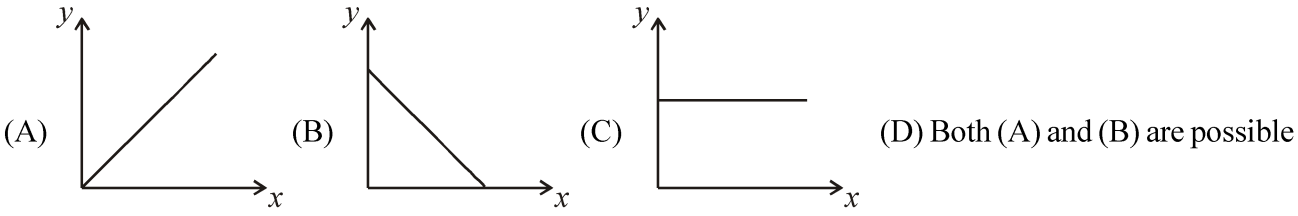


(A) 4m/s (B) 5m/s (C) 3m/s (D) 6m/s

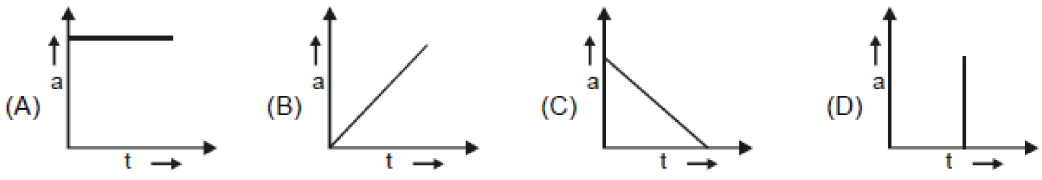
8. What would be the graph for a body moving with a velocity which is gradually (uniformly) increasing with time?



9. When two quantities are directly proportional then graph would be similar to ?



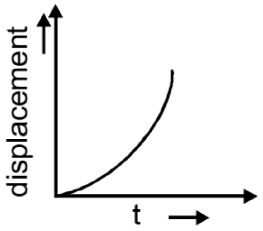
10. Which of the acceleration - time graph is not possible ?

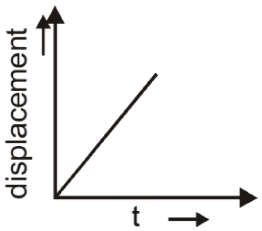


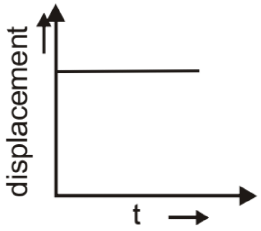
MOTION

Concepts : ***Graphical Problems & Circular Motion***

1. Which of the following is correct for uniformly accelerated motion ?

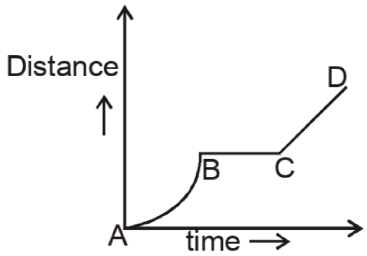
(A) 

(B) 

(C) 

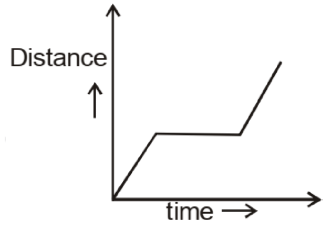
(D) All the correct

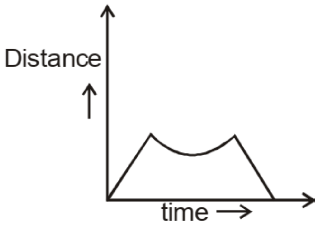
2. The Distance-Time graph shown below indicates motion with uniform speed for which part of the graph :

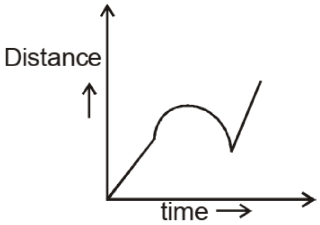


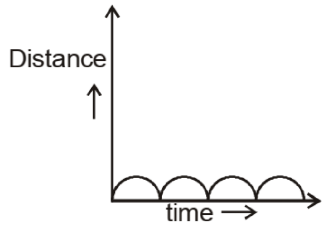
(A) AB (B) BC (C) CD (D) Both BC and CD

3. Which of the following graph is possible ?

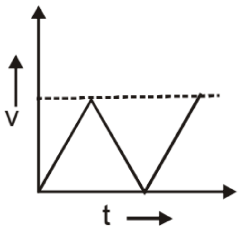
(A) 

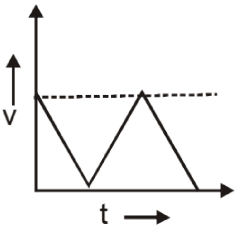
(B) 

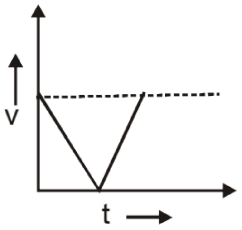
(C) 

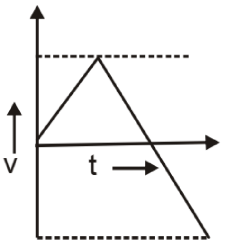
(D) 

4. A body accelerates to a certain maximum velocity and then moves with negative acceleration for some time such that the final velocity is opposite to initial velocity. Then graph for the above case would be :

(A) 

(B) 

(C) 

(D) 

5. The motion of a point on the rim of a wheel rotating about an axis fixed in a wall is :

(A) Circular (B) Linear (C) Linear and circular (D) Vibratory

6. Uniform circular motion is an example of :

(A) Variable acceleration (B) Constant acceleration

(C) (A) and (B) both (D) None of these

7. Unit of angular velocity is :

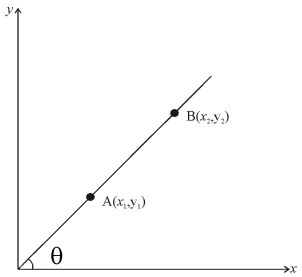
(A) rad (B) m/s (C) rad/s^2 (D) rad/s

8. Area under Acceleration-Time graph gives -

(A) Change in velocity (B) Change in speed

(C) Both (A) and (B) (D) Velocity

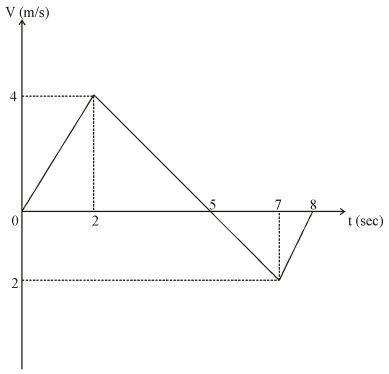
9. Slope of point A and B will be equal to.



(i) $\frac{y_2 - y_1}{x_2 - x_1}$ (ii) $\tan\theta$ (iii) $\frac{x_2 - x_1}{y_2 - y_1}$

(A) Only (i) and (ii) (B) Only (i) and (iii) (C) Only (ii) and (iii) (D) Only (ii)

10. For the given Velocity-Time graph,displacement will be -



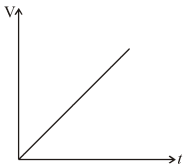
(A) 13 m (B) –7 m (C) 7 m (D) 0 m

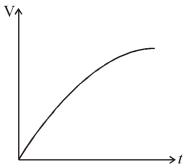
11. Angular velocity of the hour hand of a clock is-

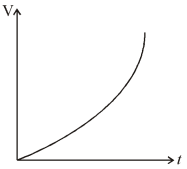
(A) $\frac{\pi}{1800}$ rad / sec (B) $\frac{\pi}{30}$ rad / sec

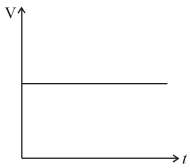
(C) $\frac{\pi}{216000}$ rad/sec (D) Data insufficient

12. An object dropped from rest. which of the Velocity-Time graph represent motion of object correctly?

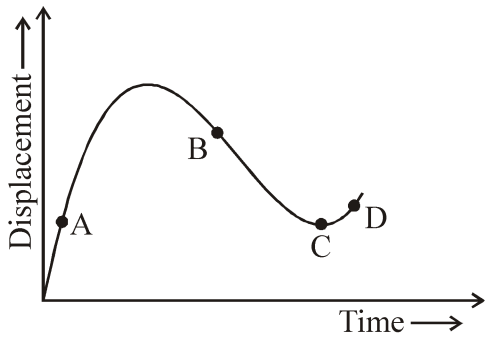
(A) 

(B) 

(C) 

(D) 

13. The Displacement - Time graph of a particle moving along a straight line is shown in the figure. The velocity is 'zero' at the point-



(A) A (B) B (C) C (D) D

MOTION

Concepts : ***Equation of Motion***

1. A ball is released from the top of a tower of height 'h' meter. It takes 't' second to reach the ground. What is the position of the ball in T/3 second ?

   (A) h/9 m from groubnd (B) 7h/9 m from the ground

   (C) 8h/9 m from ground (D) 17h/18 m from the ground

2. An automobile travelling with a speed of 60 km/h applies brake to stop within a distance of 20 m. If the car is going twice as fast i.e. 120 km/h. The stopping distance will be :

   (A) 20 m (B) 40 m (C) 60 m (D) 80 m

3. A scooter accelerates from rest for time t_1 at constant acceleration a_1 and then retards at constant rate a_2 for time t_2 and comes to rest. The correct value of t_1/t_2 will be-

   (A) $\frac{a_1 + a_2}{2}$ (B) $\frac{a_2}{a_1}$ (C) $\frac{a_1}{a_2}$ (D) $\frac{a_1 + a_2}{a}$

4. A stone is dropped from the top of a building when it crosses a point 5 m below the top another stone starts to fall from a point 25 m below the top. Both stone reach the bottom of building simultaneously. The height of building is :

   (A) 45 m (B) 25 m (C) 35 m (D) 50 m

5. A body is moving along a straight line at 20 m/sec decelerates at the rate of 4 m/s^2. After 2 seconds its speed will be equal to :

   (A) 8 m/sec (B) 12 m/sec (C) 16 m/sec (D) –12 m/sec

6. A boy starting from rest, starts running and attains a velocity of 6 m/sec in 30 seconds. then he slow down uniformly to 4 m/sec in next 5 sec. Calculate his acceleration in both the cases.

   (A) 0.2 m/s^2, 0.8 m/s^2 (B) 0.2 m/s^2, –0.4 m/s^2

   (C) 0.4 m/s^2, 0.8 m/s^2 (D) 0.8 m/s^2, – 0.4 m/s^2

7. A bus starting from rest moves with a uniform acceleration of 0.1 m/s^2 for 2 minutes. Find the distance travelled by bus.

   (A) 520 m (B) 750 m (C) 720 m (D) 540 m

8. A bus decreases its speed from 72 km/h to 18 km/h in 5 seconds . Calculate the distance travelled during this time.

   (A) 62.5 m (B) 67.5 m (C) 37.5 m (D) 42.5 m

9. A particle starts from rest with uniform acceleration 'a'. Its velocity after 'n' seconds is 'V'. Find the displacement of particle in last two seconds.

(A) $\frac{2V(n+1)}{n}$ (B) $\frac{2V(n-1)}{n}$ (C) $\frac{2V(n+1)}{n}$ (D) 0

10. A racing car has a uniform acceleration of 8 m/sec^2. What distance will it cover in 10 seconds after start ?

(A) 200 m (B) 600 m (C) 400 m (D) 800 m

11. A ball is gently dropped from a height of 20 m. If its velocity increases uniformly at rate of 10 m/s^2. With what velocity will it strike the ground ?

(A) 40 m/sec (B) 20 m/sec (C) 60 m/sec (D) 5 m/s

12. A particle starts from rest and has an acceleration of 2 m/s^2 for 10 seconds. After that it travels for 30 seconds with constant speed and then under goes a retardation of 4 m/s^2 and comes back to rest. The total distance covered by particle is.

(A) 650 m (B) 750 m (C) 700 m (D) 800 m

13. A body is moving with uniform velocity of 10 ms^{-1}. The velocity of the body after 10 s is :

(A) 100 ms^{-1} (B) 50 ms^{-1} (C) 10 ms^{-1} (D) 5 ms^{-1}

14. For the equation $s = ut + \frac{1}{2}$ at^2 acceleration is in the :

(A) Opposite direction of velocity (B) Opposite direction of displacement

(C) Same direction of velocity (D) Both (A) and (B)

15. An object undergoes an acceleration of 8 ms^{-2} starting from rest. Distance traveled in 1 s is :

(A) 2 m (B) 4 m

(C) 6 m (D) 8 m

16. The velocity of bullet is reduced from 200m/s to 100 m/s while traveling through a wooden block of thickness 10 cm. The retardation, assuming it to be uniform will be :

(A) 10×10^4 m/s^2 (B) 1.2×10^4 m/s^2

(C) 13.5×10^4 m/s^2 (D) 15×10^4 m/s^2

17. A bike increases its velocity from 18 km/hr to 10 m/s in 5s. Its acceleration is -

(A) 1.6 m/s^2 (B) –1.6 m/s^2 (C) 1 m/s^2 (D) –1 m/s^2

18. Starting from rest, Vayu paddles his bicycle to attain velocity of 6 m/s in 15 second then he applies break and attain the velocity of 18 km/hr in 10 Seconds. What wiil be acceleration in both cases ?

(A) 0.4 m/s^2 , 1.2 m/s^2 (B) 0.4 m/s^2, –1.2 m/s^2

(C) 0.4 m/s^2,0.1 m/s^2 (D) 0.4 m/s^2, –0.1 m/s^2

19. A toy is kept at a height of 19.6 m from the ground a boy comes and drop it then find the velocity of toy when it just reaches ground ($g = 9.8\ m/s^2$)

(A) 0 m/s (B) 19.6 m/s^2 (C) 19.6 m/s (D) Data insuficient

20. A bullet is moving with uniform velocity of 12 m/s is embedded in a wooden blcok 10 cm deep and stops. Retardation will be-

(A) $-720\ m/s^2$ (B) $720\ m/s^2$ (C) $-7.2\ m/s^2$ (D) $7.2\ m/s^2$

21. An object is projected upward with a velocity of 100 m/s. It will strike the ground after. (take $g = 10\ m/s^2$)

(A) 10 sec (B) 20 sec (C) 30 sec (D) 40 sec

22. A particle experiences constant acceleration for 20 second after starting from rest. If it travels a distance S_1 in 1st 10 second and a distance S_2 in last 10 second, then

(A) $S_2 = S_1$ (B) $S_2 = 2S_1$ (C) $S_2 = 3S_1$ (D) $S_1 = 2S_2$

23. A ball is moving with a velocity of 1.5 m/s. Its velocity is decreasing at the rate of 0.1 m/s^2. How much distance ball will travel before it stops ?

(A) – 11.25 m (B) 11.25 m

(C) 0 (D) Data insufficient

24. A body is moving with a velocity of 5 m/s, starts accelerating with 0.4 m/s^2. Find distance travelled by it in 11^{th} Second.

(A) 0 (B) 0.8 m

(C) 9.2 m (D) None of these

25. A stone is dropped from the top of a tower touches the ground in 10 seconds. The height of the tower is -

(A) 490.5 (B) 981 (C) 1000 (D) Data insufficient

26. The distance travelled by a freely falling body is proportional to -

(A) mass of the body

(B) the square of the time of fall

(C) the square of the acceleration due to gravity

(D) the time of fall

27. A body is projected vertically upward with a velocity of 98 m/s. Time taken to reach the maximum height ?

(A) 20 sec (B) 5 sec

(C) 10 sec (D) None of these

28. Two stones are thrown from a tower with same initial speed, one in upwards and other in downward direction. Ratio of velocities when they touch the ground -

(A) 1 : 1 (B) 1 : 2

(C) 2 : 1 (D) 3 : 1

MOTION

Concepts : ***NCERT Exemplar Based***

1. A particle is moving in a circular path of radius r. The displacement after half a circle would be:

   (A) Zero (B) π r (C) 2 r (D) 2π r

2. A body is thrown vertically upward with velocity u, the greatest height h to which it will rise is,

   (A) u/g (B) $u^2/2g$ (C) u^2/g (D) $u/^2g$

3. The numerical ratio of displacement to distance for a moving object is

   (A) always less than 1 (B) always equal to 1

   (C) always more than 1 (D) equal or less than 1

4. If the displacement of an object is proportional to square of time, then the object moves with

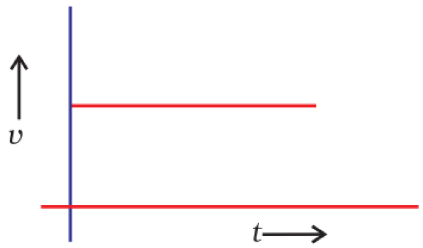
   (A) uniform velocity

   (B) uniform acceleration

   (C) increasing acceleration

   (D) decreasing acceleration

5. From the given v – t graph figure, it can be inferred that the object is



   (A) in uniform motion (B) at rest

   (C) in non-uniform motion (D) moving with uniform acceleration

6. Suppose a boy is enjoying a ride on a merry-go-round which is moving with a constant speed of 10 ms^{-1}. It implies that the boy is

   (A) at rest

   (B) moving with no acceleration

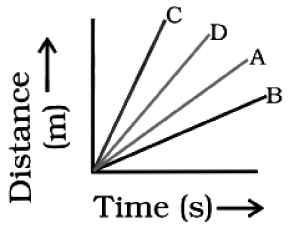
   (C) in accelerated motion

   (D) moving with uniform velocity

7. Area under a v – t graph represents a physical quantity which has the unit

(A) m^2 (B) m (C) m^3 (D) ms^{-1}

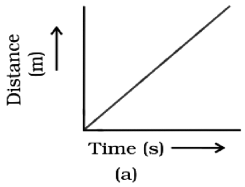
8. Four cars A, B, C and D are moving on a levelled road. Their distance versus time graphs are shown in. Choose the correct statement



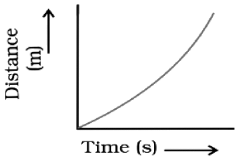
(A) Car A is faster than car D. (B) Car B is the slowest.

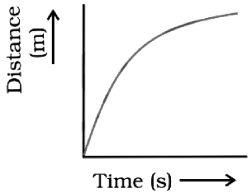
(C) Car D is faster than car C. (D) Car C is the slowest.

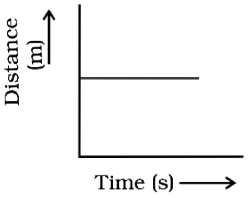
9. Which of the following figures represents uniform motion of a moving object correctly?

(A)


(a)

(B)


(C)


(D)


10. Slope of a velocity – time graph gives

(A) the distance (B) the displacement

(C) the acceleration (D) the speed

MOTION

Concepts : ***Previous Years Questions***

1. A student starts with a velocity 40 km/hr for school at 4 km away from his house. Due to closing of school he returns soon to his house with a velocity of 60km/hr.His average velocity will be: **(Raj./ NTSE Stage-I/2007)**

   (A) zero (B) 10 km/hr (C) 48 km/hr (D) 50 km/hr

2. A boy sitting on the top most berth in the compartment of a train which is just going to stop on the railway station, drops an apple aiming at the open hand of his brother situated vertically below his hands at a distance of about 2m. The apple will fall : **(Punjab/ NTSE Stage-I/2013)**

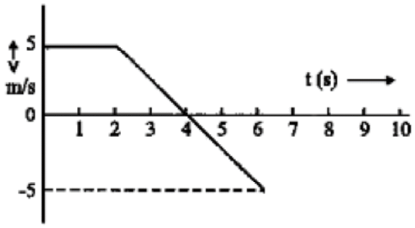
   (A) In the hand of his brother

   (B) Slightly away from the hand of his brother in the direction of the motion of the train.

   (C) Slightly away from the hands of his brother in the direction opposite to the direction of the motion of the train.

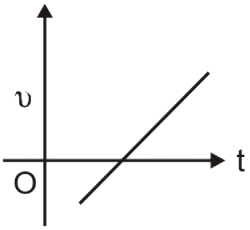
   (D) None of these

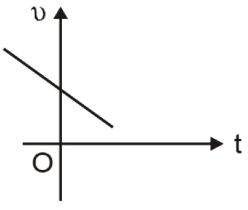
3. A velocity-time graph for a moving object is shown below. What would be the total displacement during time t = 0 to t = 6s? **(Orrisa/ NTSE Stage-I/2013)**

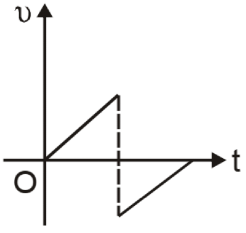


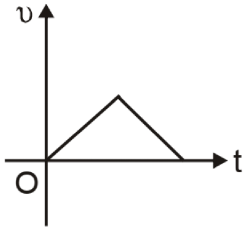
   (A) 10 m (B) 20 m (C) 2.5 m (D) 0.0 m

4. The velocity-time graph of a body falling from rest under gravity and rebounding from a solid surface is represented by: **(Raj./ NTSE Stage-I/2014)**

(A)


(B)


(C)


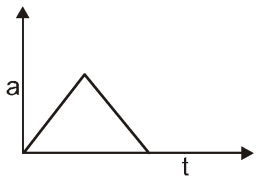
(D)


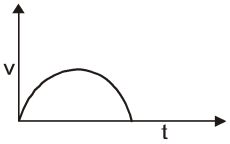
5. A bullet of mass 10 g traveling horizontally with a velocity of 160 ms^{-1} strikes a stationary wooden block and comes to rest in 0.02 s. The distance of penetration of the bullet into the block will be :

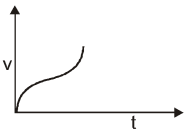
(Raj./NTSE Stage-I/2014)

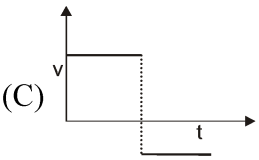
(A) 1.20 m (B) 1.60 m (C) 2.00 m (D) 2.40 m

6. The acceleration versus time graph of an object is as shown in figure. The corresponding velocity-time graph of the objects is : **(Raj./NTSE Stage-I/2014)**



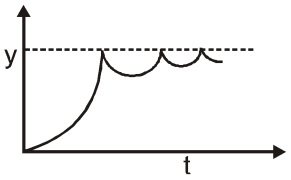
(A) 

(B) 

(C) 

(D) 

7. The graph below describe the motion of a ball rebounding from a horizontal surface being released from a point above the surface. **(Haryana./ NTSE Stage-I/2014)**



The quantity represented in the y-axis is the ball's :

(A) displacement (B) velocity (C) acceleration (D) momentum

8. Value of one Fermi is : **(M.P../ NTSE Stage-I/2014)**

(A) 10^{-13} metre (B) 10^{-14} metre (C) 10^{-15} metre (D) 10^{-16} metre

9. Unit of Impulse is : **(M.P./ NTSE Stage-I/2014)**

(A) Newton (B) Newton × second

(C) Newton × $(second)^2$ (D) Newton per second

10. A person takes time t to go once around a circular path of diameter 2R. The speed (v) of this person would be:

(Raj./ NTSE Stage-I/2015)

(A) $\frac{t}{2\pi R}$ (B) $\frac{2\pi R}{t}$ (C) $\frac{\pi R^2}{t}$ (D) $2\pi R.t$

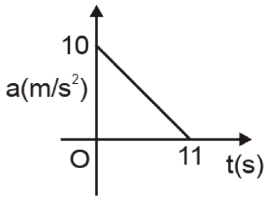
11. A body of mass 2 kg is moving on a smooth floor in straight line with a uniform velocity of 10 m/s. Resultant force acting on the body is: **(Raj./ NTSE Stage-I/2015)**

(A) 20 N (B) 10 N (C) 2 N (D) zero

12. A body falling from rest describes distances S_1, S_2 and S_3 is the first, second and third seconds of its fall. Then the ratio of $S_1 : S_2 : S_3$ is : **(Delhi/ NTSE Stage-I/2014)**

(A) 1 : 1 : 1 (B) 1 : 3 : 5 (C) 1 : 2 : 3 (D) 1 : 4 : 9

13. A body starts from rest at time t = 0, the acceleration time graph is shown in figure. The maximum velocity attained by the body will be : **(Delhi/ NTSE Stage-I/2014)**



(A)1110 m/s (B) 55 m/s (C) 650 m/s (D) 550 m/s

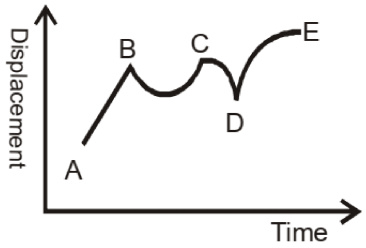
14. A body covers half the distance with a speed of 20 m/s and the other half with 30m/s. The average speed of the body during the whole journey is : **(West Bengal/ NTSE Stage-I/2014)**

(A) Zero (B) 24m/s (C) 25 m/s (D) None of the above

15. Correct relation is..... (Madhya Pradesh/ NTSE Stage-I/2015)

(A) $v^2 = u^2 + 2a^2s^2$ (B) $v^2 = u^2 - 2a^2s^2$ (C) $v^2 = u^2 + 2as$ (D) $v^2 = u^2 + 2a^2s$

16. The figure given below shows the displacement plotted time for a particle. In which regions is the force acting on the particle zero ? **(Bihar/ NTSE Stage-I/2014)**



(A) AB (B) BC (C) CD (D) DE

17. Two cars of unequal masses use similar tyres. If they are moving with same initial speed, the minimum stopping distance : **(Jharkhand/ NTSE Stage-I/2014)**

(A) is smaller for the heavier car. (B) is same for both the cars

(C) is smaller for the lighter car. (D) depends on the volume of the car

18. A ball hits a wall horizontally with a velocity of 6.0 ms^{-1}. After hitting wall it rebounds horizontally with a velocity of 4.4 ms^{-1}. If the balls remains in the contact of all for 0.040 sec. the acceleration of ball would be - **(Uttrakhand/ NTSE Stage-I/2014)**

(A) –260 m/s^2 (B) +260 m/s^2 (C) –26 m/s^2 (D) +26 m/s^2

19. If the length of pendulum executing simple harmonic motion is $\frac{g}{4\pi^2}$ metre then the time period of the pendulum is : **(Uttrakhand/ NTSE Stage-I/2015)**

(A) 2.5 sec. (B) 1.5 sec. (C) 1 sec. (D) 2 sec.

20. The speed of a train decreases from 80 km/hour to 60 Km/hour in 5 seconds. In this process, find out the acceleration of the train : **(Uttrakhand/ NTSE Stage-I/2015)**

(A) 2.22 m/sec^2 (B) –2.22 m/sec^2 (C) –1.11 m/sec^2 (D) 1.11 m/sec^2

21. A ball thrown vertically upward returns to the thrower after 6s. The ball is 5m below the highest point at t=2s. The time at which the body will be at same position, (take g=10 m/s^2) **(Delhi/ NTSE Stage-I/2015)**

(A) 2.5s (B) 3s (C) 4s (D) 5s

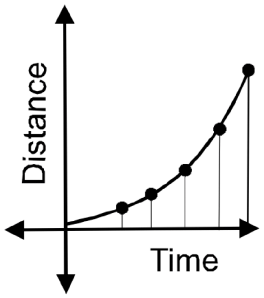
22. A particle starts its motion from rest under the action of a constant force. If the distance covered in first 10s is S_1 and that covered in first 20s is S_2 then : **(Delhi/ NTSE Stage-I/2015)**

(A) $S_2 = S_1$ (B) $S_2 = 2S_1$ (B) $S_2 = 3S_1$ (D) $S_2 = 4S_1$

23. A car travels 40 kms at an average speed of 80 km/h and then travels 40 kms at an average speed of 40 km/ h. The average speed of the car for this 80 km trip is : **(Raj./ NTSE Stage-I/2015)**

(A) 40 km/h (B) 45 km/h (C) 48 km/h (D) 53 km/h

24. Which motion does the graph of distance and time shows for accelerated motion? **(Gujrat/ NTSE Stage-I/2015)**



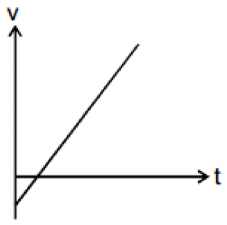
(A) non uniformly accelerated

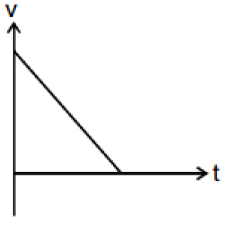
(B) constant velocity

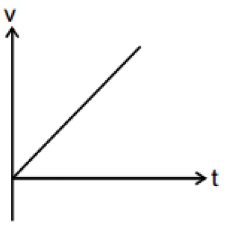
(C) uniformly accelerated

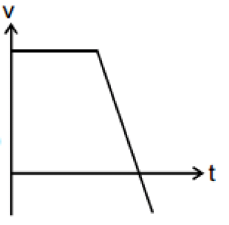
(D) uniformly retarded motion

25. A body is dropped from certain height from a uniformly ascending balloon. The correct graph showing variation of velocity with time for body is : **(Haryana/ NTSE Stage-I/2015)**

(A) 

(B) 

(C) 

(D) 

26. A stone is dropped from the top of a tower. Its velocity after it has fallen 20m is (take g = 10m/s^2) :

(Bihar/ NTSE Stage-I/2015)

(A) – 10 m/s (B) 10 m/s (C) – 20 m/s (D) 20 m/s

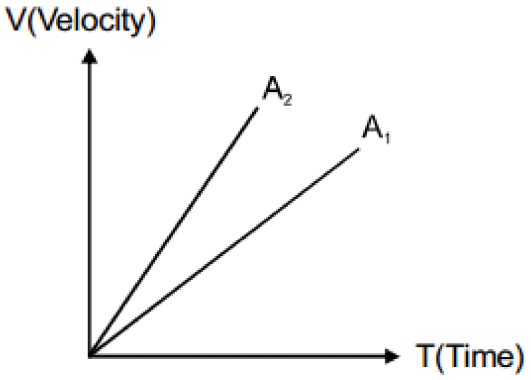
27. If the length of a simple pendulum is increased to 2 times its value then its time period will be-

(Bihar/ NTSE Stage-I/2015)

(A) halved (B) doubled (C) becomes $\sqrt{2}$ times (D) reduces by $\sqrt{2}$

28. In the adjacent V – T diagram what is the relation between acceleration A_1 and A_2?

(West Bengal/ NTSE Stage-I/2015)



(A) $A_2 = A_1$ (B) $A_2 > A_1$ (C) $A_2 < A_1$ (D) Cannot be predicted

29. A train can accelerate at 20 cm/s^2 and decelerate at 100 cm/s^2. Then the minimum time for the train to travel between the stations 2 km apart is..... (The train should start at one station and stop at another station)

(Andra Pradesh/ NTSE Stage-I/2015)

(A) 125 s (B) 100 s (C) 155 s (D) 200 s

30. A ball is thrown vertically upwards with a given velocity 'u' such that it rises for T seconds (T > 1), What is the distance traversed by the ball during the last one second of ascent (in meters)? (Acceleration due to gravity is g m/s^2.)

(NTSE Stage-II/2015)

(A) $\frac{1}{2}gT^2$ (B) $uT + \frac{1}{2}g[T^2 - (T-1)^2]$

(C) $\frac{g}{2}$ (D) $\frac{1}{2}g[T^2 - (T-1)^2]$

31. The brakes applied to a car produce an acceleration of 8 m/s^2 in the opposite direction to the motion. If the car takes 3 seconds to stop after the application of brakes, the distance it travels during the time will be -

(Raj./ NTSE Stage-I/2017)

(A) 30 m (B) 36 m (C) 25 m (D) 40 m

EXERCISE – I

ONLY ONE CORRECT TYPE

1. An object is said to be at rest if its ..... does not change with time :
(A) Position
(B) Size
(C) Colour
(D) Material

2. Which of these is an example of oscillatory motion ?
(A) Motion of an electric fan
(B) Motion of a spinning top
(C) Motion of pendulum of a wall clock
(D) Motion of a stone dropped from a roof

3. Which of the following is not a vector quantity ?
(A) Retardation
(B) Acceleration due to gravity
(C) Average speed
(D) Displacement

4. In which of the following cases of motion, the distance moved and the magnitude of displacement are equal :
(A) If the car is moving on straight road
(B) If the car is moving in circular path
(C) The pendulum is moving to and fro
(D) The earth is revolving around the sun

5. The numberical ratio of displacement to distance for a moving object is :
(A) Always less than 1
(B) Always equal to 1
(C) Always more than 1
(D) Equal or less than 1

6. A particle is moving in a circular path of radius r. The displacement after half a circle would be :
(A) Zero (B) π r
(C) 2 r (D) 2 π r

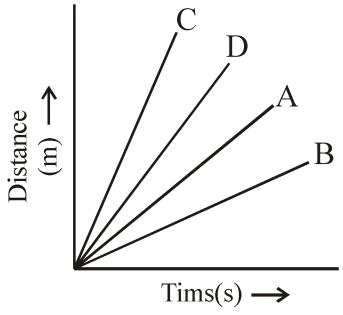
7. A body goes from A to B with a velocity of 20 m/s and comes back from B to A with a velocity of 30 m/s. The average velocity of the body during the whole journey is :
(A) zero (B) 25 m/s
(C) 24 m/s (D) none of these

8. The CGS unit of acceleration is :
(A) cm/s (B) cm/min
(C) cm/s^2 (D) cm/min^2

9. A body is thrown vertically upward with velocity (u). The greatest height h to which it will rise is :
(A) u/g (B) $u^2/2g$
(C) u^2/g (D) u/2g

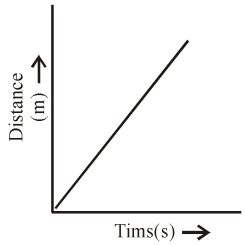
10. If the displacement of an object is proportional to square of time, then the object moves with :
(A) Uniform velocity
(B) Uniform acceleration
(C) Increasing acceleration
(D) Decreasing acceleration

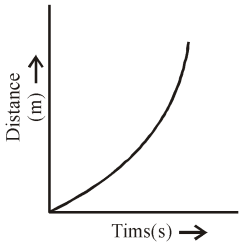
11. Four cars A, B, C and D are moving on a levelled road. Their distance versus time graphs are shown in figure. Choose the correct statement :

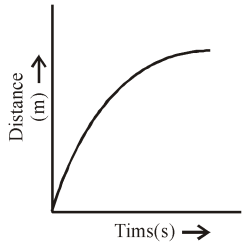


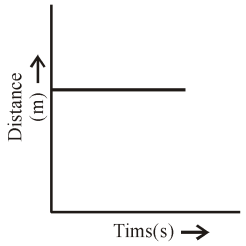
(A) Car A is faster than car D
(B) Car B is the slowest
(C) CarD is faster than car C
(D) Car C is the slowest

12. Which of the following figures represents uniform motion of a moving object correctly :

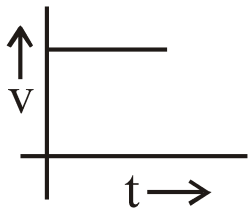
(A) 

(B) 

(C) 

(D) 

13. From the given v-t graph, it can be inferred that the object is :



(A) in uniform motion
(B) at rest
(C) in non-uniform motion
(D) moving with uniform acceleration

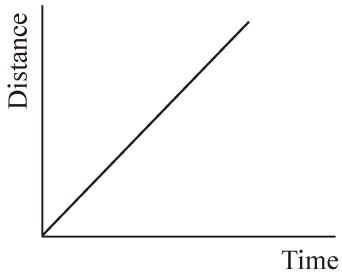
14. A particle is travelling with a constant speed. This means :
(A) Its position remains constant as time passes
(B) It covers equal distances in equal time intervals
(C) Its acceleration is zero
(D) It does not change its direction of motion

15. A particle moves with a uniform velocity
(A) The particle must be at rest.
(B) The particle moves along a curved path
(C) The particle moves along a circle
(D) The particle moves along a straight line

16. A quantity has a value of –6.0 m/s. It may be the :
(A) Speed of a particle
(B) velocity of a particle
(C) acceleration of a particle
(D) position of a particle

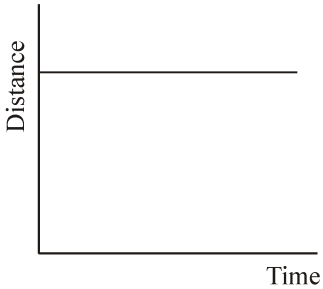
17. The velocity-time graph of a particle is not a straight line. Its acceleration is :
(A) Zero (B) Constant
(C) Negative (D) Variable

18. The distance-time graph of an object moving in a fixed direction is shown in figure



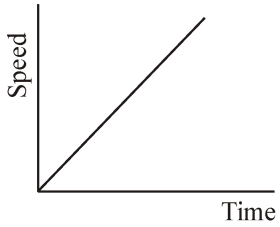
The object
(A) is are rest
(B) moves with a constant velocity
(C) moves with a variable velocity
(D) moves with a constant acceleration

19. The distance-time graph of an object is shown in figure.



The object :
(A) is at rest
(B) moves with a constant speed
(C) moves with a constant velocity
(D) moves with a constant acceleration

20. The speed-time graph of an object moving in a fixed direction is shown in figure



The object :

(A) is at rest

(B) moves with a constant speed

(C) moves with a constant velocity

(D) moves with a constant acceleration

21. In circular motion the :

(A) direction of motion is fixed

(B) direction of motion changes continuously

(C) acceleration is zero

(D) velocity is constant

22. A 100 m long train crosses a bridge of length 200 m in 50 seconds with constant velocity. Find the velocity.

(A) 3 m/s (B) 6 m/s

(C) 9 m/s (D) 12 m/s

23. Rahim, while driving to school, computes the average speed for his trip to be 20 km h^{-1}. On his return trip along the same route, there is less traffic and the average speed is 30 km h^{-1}. What is the average speed for Rahim's trip ?

(A) 12 km/h (B) 24 km/h

(C) 36 km/h (D) 72 km/h

24. On a 100 km road, a car travels the first 50 km at a uniform speed of 30 kmh^{-1}. How fast must the car travel for the next 50 km so as to have an average speed of 45 kmh^{-1} for the entire journey ?

(A) 45 km/h (B) 15 km/h

(C) 90 km/h (D) 30 km/h

25. The brakes applied to a car produce an acceleration of 6 ms^{-2} in the opposite direction to the motion. If the car takes 2 s to stop after the application of brakes, calculate the distance it travels during this time.

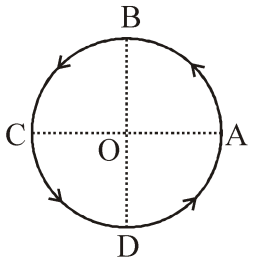
(A) 6 m (B) 12 m

(C) 18 m (D) 24 m

PARAGRAPH TYPE

PARAGRAPH # 1

Distance travelled by an object in a given time is the actual path length covered by an object in the given time and displacement is the shortest distance between the initial and final position of the object in the given time. Speed is equal to distance/time and velocity = displacement/time.



Change in velocity = final velocity – initial velocity.

A particle moves along a circle of radius R. It starts from point A and moves in anticlockwise direction, as shown in figure

26. The distance travelled and displacement of the particle from A to B is :

(A) $\frac{\pi R}{4}, R$ (B) $\frac{\pi R}{2}, 2R$

(C) $\frac{\pi R}{4}, \sqrt{2}R$ (D) $\frac{\pi R}{2}, \sqrt{2}R$

27. The distance travelled and displacement of the particle from A to C is :

(A) $\frac{\pi R}{2}, 2R$ (B) πR , $2R$

(C) $\frac{\pi R}{2}, \frac{\pi R}{2}$ (D) πR , πR

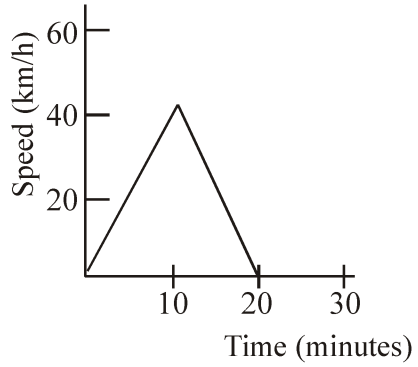
28. If T is the time period of uniform revolution of the particle on the circle, then the speed of the object at B is :

(A) $\frac{2\pi}{2T}$ (B) $\frac{\sqrt{2}R}{T}$

(C) $\frac{2\pi R}{T}$ (D) $\frac{R}{T}$

PARAGRAPH # 2

Figure shows the speed-time graph of a bus.



29. What is the distance covered during its acceleration ?

(A) $\frac{10}{3} km$ (B) $\frac{5}{3} km$

(C) $\frac{15}{3} km$ (D) $\frac{20}{3} km$

30. What is the distance covered during its deceleration ?

(A) $\frac{20}{3} km$ (B) $\frac{5}{3} km$

(C) $\frac{15}{3} km$ (D) $\frac{10}{3} km$

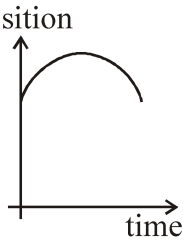
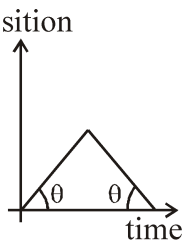
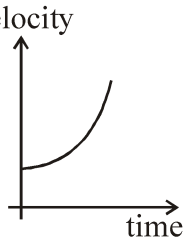
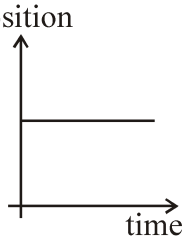
31. What is the average speed in the entire journey ?

(A) 10 km/h (B) 20 km/h

(C) 30 km/h (D) 15 km/h

MATCH THE COLUMN TYPE

32. Match the situation given in List I with the possible curves in List II

Column I		**Column II**
(a) Particle moving with constant speed	(p)	
(b) Particle moving with increasing acceleration	(q)	
(c) Particle moving with constant negative acceleration	(r)	
(d) Particle is stationary	(s)	

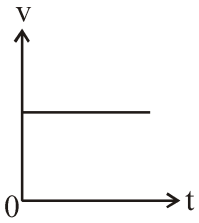
(A) a-q, b-r, c-p, d-s

(B) a-r, b-p, c-s, d-q

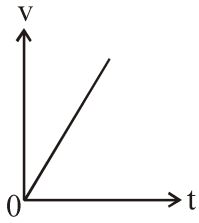
(C) a-p, b-q, c-r, d-s

(D) a-s, b-r, c-q, d-p

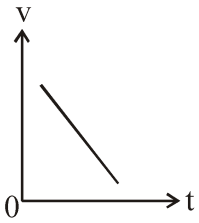
33. Column I **Column II**

(a) 

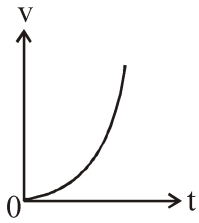
(p) Motion with non uniform acceleration

(b) 

(q) Uniform acceleration

(c) 

(r) Constant retardation

(d) 

(s) Motion of body covering equal distances

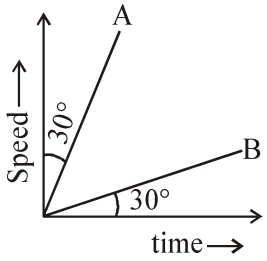
(A) a-q, b-r, c-p, d-s
(B) a-r, b-p, c-s, d-q
(C) a-p, b-q, c-r, d-s
(D) a-s, b-q, c-r, d-p

Space for Notes :

EXERCISE – II

VERY SHORT ANSWER TYPE

1. Give an example of a motion in which distance is covered
2. Is displacement independent of path ? Explain.
3. Two cars A and B have their s-t graph as shown. Which one has greater velocity ?



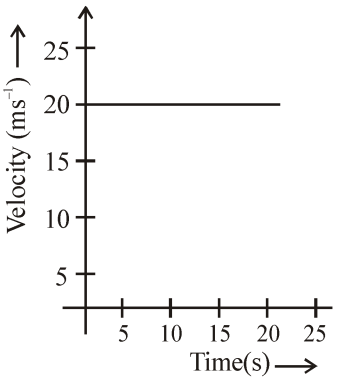
4. What is the value of acceleration, if v-t graph is a straight line parallel to the time axis ?
5. Name a physical quantity that (i) varies (ii) remains same, in a uniform circular motion.
6. You are walking towards India Gate. Is India Gate at rest with respect to you or is it moving with respect to you ?
7. Which of the following are scalar quantities ?

   (a) Mass (b) Displacement

   (c) Speed (d) Velocity
8. What is the displacement of a satellite when it makes a complete round along its circular path ?
9. A scooter moves 45 km on one litre of petrol. In a journey, the scooter used up one litre of petrol. Is it necessary that the displacement of the scooter in the journey is 45 km ? Is it possible that the displacement is 45 km ?
10. Can the distance travelled by an object be smaller than the magnitude of its displacement ?

SHORT ANSWER TYPE

1. The displacement of a moving object in a given interval of time is zero. Would the distance travelled by the object also be zero ? Justify your answer.
2. A motorcyclist drives from A to B with a uniform speed of 30 km h^{-1} and returns with a speed of 20 km h^{-1}. Find his average speed.
3. Give two examples each of uniform and nonuniform acceleration.
4. The velocity-time graph given shows the motion of a cyclist. Find (i) its acceleration (ii) its velocity and (iii) the distance covered by the cyclist in 15 seconds.



5. Define uniform speed and velocity

LONG ANSWER TYPE

1. A stone is thrown vertically upward which takes time 't' to reach the maximum heigh 'h'. After next 't' seconds it reaches the ground from the maximum heigh. Draw (i) distance-time graph and (ii) displacement time graph for the motion of the stone.
2. A car is moving on a straight road with uniform acceleration. The following table gives the speed of the car at various instants of time :

Time (s)	0	10	20	30	40	50
Speed (m/s)	5	10	15	20	25	30

Draw the speed time graph choosing a convenient scale. Determine from it (i) the acceleration of the car (ii) the distance travelled by the car in 50s.

3. The following is the distance-time table of a moving car.

Time (am)	Distance(km)
10.05	0
10.25	5
10.40	12
10.50	22
11.00	26
11.10	28
11.25	38
11.40	42

(a) Use a graph paper to plot the distance travelled by the car versus the time.

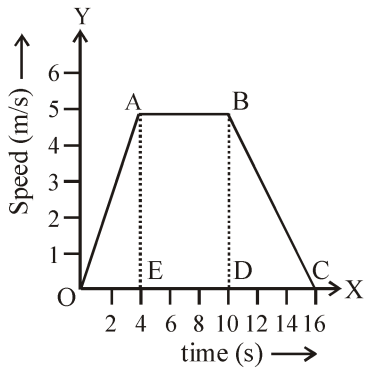
(b) When was the car travelling at the greatest speed

(c) What is the average speed of the car ?

(d) What is the speed between 11.25 am and 11.40 am ?

(e) During a part of the journey, the car was forced to slow down to 12 km/h. At what distance did this happen ?

4. Study the speed time graph of a body shown in figure and answer the following questions :



(a) What type of motion is represented by OA ?

(b) What type of motion is represented by AB ?

(c) What type of motion is represented by BC ?

(d) Find out acceleration of the body.

(e) Find out retardation of the body.

(f) Find out the distance travelled by the body from A to B.

5. State which of the following situations are possible and give an example for each of these : (a) an object with a constant acceleration but with zero velocity (b) an object moving in a certain direction with an acceleration in the perpendicular direction.

TRUE / FALSE TYPE

1. Motion along a curved line is called rectilinear motion.

2. A quantity which can be represented completely by magnitude only is called a vector quantity.

3. A motion is said to be uniform if a body undergoes equal displacements in equal interval of time.

4. Acceleration is defined as the rate of change of velocity.

5. If A moves with respect to B then B moves with respect to A.

FILL IN THE BLANKS

1. A body is said to be at rest if it does not change its ..... with respect to the surroundings.

2. Speed is the ratio of the ..... between two points and time.

3. A vector quantity has magnitude as well as .....

4. Distance is a ..... quantity as it has no direction.

5. Displacement is a ..... quantity.

NUMERICAL PROBLEMS

1. Using following data, draw displacement-time graph for a moving object.

Displacement (m)	0	2	4	4	4	6	4	2	0
Time (s)	0	2	4	6	8	10	12	14	16

Use the graph for find average velocity for first 4s, for next 4s and for last 6s.

2. The odometer of a car reads 2000 km at the start of a trip and 2400 km at the end of the trip. If the trip took 8 h. calculate the average speed of the car in km h^{-1} and ms^{-1}.

3. The table below shows the speed of a moving vehicle with respect to time :

Speed (m/s)	0	2	4	6	8	10
Time (s)	0	1	2	3	4	5

(i) Find the acceleration of the vehicle.

(ii) Calculate the distance covered in above question in 5 seconds.

4. A car moving along a straight highway with a speed of 126 kmph and is brought to a stop within a distance of 200m. What is the acceleration of the car and how long does it take for the car to stop ?

5. A particle is moving around in a circle of radius 1.5m with a constant speed of 2 m/s. Find

(i) the centripetal acceleration

(ii) angular velocity of the particle

Space for Notes :

ANSWER KEY

MOTION

DPP-1

1.	A	2.	B	3.	B	4.	A	5.	A	6.	C	7.	A
8.	A	9.	D	10.	A	11.	B	12.	A	13.	A		

DPP-2

1.	B	2.	A	3.	B	4.	C	5.	B	6.	A	7.	A
8.	D	9.	D	10.	B								

DPP-3

1.	B	2.	A	3.	D	4.	A	5.	B	6.	A	7.	C
8.	A	9.	B	10.	D								

DPP-4

1.	A	2.	B	3.	B	4.	B	5.	D	6.	D	7.	D
8.	A	9.	D	10.	D	11.	A	12.	B	13.	B	14.	B
15.	C												

DPP-5

1.	D	2.	B	3.	B	4.	A	5.	A	6.	D	7.	B
8.	A	9.	A	10.	A	11.	B	12.	B	13.	D		

DPP-6

1.	B	2.	A	3.	A	4.	D	5.	A	6.	B	7.	B
8.	D	9.	A	10.	D								

DPP-7

1.	A	2.	C	3.	A	4.	D	5.	A	6.	A	7.	D
8.	A	9.	A	10.	C	11.	C	12.	A	13.	C		

DPP-8

1.	C	2.	D	3.	B	4.	A	5.	B	6.	B	7.	C
8.	A	9.	B	10.	C	11.	B	12.	B	13.	C	14.	C
15.	B	16.	D	17.	C	18.	D	19.	C	20.	B	21.	B
22.	C	23.	B	24.	C	25.	A	26.	B	27.	C	28.	A

DPP-9

1.	C	2.	B	3.	D	4.	B	5.	A	6.	C	7.	D
8.	B	9.	A	10.	C								

DPP-10

1.	A	2.	B	3.	A	4.	C	5.	B	6.	D	7	A
8.	C	9.	B	10.	B	11.	D	12.	B	13.	B	14.	B
15.	C	16.	A	17.	B	18.	A	19.	C	20.	C	21.	C
22.	D	23.	D	24.	C	25.	A	26.	D	27.	C	28.	B
29.	C	30.	C	31	B								

Answer Key

EXERCISE–I														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	C	C	A	D	C	A	C	B	B	B	A	A	B	D
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
B	D	B	A	D	B	B	B	C	B	D	B	C	A	D
31	32	33												
B	A	D												

EXERCISE – II

TRUE / FALSE

1. F **2.** F **3.** T **4.** T **5.** T

FILL IN THE BLANKS

1. Position **2.** Distance **3.** Direction **4.** Scalar **5.** Vector

NUMERICAL PROBLEMS

1. 1 m/s, 0 m/s and –1 m/s
2. 50 km/h or 13.9 m/s
3. (i) 2 m/s^2 (ii) 25 m
4. –3.06 ms^{-2}, 11.43s
5. (i) 2.67 m/s^2, 1.33 rad/sec

SELF PROGRESS ASSESSMENT FRAMEWORK

(CHAPTER : MOTION)

CONTENT	STATUS	DATE OF COMPLETION	SELF SIGNATURE
Theory			
DPP-1			
DPP-2			
DPP-3			
DPP-4			
DPP-5			
DPP-6			
DPP-7			
DPP-8			
DPP-9			
DPP-10			
Revision - 1			
Revision - 2			
Remark			

NOTES :

1. In the status, put "completed" only when you have thoroughly worked through this particular section.
2. Always remember to put down the date of completion correctly. It will help you in future at the time of revision.

Space for Notes :