MACRO VISION ACADEMY, BURHANPUR

SUMMER ASSIGNMENT 208-19

PHYSICS **CLASS IX**

1: m/s^2 is the SI unit of -
(a) distance (b) displacement (c) velocity (d) acceleration.

2: A car goes from a town A to another town B with a speed of 40 km/h and returns back to the town A with a speed of 60 km/h. The average speed of the car during the complete journey is -
(a) 48 km/h (b) 50 km/h (c) zero (d) none of these.

3: The rate of change of displacement with time is called -
(a) speed (b) velocity (c) acceleration (d) retardation

4: The distance covered in time t by a body having initial velocity u and having a uniform acceleration a is given by $s = ut + \frac{1}{2} at^2$. This result follows from -
(a) Newton's first law (b) Newton's second law
(c) Newton's third law (d) None of these.

5: A ball is thrown vertically upwards. It rises to a height of 50 m and comes back to the thrower,
(a) the total distance covered by the ball is zero.
(b) the net displacement of the ball is zero.
(c) the displacement is 100 m.
(d) none of these.

6: When a graph of one quantity versus another results in a straight line, the quantities are
(a) both constant (b) equal
(c) directly proportional (d) inversely proportional

7: A body moving along a straight line at 20 m/s undergoes an acceleration of -4 m/s^2. After two seconds its speed will be -
(a) -8 m/s (b) 12 m/s (c) 16 m/s (d) 28 m/s.

8: A car increases its speed from 20 km/h to 30 km/h in 10 seconds. Its acceleration is
(a) 30 m/s^2 (b) 3 m/s^2 (c) 18 m/s^2 (d) 0.83 m/s^2

9: In which of the following cases the object does not possess an acceleration or retardation when it moves in
(a) upward direction with decreasing speed
(b) downward direction with increasing speed
(c) with constant speed along circular path
(d) with constant speed along horizontal path

10: A person travels distance πR along the circumference of a circle of radius R. Displacement of the person is
(a) R (b) 2R (c) $2\pi R$ (d) zero

11: A train moving with a uniform speed of 54 kmph. What is its speed in m/s?
(a) 15 m/s (b) 1.5 m/s (c) 9 m/s (d) 90 m/s

12: A scalar quantity has _____?
(a) magnitude only (b) direction only (c) both direction and magnitude (d) none of these

13: When an object undergoes acceleration
(a) there is always an increase in its velocity
(b) there is always an increase in its speed
(c) a force always acting on it
(d) all of the above.

14: The SI unit of retardation is
(a) ms^{-1} (b) ms^{-2} (c) ms^2 (d) m

15: The equation $v = u + at$ gives information as
(a) velocity is a function of time.
(b) velocity is a function of position.
(c) Position is a function of time.
(d) Position is function of velocity and time.

16: A body is projected up with an initial velocity u m/s. It goes up to a height h metres in t seconds time. Then it comes back at the point of projection. Considering negligible air resistance, which of the following statement is true?

(a) the acceleration is zero (b) the displacement is zero

(c) the average velocity is 2h/t

(d) the final velocity is 2u when body reaches projection point.

17: A car accelerates at 1.5 m/s^2 in a straight road. How much is the increase in velocity in 4s?

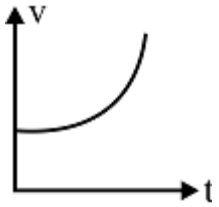
(a) 6 m/s (b) 4 m/s (c) 3 m/s (d) 2.66 m/s

18. Tripling the speed of a motor car multiples the distance needed for stopping it is

(a) By 9 times (b) By 6 times (c) By 3 times (d) By 5 times

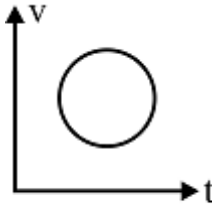
19. Which one of the following does not belong to motion in one dimension (v-t graph)

(a)

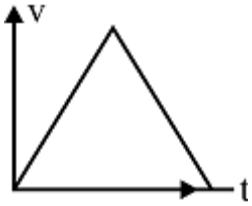


(b)

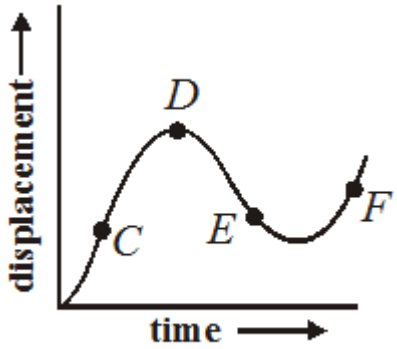
(c)



(d)



20. The displacement time graph of a moving particle is shown below. The instantaneous velocity of the particle is negative at the point



(a) C (b) D (c) E (d) F.

21. If a particle travels a linear distance at speed u1 and comes back along the same track at speed u2:

(a) Its average speed is arithmetic mean

$$(\upsilon_1 + \upsilon_2)/2$$

(b) Its average speed is geometric mean

$$\sqrt{\upsilon_1 \upsilon_2}$$

(c) Its average speed is harmonic mean

$$2\upsilon_1\upsilon_2/(\upsilon_1 + \upsilon_2)$$

(d) None of these

22. Which of the following statements is incorrect?

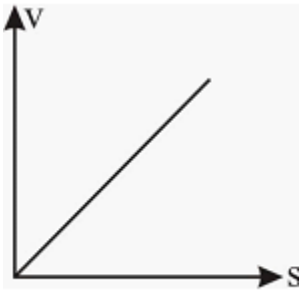
(a) A body can have constant speed but varying velocity
(b) A body can have constant velocity but varying speed
(c) A body can have acceleration without having velocity
(d) A body can have velocity without having acceleration

23. Find the incorrect statement out of the following:

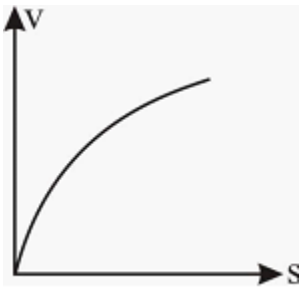
(a) If acceleration = 0, motion is uniform
(b) If acceleration = constant, acceleration is uniform but motion not
(c) If acceleration ¹ constt., both acceleration and motion are not uniform
(d) Acceleration = constt., both acceleration and motion are uniform

24. A body starting from rest moves along straight line with a constant acceleration. The variation of speed (u) with distance (s) is represented by the graph:

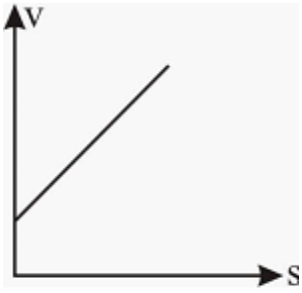
(a)



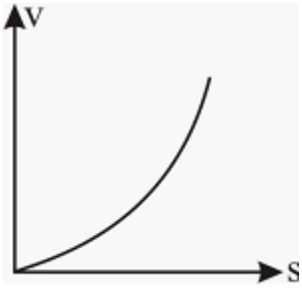
(b)



(c)



(d)



25 Which type of motion repeats itself at regular intervals of time?
A. Circular motion B. Periodic motion
C. Rectilinear motion D. none of the above

26 Which type of motion is "The hands of a clock" ?
A. Circular B. rectilinear C. Periodic D. none of the above

27 If an object moves along a straight path it is said to be ..... motion
A. linear B. one-dimensional C. Both A and B D. two-dimensional.

28. Which type of motion is "the pendulum of a wall clock moves at regular intervals" ?
A. rectilinear B. Periodic C. Circular D. none of the above

29. When a ball hit for a sixer in a cricket then it is in.....
A. linear B. one-dimensional C. two-dimensional. D. three-dimensional

30. What is known as the change in position of an object?
A. displacement B. speed C. velocity D. none of the above

31. Give the hazard motion of a honey bee.
A. two-dimensional. B. three-dimensional
C. linear D. one-dimensional

32. The physical quantities used in displacement both direction and magnitude are called as:
A. vectors B. scalars C. S.I D. C.G.S

33. What is mean by the rate of displacement of a body?
A. speed B. acceleration C. velocity D. none of the above

34. Which velocity is known as "If unequal displacements in equal intervals of time is moving"
A. average velocity B. instantaneous velocity
C. non-uniform velocity D. none of the above

35. Which of the following physical quantities is independent of direction?
A. vectors B. C.G.S C. scalars D. S.I

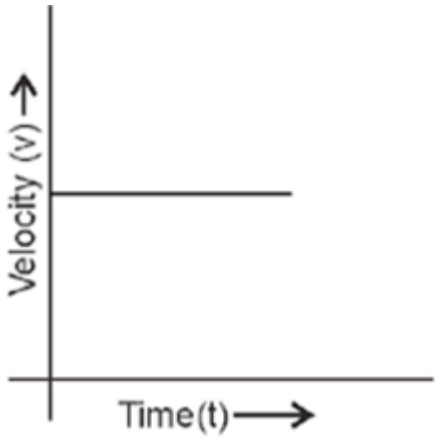
36. Which velocity is known as "If unequal displacements in equal intervals of time is moving"
A. instantaneous velocity B. uniform velocity
C. non-uniform velocity D. average velocity

37. What is mean by the ratio of total displacement to total time taken by the body?
A. non-uniform velocity B. average velocity
C. instantaneous velocity D. uniform velocity

38. The velocity of a body at a given instant is called as
A. instantaneous velocity B. uniform velocity
C. non-uniform velocity D. none of the above

39. A body is thrown vertically upward with velocity u, the greatest height 'h' to which it will rise is
(a) u/g (b) u2/2g (c) u2/g (d) u/2g

40. From the 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

41. Ram reached Rahul's house walking 10 km in 20minute 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

42. An object is moving with a velocity of 2 ms^{-1}. Its velocity changes at a uniform rate to 5 ms^{-1}.The average velocity of the object is
(A) 3ms^{-1} (B) 3.5ms^{-1} (C) 4 ms^{-1} (D) 5.5ms^{-1}

43. A car starts from Hither, goes 50 km in a straight line to Yan, immediately turns around, and returns to Hither .The time for this round trip is 2 hours .The magnitude of the average velocity of the car for this round trip is :
(A) 0 km/h (B) 5 km/h (C) 100 km/h (D) 4 km/h

44. A bullet of mass 10 g travelling horizontally with a velocity of 160ms^{-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
(A) 1.20m (B) 1.60m (C) 2.00 m (D) 2.40m

45. A train travels a distance with a speed of 30 kmh^{-1} and return with a speed of 50 km/h. Calculate the average speed of the train.
(A)37.5 km/h (B) 75 km/h (C) 100 km/h (D) 80 km/h

46. A car travels from one town to the other with average speed 20 km/hr. If the first half is travelled at average speed 30 km/hr., then the average speed of the car in the other half will be
(A) 30 km/hr. (B) 40 km/hr. (C) 50 km/hr. (D) 15 km/hr.

47. A train starting from a railway station and moving with uniform acceleration, attains a speed of 40kmh^{-1} in 10minutes, its acceleration is :
(A) 18.5ms^{-2} (B) 1.85 cm s^{-2} (C) 15 cms^{-2} (D) 10 m s^{-2}

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

49. A body freely falling from rest has a velocity V after it falls through a height h .The distance it has to fall further for its velocity to become double is :
(A) 3 h (B) 6 h (C) 8 h (D) 10 h

50. The velocity of bullet is reduced from200m/s to 100m/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

51. How will you convert the speed given in km/h to m/s
A) By multiplying with 5/16 B) By multiplying with 6/5
C) By multiplying with 18/5 D) By multiplying with 5/18

52. On which axis dependent variable is represented
A) x-axis B) y-axis C) on any axis D) depends on data

53. Which one records the distance travelled by a vehicle
A) speedometer B) manometer C) monometer D) odometer

54. The distance-time graph for motion of an object moving with constant speed is
A) A curved line leaving towards x-axis B) A curved line inclined towards y-axis
C) A straight line inclined on x-axis D) none of these

55. The distance-time graph for a vehicle parked on a road side is
A) straight line inclined by some angle to x-axis
B) straight line parallel to x-axis
C) straight line parallel to y-axis
D) none of these

56. A cricket ball is thrown straight upwards. What is its acceleration at highest point ?
A) zero B) g/2 downward C) g downward D) g upward

57. An object is moving with constant speed travels once around a circular path then
A) its displacement is zero B) average speed is zero
C) acceleration is zero D) distance is zero

58. A body is projected vertically upwards choose the correct statement
A) its velocity increases and acceleration due to gravity decreases
B) its velocity decreases and acceleration due to gravity remains constant
C) its velocity remains constant and acceleration due to gravity remains constant
D) its velocity decreases and acceleration due to gravity decreases

59. A stone is dropped from the top of a building and strikes the ground with a velocity of 30 m/s what is the height of the building ?
A) 45 m B) 20 m C) 30 m D) 15 m

60. Velocity-time curve for a body projected vertically upwards is
A) parabola B) ellipse C) hyperbola D) straight line

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