SCIENCE

LAW OF MOTION

- 1. If displacement of a particle is zero, the distance covered:
 - (A) must be zero
 - (C) cannot be zero

- (B) may or may not be zero
- (D) depends upon the particle

ANS.B

- 2. If the distance is zero, the displacement
 - (A) must be zero
 - (C) cannot be zero

- (B) may or may not be zero
- (D) depends upon the particle

ANS. A

- 3. The numerical value of the ratio of displacement to distance is:
 - (A) always less than one
 - (C) always more than one

- (B) always equal to one
- (D) equal to or less than one

ANS . D

- 4. The location of a particle is change. What can we say about the displacement and distance covered by the particle?
 - (A) Both cannot be zero

(B) One of the two may be zero

- (C) Both must be zero
- (D) If one is positive, the other is negative and vice versa

ANS . A

- 5. A particle moves with uniform velocity. Which of the following statements about the motion of the particle is true?
 - (B) Its acceleration is zero (A) Its speed is zero
- (C) Its acceleration is opposite to the velocity (D) Its speed may be variable ANS . B
- 6. The magnitude of the displacement is equal to the distance covered in a given interval of time if the particle:
 - (A) moves with constant acceleration
 - (B) moves with constant speed
 - (C) moves with constant velocity
 - (D) none of the above
- ANS . C
- 7. A moving body is covering the distance directly proportional to the square of the time. The acceleration of the body is:
 - (A) Increasing (B) Decreasing
 - (C) Zero

(D) Constant

- ANS . D
- 8. The magnitude of average velocity is equal to the average speed when a particle moves:

(A) On a curved acceleration	(B) In the same direction
(C) With constant acceleration	(D) With constant direction
ANS .	В	
9. If	a particle moves with a constant veloc	tity:
(A) its acceleration is positive	(B) its acceleration is negative
(C) its acceleration is zero	(D) its speed is zero
ANS .	C	
10.Sp	eedometer of an automobile measures	5:
(Ā) average speed	(B) acceleration
(C) instantaneous speed	(D) instantaneous velocity
ANS.	A	
11.	D isplacement is a	
	(A) Vector quantity	(B) Scalar quantity
	(C) Either vector quantity or scalar qu	uantity (D) Neither vector quantity
	nor scalar quantity	
ANS.	A	
12.	A body moves 4 m towards east and t	then 3 m north. The displacement and
	distance covered by the body are	F
	(A) 7 m. 6m	(B) 6 m. 5 m
	(C) $5 \text{ m}, 7 \text{ m}$	(D) $4 \text{ m} 3 \text{ m}$
ANS		
13.	Which of the statements are wrong?	
10.	(A) if velocity of a body changes it m	ust have some acceleration
(B) if speed of a body changes, it must have some acceleration		st have some acceleration
	(C) if body has acceleration its speed	1 must change
	(D) if body has acceleration, its speed	d may change
ΔΝς	(b) it body has acceleration, its speed	a may change
14	The numerical value of the ratio of av	verage velocity to average speed is
I 1.	(A) always less than one	(B) always equal to one
	(Γ) always ress than one (Γ) always more than one	(D) equal to or less than one (D)
ANS	D	(D) Equal to of less than one
15	A racing car has uniform acceleration	of $4m/s^2$ What distance will it cover in
15.	10 soconds after the start?	of filly s What distance will it cover in
	$(\Lambda) 100m$	(R) 200m
	(A) 100 m	(D) 400m
ANC	(C) 200m	(D) 400m
ANS .	L Two stores of different messes are de	conned simultaneously from the top of a
10.	I wo stones of unferent masses are up	ropped simultaneously from the top of a
	Dullaing.	
	A larger start hits the	
	(A) larger stone nits the ground earlie	er.
	(B) smaller stone hits the	ground earlier.

	(C) which of the stones reaches the ground earlier depends on the	
	composition of the stone	
ANC	(D) none of these	
ANS.		
17.	How far a stone shall free fall in 1 seco $(z = 0.0 \text{ m}/(z^2))$	nd released from rest?
	(g = 9.8m/s2)	
	(A) 4.9m	(B) 9.8m
ANC	(C) 19.6m	(D) 3 × 9.8m
ANS .	A A 150 m long train is maxing with a	uniform valuation of AT low (h the time
18.	A 150 m long train is moving with a uniform velocity of 45 km/h. the time	
	(A) E6 coc	(\mathbf{P}) 69 and (\mathbf{P})
	(A) 50 sec	(D) 02 and
ANC		(D) 92 Sec
ANS . 10	A hus is moving at 20ms-1 How mu	ch distance in kilometres will the hus
19.	A bus is moving at 20ms ² . Now mu	ch distance in knometies will the bus
	(A) 30 km	(B) 19 km
	(C) 40 km	(D) 50 km
ANS	A	
20	The velocity of a body moving with a	uniform accoloration of $2 \text{ m}/\text{soc}^2$ is 10
20.	m/sec. Its velocity of a body moving with a	1 sec is
	(Λ) 12 m/sec	(B) = 14 m/sec
	$(\Gamma) = \frac{12 \text{ m/sec}}{16 \text{ m/sec}}$	(D) 18 m/sec
ΔΝς		
21.	An object having a velocity 4.0 m/s is accelerated at the rate of 1.2m/s ² for 5.0s. Find the distance travelled during the period of acceleration	
	(A) 35m	(\mathbf{R}) 25m
	(C) 50m	(D) 20m
ΔΝς	Δ	(D) 5011
	The enced of a convertience from 15 m	-1 + 51
22.	m. what is the uniform acceleration of the car?	
	(A) $-10 \text{ ms} < \sup > -2 < /\sup >$	(B) +10 ms ⁻²
	(C) $2 \text{ ms} < \sin 2 < /\sin 2$	(D) $_{0.5}$ ms/sup>-2
ΔΝς	Δ	(D) = 0.5 ms + 5 ms
73.	A hody is moving along a straight line	at 20 m/s undergoes an acceleration of
25.	$1 \text{ body 15 moving along a straight line at 20 m/s undergoes an acceleration of 1 \text{ m/s} (see 2.5 M from 2.5 moving along a straight line at 20 m/s undergoes an acceleration of 1 \text{ m/s}$	
	-4 III/S ^{2^{-7} After 2 seconds,}	(P) 12 m/ a
	(C) 26 m/s	(D) 28 m/s
ANC	CJ 20 III/S R	
ли з .	U	

24. A balloon rises from rest with a constant acceleration g/8. A stone is released from it when it has risen to height h. The time taken by the stone to reach the ground is

(A)
$$4\sqrt{\frac{h}{g}}$$
 (B) $2\sqrt{\frac{h}{g}}$
(C) $\sqrt{\frac{2h}{g}}$ (D) $\sqrt{\frac{g}{h}}$

ANS . B

25. If the displacement of the particle varies with time as $\sqrt{x} = t + 7$, then

(A) velocity of the particle is inversely proportional to t

(B) velocity of the particle is proportional to t

(C) velocity of the particle is proportional to \sqrt{t}

(D) particle moves with a constant acceleration.

ANS.D

26. In the equation of motion, x = at + bt < sup > 2 < /sup >, the units of a and b are respectively

(A) m/s², m/s (C)m/s, m/s (B)m/s, ms² (D)m, m/s.

- ANS . B
- 27. Displacement y (in m) of a body varies with time t (in second) as. How long does the body take to come to rest?

(A) 8 s	(B)10 s
(C) 12 s	(D)16 s.

ANS . C

28. The position of a particle along x-axis at time t is given by , where $x = 1 + t - t < sup^{2 < /sup^{>}}$ is in metre and t in second. The distance travelled by the particle in first 2 seconds is

(A) 1 m	(B)2 m
(C) 2.5 m	(D) 3 m.

ANS. C

29. A train 150 m long is moving with a speed of 60 km/hr. In what time shall it cross a bridge 1 km long?

(A) 49 s	(B) 59 s
(C) 69 s	(D) 79 s
2	

ANS . C

30. If initial velocity of a particle is u (at t = 0) and the acceleration f is at, then

(A) v = u + at ²	(B)v = u + at ² /2
(C) $v = u + at$	(D) $v = u$
ANS.B	

- 31.A motor ship covers the distance of 300 km between two localities on a river in 10 hrs downstream and in 12 hrs upstream. Find the flow velocity of the river assuming that these velocities are constant
 - (A) 2.0 km/hr
 - (B)2.5 km/hr (C) 3 km/hr (D)3.1 km/hr

ANS. B

32. A man goes 10 m towards north, then 20 m towards east then displacement is (A) 22.5 m (B) 25 m (D) 30 m (C) 25.5 m

ANS. A

- 33 The velocity of a bullet is reduced from 200 m/s to 100 m/s while travelling through a wooden block of thickness 10 cm. The retardation, assuming it to be uniform, will be
 - (A) $10 \times 10 < sup > 4 < /sup > m/s < sup > 2 < /sup > 10 < sup >$
 - (B) $12 \times 10 < sup > 4 < /sup > m/s < sup > 2 < /sup > m/s < sup > 2 < /sup > 10 < sup > 10 < sup$
 - (C) $13.5 \times 10 < sup > 4 < /sup > m/s < sup > 2 < /sup > 10 < sup > 2 < /sup > 10 < sup > 10 < sup$
 - (D) $15 \times 10 < sup > 4 < /sup > m/s < sup > 2 < /sup > 15 < 10 < sup > 15 < 10 < sup > 10 < sup >$
- ANS . D
- 34 A car covers the first half of distance between two places at a speed of 80 km/h and second half at 120 km/h. Then average speed of car is:
 - (A) 100 km/h (B) 134 km/h (C) 96 km/h (D) 92 km/h.

ANS . C

35 A train is moving east at a speed of 5 ms⁻¹. A bullet fired westwards with a velocity of 10 ms⁻¹ crosses the train in 8 s. What is the length of the train?

(A) 100 m	(B) 120 m
(C) 150 m	(D) 180 m

ANS . B

- 36 A person walks along a straight road for the first half time with velocity v₁ and the second half time with velocity v₂. What is the mean velocity V?
 - (A) v < sub > 1 < /sub > + v < sub > 2 < /sub >
 - (B) (v₁ v₂)

(C)
$$\frac{V_1 + V_2}{2}$$
 (D) $\frac{V_1 - V_2}{2}$

ANS . C

37	A stone falls from a balloon that is descending at a uniform rate of 12 m/s. displacement of the stone from the point of release after 10 sec is (g =	
	m/sec ²	
	(A) 490 m	(B) 510 m
	(C) 610 m	(D) 725 m
ANS	. C	
38.	A body goes from A to B with a velocity of	of 20 m/s and comes back B to A with a
	velocity of 30 m/s. The average velocity	of the body during the whole journey is
	(A) zero	(B)24 m/s
	(C) 25 m/s	(D)30 m/s.
ANS	. B	
39.	The numerical ratio of velocity to spee	d of a particle is always
	(A) zero	(B) equal to one
	(C) equal to or less than one	(D) less than one
ANS	. C	
40.	A car travels from A to B at a speed of	of 20 km/h and returns at a speed of 30
	km/h. The average speed of the car fo	r the whole journey is
	(A) 25 km/h	(B) 24 km/h
	(C) 50 km/h	(D) 5 km/h.
ANS	. B	
41.	A train has a speed of 60 km/h for the	e first one hour and 40 km/h for the next
	half hour. Its average speed in km/h is	5
	(A) 50	(B) 53.33
	(C) 48	(D) 70
ANS	. В	
42.	A 150 m long train is moving with a taken by the train to cross a bridge of	uniform velocity of 45 km/h. The time Flength 850 meters is
	(A) 56 s	(B) 68 s
	(C) 80 s	(D) 92 s.
ANS	. C	
43.	A tiger chases a dear 30 m ahead of	it and gains 3 m in 5 s after the chase
	started. After 10 s, the distance betwe	een them is
	(A) 6 m	(B)14 m
	(C) 18 m	(D)24 m
ANS	5.C	
44.	A bird flies for 6 seconds with a ve	locity of t - 3 ms ^{⁻¹} in a
	straight line, where t is time in second	ls. It covers a distance of
	(A) 9 m	(B)6 m
	(C) 18 m	(D)12 m

ANS . A

45. A particle moves along the sides AB, BC, CD of a square of side 25 m with a constant speed of 15 Ms⁻¹. Its average velocity is



- (A) 15 ms⁻¹
- (B) 10 ms⁻¹
- (C) 7.5 ms⁻¹
- (D) 5 ms⁻¹

ANS . D

- 46. A particle has an initial velocity of $(3\hat{i} + 4\hat{j})$ m/s and a constant acceleration of
 - $(4\hat{i}-3\hat{j})$ m/s². Its speed after one second will be equal to

(C) $5\sqrt{2}$ m/s (D) 25 m/s.

ANS . C

- 47. A stone is released from an elevator going up with acceleration 5 m/s < sup > 2 < /sup >. The acceleration of the stone, after its release, with respect to the ground, is:
 - (A) 5 ms < sup > -2 < /sup > (B) 4.8 ms < sup > -2 < /sup > upward
 - (C) 4.8 downward (D)9.8 ms⁻² downward.

ANS . D

- 48. The displacement x of a particle moving along the x-axis at time t is given by . The acceleration of the particle is
 - (A) $x = a_0 + \frac{a_1}{2}t + \frac{a_2}{3}t^2$ (B) $\frac{a_1}{2} + \frac{a_2}{3}$ (C) $a_0 + \frac{a_1}{2} + \frac{a_2}{3}$ (D) $\frac{2a_2}{3}$.

ANS . D

- 49. A balloon starts rising from the ground with an acceleration of 1.25 m/s < sup > 2 < /sup >. After 8 s, a stone is released from the balloon. The stone will
 - (A) cover a distance of 40 m
 - (B) have a displacement of 50 m
 - (C) reach the ground in 4 s
 - (D) begin to move down after being released

ANS . A

50. A particle is moving eastwards with a velocity of 5 m/s. In 10 s the velocity changes to 5 m/s northwards. The average acceleration in this time is: (1982; 3M)

	(A) zero	(B) $\frac{1}{\sqrt{2}}$ m/s ² towards north-east	
	(C) $\frac{1}{\sqrt{2}}$ m/s ² towards north-west	(D) $\frac{1}{\sqrt{2}}$ m/s ² towards north	
ANS	. C		
51.	A ball thrown by one player reache	s the other in 2 seconds. The maximum	
	height attained by the ball above th	e point of projection will be (g = 10	
	m/s < sup > 2 < /sup > 1		
	(A) 10 m	(B) 7.5 m	
	(C) 5 m	(D) 2.5 m	
ANS			
52	Body A of mass M is dropped fro	om a height of 1 m and hody B of mass 3 M is	
52	dropped from a height of 9 m. I	dropped from a height of 9 m. Ratio of time taken by the bodies 1 and 2 to	
	reach the ground is (g = 10 m/s<	sup>2)	
	(A) 1:1	(B) 1:3	
	(C) 3:1	(D) 9:1	
ANS	. B		
53	A stone is dropped from the top	of a tower and travels 24.5 m in last second	
	of its journey. The height of the t	ower is	
	(A) 44.1 m	(B) 49 m	
	(C) 78.4 m	(D) 72 m	
ANS	. A		
54.	The ratio of the angular speed of	minutes hand and hour hand of a watch is	
	(A) 6:1	(B) 12:1	
	(C) 1:6	(D) 1:12	
ANS	. B		
55	A particle covers equal distance	around a circular path, in equal intervals of	
	time. Which of the following quantity connected with the motion of the		
	particle remains constant with ti	me?	
	(A) $20\pi rads < sup > 1 < / sup >$	(B) $4\pi rads-1$	
	(C) π rade< <u>sup>-1</u>	(D)	
		(D) 2 π rads ⁻¹	
ANS	. C		
56	For the above particle, if the disp	placement in $\frac{1}{4}$ th of the time period is 0.3 m,	
	the radius of the circle is nearly		
	(A) 0.11 m	(B) 0.15 m	
	(C) 1.2 m	(D) 0.3 m	
ANS	. A		
57.	What is the ratio of the angular s a clock?	peeds of the minute hand and second hand of	

(A) 1:12 (B) 12:1

(C) 1:60

(D) 60:1

- ANS . C
- 58 An aero plane moves 400 m towards north, 300 m towards west and then 1200 m vertically upwards. Then its displacement from the initial position is (A) 1300 m (B) 1400 m
 - (C) 1500 m (D) 1400 m (D) 1600 m

ANS . A

- 59 A bus travels the first one third distance at a speed of 10 km/h. The next one third distance at 20 km/h and the last one third distance at 60 km/h. The average speed of the bus is
 - (A) 16 km/h (C) 9 km/h

(B) 18 km/h (D) 48 km/h

ANS . B

- 60. A bus travelling the first one-third distance at a speed of 10 km/h, the next one fourth at 20 km/h and the remaining at 40 km/h. The average speed of the bus is nearly
 - (A) 9 km/h
 - (C) 18 km/h

(B) 16 km/h(D) 48 km/h

ANS . C

61. Consider the graph shown in figure which of following is correct?



- (A) Region OA (uniform acceleration) and Region OB (uniform retardation)
- (B) Region OA (constant acceleration) and Region AB (variable acceleration)
- (C) Region OA (uniform velocity) and Region AB (constant acceleration)
- (D) Region of OA (uniform acceleration) and Region AB (zero acceleration)
- ANS . D
- 62. If a body covers equal displacements in equal intervals of time, however small these intervals may be, its motion is
 - (A) Accelerated motion

(B) Uniform motion

(C) Non-uniform motion

(D) Circular motion.

ANS . B

63. A speed boat moving along a straight line at a speed of 54 km/h stops in 5 seconds after the brakes are applied. Using the graph, find the distance covered by the speedboat after the breaks are applied.

(A) 12.5 m	(B) 30 m
(C) 40 m	(D) 37.5 m
ANS . D	

64. If the graph between two quantities is a straight line, the quantities

(A) must be both constants	(B) must be proportional to each other
(C) may be proportional to each ot	her (D) must be equal
ANS . C	
65. The rate of change of displacement	is
(A) speed	(B)velocity
(C) acceleration	(D)retardation
ANS . C	
66. A particle reaches its highest poi	int when it has covered exactly one half of its
horizontal range. The correspon	ding point on the displacement-time graph is
characterized by	
(A) negative slope and zero curv	vature (B) zero slope and negative curvature
(C) zero slope and positive curva	ature (D) positive slope and zero curvature
ANS . B	
67. Unit of acceleration is	
(A) m/s	(B) ms
(C) m/s^2	(D) N
ANS . C	
68. An object follows a curved path wh	lich quantity may not remain constant during
the motion	
(A) speed	(B) velocity
(C) acceleration	(D) none of these.
ANS .	
69. The speed-time graph of an obje	ect moving in a fixed direction is shown in
figure. The object	
Speed	
	Time
(A) is at rest	(B) moves with fluctuating speed

(D) (C) moves with a constant velocity (D) moves with a acceleration

ANS . B

70. A particle covers equal distance in equal intervals of time, it is said to be moving with uniform

non-zero

- (A) speed velocity **(B)** force. (D)
- (C) acceleration
- ANS . C
- 71. Figure represents displacement-time graph for the four particle A, B, C and D respectively. An unbalanced force is acting on the particle, then correct graph is



ANS. A

72. When the distance traveled by an object is directly proportional to the time, it is said to travel with

(A) zero velocity

(C) constant acceleration

(B) constant speed

uniform velocity. (D)

ANS . B

- 73 Velocity-time graph of a body with uniform velocity is a straight line, then choose the correct statement
 - (A) parallel to x-axis

(C) inclined to x-axis

- parallel to y-axis (B)
- inclined to y-axis. (D)

ANS . A

74. The numerical ratio of displacement to the distance covered is always

- (A)less than one (C) equal to or less than one
- (B) (D)
- equal to one equal to or greater than one

ANS . C

75. Which of the following curve does not represent motion in one dimension?



ANS . B

- 76. Which of the following is not a vector?
 - (A) displacement

(C) mass

(B) velocity (D)acceleration

ANS. C

77. Speed is never (A) zero (C) negative ANS . C

(B)fraction (D)positive.

Look at the graphs (i) to (iv) in figure carefully and choose, which of these can possibly represent one dimensional motion of particle







ANS . A

80 Which of the following is/are not the perfect 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, equal to the actual path of the object

ANS . A

81 At the top of the trajectory of a projectile, the acceleration is

(A) g/2	(B) g / √2
(C) Zero	(D) g

ANS D

82. The horizontal range of a projectile is times its maximum height. Its angle of projection will be

(A) 45°	(B) 60°
(C) 90°	(D) 30°

ANS.D

83.The greatest height to which a man can throw a stone is h. The greatest distance to which he can throw will be:

(A) h/2	(B) h
(C) 2 h	(D) 4 h.

ANS . C

- 84. A heavy stone is thrown from a cliff of height h with a speed V. The stone will hit the ground with maximum speed if it is thrown
 - (A) vertically downward
 - (B) vertically upward
 - (C) horizontal
 - (D) the speed does not depend on the initial direction.
- ANS. D
- 85. Three particles A, B and C are thrown from the top of tower with the same speed. A is thrown straight up, B is thrown straight down and C is thrown horizontally. They will hit the ground with speed.
 - (A) $\upsilon_A = \upsilon_B = \upsilon_C$ (B) $\upsilon_A > \upsilon_B > \upsilon_C$ (C) $\upsilon_A = \upsilon_B > \upsilon_C$ (D) $\upsilon_A > \upsilon_B > \upsilon_C$
 - (C) $\upsilon_A = \upsilon_B > \upsilon_C$ (D) $\upsilon_A > \upsilon_B = \upsilon_C$

ANS . A

86.	The range of a projectile fired at an angle of 15° is 50 m. If it is fired with the				
	same speed at an a (Λ) 25 m	angle of 45°, its raf	(P) F0 m		
	(A) 25 III		(D) 77.6 m		
ANC			(D) 77.0 III		
87.	Two projectiles A and B are projected with angle of projection 30° for the projectile A and 45° for the projectile B. If are the horizontal ranges for the two projectiles, then				
	(A) $R_A = R_B$		(B) $R_A > R_B$		
	(C) $R_{A} < R_{B}$				
	(D) the information is insufficient to decide the relation of				
ANS .	b. D				
88.	The greatest height to which a man can throw a stone is h. The greatest				
	distance to which he can throw it will be				
	(A) h/2		(B) 2h		
	(C) h		(D) 3h		
ANS .	. B				
89.	A ball is thrown from the ground with a velocity of m/s making an angle of 60° with the horizontal. The ball will be at a height of 40 m from the ground				
	after a	time	t	equal to	
	$(g = 10 \text{ ms}^{-2})$				
	(A) $\sqrt{2}$ sec	(B)	$\sqrt{3}$ sec		
	(C) 2 sec	(D)	3 sec		
ANS .	. C				
90	The maximum ran muzzle velocity m	Γhe maximum range of gun of horizontal terrain is 16 km. If g = 10 ms ⁻² , the muzzle velocity must be			
	(A) 160 ms ⁻¹	(B)	$200\sqrt{2} \text{ ms}^{-1}$		
	(C) 400 ms^{-1}	(D)	800 ms ⁻¹		
ANS	. C				
91	A body is thrown with a velocity of 9.8 mass ^{-1} making an angle of 30° with the horizontal. It will				
	(A) 3.0 s		(B) 2.0 s		
	(C) 1.5 g		(D) 1s		
ANS .	. D				
92.	The range of projectile fired at an angle of 15° is 50 m. If it is fired with the same speed at an angle of 60°, its range will be				
	(A) 35 m		(B) 65 m		
	(C) 87 m		(D) 100 m		
ANS .	. C				

A balloon is rising vertically up with a velocity of 29 ms⁻¹. A stone is dropped from it and it reaches the ground in 10 s. The height of the balloon when the stone was dropped from it is (g = 9.8 ms^{-2})

(B) 150 m

- (A) 400 m
- (C) 200 m (D) 275.0 m
- ANS . C
- 94. A ball is thrown up with a certain velocity. It attains a height of 40m and comes back to the thrower. Then the
 - (A) total distance covered is 40 m
- (B) magnitude of displacement is 80 m
- (C) displacement is zero
- (D) total distance covered is zero

- ANS . C
- 95. At the maximum height of a body thrown vertically up :
 - (A) velocity is not zero but acceleration is zero
 - (B) acceleration is not zero but velocity is zero
 - (C) both acceleration and velocity are zero.
 - (D) both acceleration and velocity are not zero
- ANS . B
- 96. In an imaginary atmosphere, the air exerts a small force F on any particle in the direction of the particle's motion. A particle of mass 'm' projected upward takes a time t_1 in reaching the maximum height and t_2 in the return journey
 - to the original point then
 - (A) $t_1 < t_2$
 - (B) $t_1 > t_2$
 - (C) $t_1 = t_2$
 - (D) The relation between t_1 and t_2 depends on the mass of the particle
- ANS . B
- 97. Two objects A and B are thrown upward simultaneously with the same speed. The mass of A is greater than the mass of B. Suppose the air exerted a constant and equal force of resistance on the two bodies
 - (A) The two bodies will reach the same height
 - (B) A will go higher than B
 - (C) B will go higher than A
 - (D) Any of the above three may happen depending on the speed with which the objects are thrown
- ANS . A
- 98. A body A is projected upwards with a velocity of 98 m/s. The second body B is projected upwards with the same initial velocity but after 4 sec. Both the bodies will meet after ($g = 9.8 \text{ m/sec}^2$)
 - (A) 6 sec
 (B) 8 sec

 (C) 10 sec
 (D) 12 sec

ANS . B

99	An athlete completes one round of a circular track of radius R in 40 sec. What will be his displacement at the end of 2 min 20 sec		
	(A) zero	(B) 2R	
	(C) 2πR	(D) 7πR	
ANS	. B		
100.	Unit of angular velocity is		
	(A) rad	(B) m/s	
	(C) rad/s ²	(D) rad/s.	

ANS . D