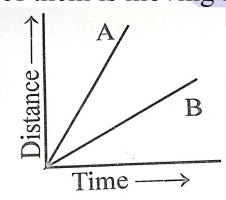
NEW STANDARD ACADEMY

Marks: 120

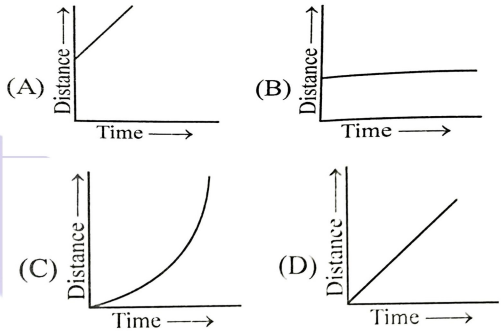
Date : 28-04-25 **CLASS : 9TH** **Time: 2 hours**

PHYSICS

1. If the speed of an object moving along a straight line keeps changing, its motion is said to be
   (a) uniform (b) non-uniform
   (c) circular (d) None of these
2. Which of the following relations is correct
   (a) speed = $\frac{distance}{time}$
   (b) speed= $distance \times time$
   (c) speed = $\frac{time}{distance}$
   (d) None of these
3. The basic unit of time is
   (a) an hour (b) a minute
   (c) a second (d) None of these
4. The symbol of kilometre is
   (a) kilo (b) km
   (c) kilo m (c) None of these
5. The symbols of all units are written in
   (a) plural (b) singular
   (c) both singular and plural
   (d) None of these
6. A speedometre records the speed directly in
   (a) m/s (b) km/s
   (c) km/h (d) m/min
7. A device that measures the distance by the vehicle is known as
   (a) a speedometer (b) an odometer
   (c) a barometer (d) None of these
8. Fig, shows the distance time graph for the motion of two vehicle A and B. Which one of them is moving faster?



   (a) A (b) B
   (c) Both A and B are moving with same speed
   (d) None of these
9. Which of the following distance-time graphs shows a truck moving with speed which is not constant?



10. Motion of a pendulum is
    (a) Along a straight line
    (b) Circular
    (c) Periodic
    (d) None of these
11. Which of the following has the largest inertia?
    (a) A pin (b) A pen
    (c) Your physics book
    (d) Your school bag
12. Action-reaction forces act:
    (a) On the same body
    (b) On different bodies
    (c) Along different lines
    (d) In the same direction
13. The acceleration of a body is to be doubled from its initial value. By what factor is the acting force to be increased?
    (a) Half (b) Two
    (c) Four (d) One
14. The momentum of a body of given mass is proportional to its
    (a) Speed (b) Volume
    (c) Density (d) Shape
15. Two bodies of equal masses (m)Moving with equal velocities (v) in opposite directions collides. The resultant velocity of the combination is
    (a) v (b) 2v
    (c) –v (d) zero

CHEMISTRY

16. The decreasing order of kinetic energy of particles is:
    (a) Solid > Liquid > Gas
    (b) Gas > Liquid > Solid

(c) Liquid > Solid > Gas
(d) Gas > Solid > Liquid

17. During the boiling of a liquid,
(a) Temperature remains constant
(b) Kinetic energy remains constant
(c) Heat equal to latent heat of vaporisation is absorbed
(d) All are correct

18. True statement is:
(a) Water and steam at 373 K have equal energy
(b) Water and ice at 273 K have equal energy
(c) Water at 373 K is more effective for heating than steam at 373 K
(d) Water and steam have same kinetic energy at 373

19. Which of the following are rigid forms of matter?
(a) Only solids
(b) Only liquids
(c) Solids and liquids
(d) Liquids and gases

20. Which of the following behave like fluids?
(a) Only gases
(b) Gases and liquids
(c) Only liquids
(d) Gases, solids and liquids

21. Which of the following conditions increase the evaporation of a liquid?
(a) High temperature
(b) Large surface area
(c) Removal of vapours from the system
(d) All are correct

22. Correct statement is:
(a) Evaporation is a surface phenomenon
(b) Ice at 273 K is less effective for cooling than water at 273 K
(c) Water at 373 K is more effective for heating than steam at 373 K
(d) Boiling of a liquid is a surface Phenomenon

23. Which of the following conditions would increase the interparticle distance of a gas?
(i) Increase of pressure
(ii) Leaking of some of the gas
(iii) Increase the volume of container
(iv) Increase the temperature of the gas
(a) (i) and (ii)
(b) (ii), (iii) and (iv)
(c) (i) and (iii)
(d) (ii) and (iv)

24. A few substances are arranged in the increasing order of inter-particle spaces. Which of the following represents a correct arrangement?
(a) Water, iron, oxygen
(b) Gold, ethanol, nitrogen
(c) Copper, hydrogen, glycerine
(d) Carbon dioxide, methanol, aluminium

25. Correct statement is:
(a) Kinetic energy of all the particles of a liquid is same at a given temperature
(b) During boiling, kinetic energy of the particles increases
(c) Energy of water of 0°C is more than the energy of ice at 0°C
(d) Energy of water at 373 K is less than the energy of steam at 373 K

26. The order of diffusion is :
(a) Gases > Liquids > Solids
(b) Liquids > solids > Gases
(c) Solids > Liquids > Gases
(d) Liquids > Gases > Solids

27. The force of attreaction between the particles of iron , ice-cube and chalk increases:
(a) Iron nails < Ice- cube< Chalk
(b) Chalk < Ice cube < Iron nails
(c) Ice cube < Chalk < Iron nails
(d) Ice cube < Iron nails< Chalk

28. Under identical conditions of temperature and pressure correct order of density is
(a) Gases < Solids <Liquids
(b) Gases > Liquids > Solids
(c) Solids <Liquids< Gases
(d) Liquids < Gases < Solids

Directions: The questions given below consists of an "Assertion" (A) and the "Reason" (R). Use the following key to choose the appropriate answer.

(a) If both assertion (A) and reason (R) are True and reason (R) is the correct expianation of assertion (A).
(b) If both assertion (A) and reason (R) are True, but reason (R) is not the correct explanation of assertion (A).
(c) If assertion (A) is True, but reason (R) is False.
(d) If assertion (A) is False, but reason (R) is True.

29. **Assertion (A):** Non-reacting gases diffuse into each other readily.
Reason (R): The attractive forces among the gas molecules are large.

30. **Assertion (A):** Aquatic animals and plants need oxygen and carbon dioxide for their survival. They survive in sea.
Reason(R): Oxygen and carbon dioxide are present in atmosphere and they diffuse in water and get dissolved.

BIOLOGY

31. In osmosis require -
    (a)Permeable membrane
    (b) Semipermeable membrane
    (c) Non permeable membrane
    (d) None of these
32. Cell kept in hypotonic solution, take place
    (a) Exo osmosis
    (b) endo osmosis
    (c) both a and b
    (d) No osmosis
33. Cytoplasm is present between
    (a) In nucleus
    (b)Between cell membrane and nucleus
    (c) Outside the cell
    (d) None of these
34. Cytoplasm physical nature is
    (a) Solid
    (b) Liquid
    (c) Gas
    (d) Semi fluid
35. Cell organelles
    (a)Membrane bounded sub cellular component
    (b) Without membrane bounded subCellular component
    (c) Both a and b
    (d) None of these
36. Cytoplasm Matrix called-
    (a) Cytosol
    (b) Protoplasm
    (c) Nucleoplasm
    (d) None of these
37. Who give the term cell
    (a) Robert brown
    (b) Robert hook
    (c) Leeuwn hook
    (d) Virchow
38. In active transport
    (a) Energy is required
    (b) Protein carrier is required
    (c) Both are require
    (d)Not require energy
39. In bulk transport included
    (a) Exocytosis
    (b) Endocytosis
    (c) Diffusion
    (d) None of these
40. Plasmolysis is
    (a) Shrinkage of cytoplast
    (b) Shring ke sath nucleoplast
    (c) Shrinkage of cytosol
    (d) Shrinkase of protoplasm
41. Sodium potassium pump are example of
    (a) Passive transport
    (b) Active transport
    (c) Both a and b
    (d) None of theses
42. In phagocytosis taken a substance
    (a) Solid substance
    (b) Liquid substance
    (c) Gaseous substance
    (d) All types substance
43. In pinocytosis thaken -
    (a) Solid substance
    (b) Liquid substance
    (c) Gases substance
    (d) All type of substance
44. Nucleus is a absent in
    (a) Prokaryot cell
    (b) Eukaryotic cell
    (c) Both type of cell
    (d) None of these
45. Major component of cell membrane is:
    (a) Lipid (b) Protein
    (c) Carbohydrate (d) Nucleic acid

MATH

46. Which of the following algebraic expressions is a cubic polynomial in one variable ?
    (a) $2x - 5x^2$ (b) $2x^2y - 3xy + 5$
    (c) $2+7y-3y^2+\sqrt{3}y^3$ (d) $3x^4+7x^2-5$
47. Which of the following expressions are polynomial in one variable ?
    (a) $7x^2-3x+\sqrt{2}$ (b) $3x^2 - 5x + 2$
    (c) $7x^2 - \frac{2}{x}$ (d) $(x-2)(x-4)+y$
48. If $p(x) = x+3$, then $p(x) + p(-x)$ is equal to :
    (a) 3 (b) 2x
    (c) 0 (d) 6
49. The zeroes of the polynomial $5x(x+2)(x-3)$ are:
    (a) -2,0,3,5 (b) -2, 3
    (c) 5,-2,3 (d) 0,-2,3
50. The polynomial in x is x^2+kx+5, where k is a constant . ATx=2, the value of the polynomial is 15. What is the value of the polynomial at x= 5?
    (a) 3 (b) 18
    (c) 35 (d) 45
51. If $x^{51}+51$ is divided by x +1, then the remainder is:
    (a) 0 (b) 1
    (c) 49 (d) 50
52. If we divide x^3+3x by x the result will be
    (a) x^2+3x (b) x^3+3
    (c) 2x+3 (d) x^2+3
53. A polynomial is divided by (x-1). The quotient obtained is $3x^3-x^2-x-4$, and the remainder is -5. Which polynomial meets these conditions?
    (a) $3x^3-x^2-x-9$ (b) $3x^3-x^2-x-4$
    (c) $3x^4-4x^3-3x+4$ (d) $3x^4-4x^3-3x-1$
54. The remainder when x^3+3x^2+3x+1 is divided by x is:

(a) -1 (b) 1
(c) $\frac{1}{2}$ (d) 2

55. Quotient obtained on dividing $8x^4-2x^2+6x-7$ by $2x+1$ is $4x^3+px^2-qx+3$. Then:
(a) p =2 (b) q= -2
(c) p= -2 (d) q = 0

56. The polynomial (4x-3) is a factor of the polynomial q(x) $4x^3+x^2-11x+2r$. What is the value of r?
(a) 2 (b)3
(c) 4 (d) 11

57. The polynomial (x-a), where a > 0,is a factor of the polynomial q(x) $=4\sqrt{2}x^2-\sqrt{2}$. Which of these is a polynomial whose factor is$\left(x-\frac{1}{\alpha}\right)$?
(a) x^2+x+6 (b) x^2-5x+4
(c) x^2+4x-3 (d) x^2+x-6

58. The polynomial (*x-1*) ios a factor of the polynomial x^4-2x^2+kx+k, Where k is a constant. Which of these is the correct relation between *a* and *k*?
(a) k =$\frac{a^2(2-a^2)}{1+a}$ (b) k =$\frac{a^2(2+a^2)}{1+a}$
(c) k =$\frac{a^2(2+a^2)}{1-a}$ (d) k =$\frac{a^2(2-a^2)}{1-a}$

59. If x^2+kx+6= (x+2)(x+3), for all x , then the value of k is :
(a) 1 (b) -1
(c) 5 (d) 3

60. What is the common factor of x^3-x and $-22x^2+142x-120$?
(a) x (b) (x-1)
(c) x^2 (d) 1