Bhavan's Tripura Vidyamandir

1ST Periodic Assessment - (2024-2025)

Class: - 9 **Subject :- Science**

Time :- 2 Hours Total : - 50 Marks

Name of the Student: Roll Section

GENERAL INSTRUCTIONS

1. There are 26 questions in this question paper with internal choice.
2. SECTION A consists of 14 multiple choice questions carrying 1 mark each.
3. SECTION B consists of 6 very short answer questions carrying 2 marks each.
4. SECTION C consists of 3 short answer questions carrying 3 marks each.
5. SECTION D consists of 3 long answer questions carrying 5 marks each.
6. All questions are compulsory.

SECTION A

(Select and write the most appropriate option out of the four options given for each of the questions 1 - 14. There is no negative mark for incorrect response.)

1. Which one of the following sets of phenomenon would increase on raising the temperature: -
   (a) Diffusion, evaporation, compression of gases
   (b)Evaporation, compression of gases, solubility
   (c) Evaporation, Diffusion, expansion of gases
   (d) Evaporation, Solubility, diffusion, compression of gases
2. During Summer water kept in an earthen pot becomes cool because of the phenomenon of: -
   (a)Diffusion (b) Sublimation (c) Osmosis (d) Evaporation
3. Which of the following does not undergo sublimation: -
   (a) Iodine (b) Sodium Chloride (c) Ammonium chloride (d) Camphor
4. When change in state takes place then the heat supplied: - -
   (a) Can increase the temperature of the system
   (b) Can decease the temperature of the system
   (c) Cannot change the temperature of the system
   (d) first increase then decrease the temperature of the system
5. The property to flow is unique in fluids. Which one of the following statements is correct: -
   (a) Only gases behave like fluids. (b) Gases and solids behave like fluids.
   (c) Gases and liquids behave like fluids. (d) Only liquids are fluids.
6. Where is nucleoid found?
   (a) Plant cell (b) Animal cell (c) Prokaryotic cell (d) Eukaryotic cell
7. Cristae are in folding of .....
   (a) Golgi apparatus (b) Mitochondria (c) Lysosome (d) Plant cell
8. Through which process root hair of plants absorb water?
   (a) Osmosis (b) Diffusion (c) Imbibition (d) All of these
9. Who discovered nucleus?
   (a) Robert Brown (b) Leeuwenhoek (c) Robert Hooke (d) R. Virchow
10. A body thrown vertically upwards reaches a maximum height h. It then returns to ground. The distance and the displacement travelled by the body respectively are
   (a) 2h, zero (b) h, zero (c) zero, 2h (d) zero, h
11. What does the slope of the distance-time graph give?
   (a) speed (b)velocity (c)acceleration (d)displacement
12. The physical quantity that has both magnitude and direction is known as
   (a) vectors (b)scalars (c)Both(a) and (b) (d)Neither (a) or (b)

13. If a bus starts suddenly, the passengers in the bus will tend to fall
(a) In the direction opposite to the direction of motion of bus.
(b) In the same direction as the direction of motion of bus.
(c) Sideways.
(d) None of the above.

14. The rate of change of momentum of an object is proportional to
(a) Mass of the body (b) Velocity of the body
(c) Net force applied on the body (d) None of these

SECTION B

15. Why is ice at 273K more effective in cooling than water at the same temperature?
16. Why should we wear cotton clothes in summer?
17. State the process of osmosis with suitable Examples.
18. Explain cell theory.
19. Write two differences between speed and velocity.
20. Define inertia. On what factor does inertia of a body depends? (1+1)

SECTION C

21. What do you mean by dry ice? Give two uses of it? (1+2)

OR

Among two liquids A and B which one produces more cooling effect having latent heat of evaporation of $100JKg^{-1}$ and $150Jkg^{-1}$ respectively? Why naphthalene balls disappear with time without leaving any solid? (1+2)

22. Draw a labelled diagram of eukaryotic cell.

OR

Draw a clear diagram of nucleus with clear labelling.

23. A bus starting from rest moves with a uniform acceleration of 0.1 ms^{-2} for 2 minutes. Find (a) the speed acquired, (b) the distance travelled. (1.5+1.5)

OR

A car accelerates uniformly from 18 km h^{-1} to 36 km h^{-1} in 5 s.
Calculate (i) the acceleration and (ii) the distance covered by the car in that time. (1.5+1.5)

SECTION D

24. What do you mean by evaporation? On which factors and how rate of evaporation depends explain? (1+4)

OR

Why do we see water droplets on the outer surface of a glass containing ice-cold water? Define the terms: - (a) Diffusion and (b) Brownian motion? Give two examples of compressible solid? (2+2+1)

25. Who discovered cell and how? State differences between eukaryotic and prokaryotic cell. (3+2)

OR

Differentiate between plant and animal cell. What are the main functions of vacuole in the cells. (3+2=5)

26. A truck starts from rest and rolls down a hill with a constant acceleration. It travels a distance of 400 m in 20 s. Find its acceleration. Find the force acting on it if its mass is 7 metric tonnes (1 metric tonne = 1000 kg.)
When a carpet is beaten with a stick, dust comes out of it, Explain. (1.5+1.5+2)

OR

A stone of 1 kg is thrown with a velocity of 20 m s^{-1}across the frozen surface of a lake and comes to rest after travelling a distance of 50 m. What is the force of friction between the stone and the ice? Define momentum. Write its expression. (3+1+1)