Directorate of Education, GNCT of Delhi
Mid Term Examination Practice Paper (Session: 2025-26)
Class:IX ; Subject: SCIENCE (086)

Maximum Marks: 80 **Duration: 3 hours**

General Instructions:
1. This question paper consists of 39 questions in 3 sections. Section A is Biology, Section B is Chemistry, and Section C is Physics.
2. All sections are compulsory. However internal choice is provided in some questions. A student is expected to attempt only one of these questions.

Section A		
Q.No.	**Question**	**Marks**
1.	**Which of the following is a simple permanent tissue in plants?** **A) Xylem** **B) Phloem** **C) Parenchyma** **D) Cambium**	**1**
2.	**Scientific management of farm animals is called :** **A) Agriculture** **B) Mixed Cropping** **C) Animal husbandry** **D) Horticulture**	**1**
3.	**Which type of meristem helps in elongation of internodes in grasses?** **A) Apical meristem** **B) Intercalary meristem** **C) Lateral meristem** **D) None of these**	**1**
4.	**The main function of xylem is:** **A) Transport of food** **B) Transport of water and minerals** **C) Photosynthesis** **D) Secretion**	**1**
5.	**Diffusion is:** **A) Movement of water across a membrane** **B) Movement of molecules from higher to lower concentration** **C) Movement of molecules from lower to higher concentration** **D) Cell division**	**1**

6.	**Composite fish culture is:** **A) Culturing only one type of fish** **B) Culturing 5–6 species of fish together** **C) Culturing fishes in composite tanks** **D) Rearing ornamental fishes**	**1**
7.	**Manure is better than fertiliser because:** **A) It is rich in all nutrients** **B) It increases soil fertility and water holding capacity** **C) It does not need large quantity** **D) It kills pests**	**1**
8.	**The following question 8 consists of two statements -Assertion (A) and Reason (R). Answer this question by selecting the appropriate option given below :** **A. Both A and Reason R are true, and R is the correct explanation of A.** **B. Both A and R are true, but R is not the correct explanation of A.** **C. A is true, but R is false.** **D. A is false, but R is true.** **Assertion (A): Cell wall is present in both plant and animal cells.** **Reason (R): Cell wall provides rigidity and protection to cells.**	**1**
9.	**<u>Attempt either option A or B.</u>** **A. Name the organelle called the "suicidal bag of the cell" and why is it named so ?** **OR** **B. Why are mitochondria called the "powerhouse of the cell"?**	**2**
10.	**(i)What are the factors for which crop varieties are improved? (Any two)** **(ii) What is the basic difference between mixed cropping and intercropping ?**	**3**
11.	**Explain why the cell is called the structural, and functional unit of life.**	**3**
12.	**(i) Why are cardiac muscles called involuntary muscles?** **(ii) A student injured his leg muscles while playing and was unable to walk properly for a few days.Which type of muscle tissue was injured?** **(iii) Riya touched a hot pan and immediately withdrew her hand. Name the tissue responsible for this quick response.**	**3**

13.	**The outer surface of tree bark becomes rough and sometimes cracks appear during summer. We also observe that in desert areas, cactus plants do not lose much water even in extreme heat.** **A. Name the protective tissue present in bark of trees.** **B.What chemical makes cork cells impermeable to water and gases?** **<u>Attempt either option C or D.</u>** **C. Which tissue prevents water loss in cactus leaves?** **OR** **D. Why are guard cells important for a plant?**	**4**
14.	**<u>Attempt either option A or B.</u>** **A. (i) Differentiate between rough endoplasmic reticulum and smooth endoplasmic reticulum in terms of structure and functions.** **(ii)Write two differences between prokaryotic and eukaryotic cells.** **(iii) Name the cell organelle responsible for packaging and secretion.** **OR** **B. (i)What are plastids? Name their types and explain their functions .** **(ii)Why is the plasma membrane called selectively permeable?** **(iii)What is the main function of vacuole ?**	**5**
	Section B	
15.	**Which of the following is not a matter?** **A) Air** **B) Happiness** **C) Water** **D) Sand**	**1**
16.	**Alloys are classified as:** **A) Compounds** **B) Mixtures** **C) Elements** **D) Pure substances**	**1**
17.	**The interparticle space is maximum in:** **A) Solids** **B) Liquids** **C) Gases** **D) Plasma**	**1**

18.	**The following question consists of two statements -Assertion (A) and Reason (R). Answer this question by selecting the appropriate option given below :** **A. Both A and Reason R are true, and R is the correct explanation of A.** **B. Both A and R are true, but R is not the correct explanation of A.** **C. A is true, but R is false.** **D. A is false, but R is true.** **Assertion (A): At higher temperatures, a saturated solution may become unsaturated.** **Reason (R): Solubility of most solid solutes increases with temperature.**	**1**
19.	**Why do solids have a definite shape but gases do not?**	**2**
20.	**A teacher mixed iron filings and sulphur powder. Is this a mixture or a compound?** **How will you separate the components?**	**2**
21.	**A bottle of aerated drink was opened. Bubbles of a gas were seen escaping.** **Identify the solute and solvent in this solution. Is it homogeneous or heterogeneous?**	**2**
22.	**<u>Attempt either option A or B.</u>** **A. (i) When a beam of light passes through milk, the path of light becomes visible.What type of mixture is milk?** **(ii) Name the effect observed.** **(iii) Name the dispersed phase and dispersing medium in milk.** **OR** **B. (i) A student shook chalk powder in water. After some time, particles settled at the bottom.Classify this mixture.** **(ii) Can it be separated by filtration ?** **(iii) Give one more example of this type of mixture.**	**3**
23.	**(i) Give one difference between elements and compounds.** **(ii) Is cooking food a physical change or chemical change?** **(iii) What is the effect of temperature on the solubility of a solute ?**	**3**

24.	**People sprinkle some water on the floor of their houses on hot days . After some time, the floor becomes cool.** **A. Which phenomenon is responsible for this cooling?** **B. Give one example of this phenomenon seen in daily life.** **<u>Attempt either option C or D.</u>** **C. Mention two factors that affect the rate of this phenomenon.** **OR** **D. Why do we wear cotton clothes in summer?**	**4**
25.	**<u>Attempt either option A or B.</u>** **A. (i). When camphor is kept in an open dish, its quantity decreases day by day without leaving any residue.Which process is involved here?** **(ii) Why does the temperature remain constant during the melting of ice even though heat is being supplied?** **(iii) Convert following temperatures into kelvin scale-** **(a) 75°C (b) 200°C** **OR** **B. (i) Why do gases have high compressibility compared to solids and liquids?** **(ii) What is the physical state of water at 0 °C and 100 °C?** **(iii) What produces more severe burns- boiling water or steam and why ?**	**5**
	Section C	
26.	**A car starts from rest and moves with uniform acceleration. Which of the following quantities increases uniformly with time?** **A) Velocity** **B) Displacement** **C) Speed** **D) All of the above**	**1**
27.	**An object of mass 2 kg is moving with a velocity of 4 m/s. Its momentum is:** **A) 2 kg m/s** **B) 4 kg m/s** **C) 6 kg m/s** **D) 8 kg m/s**	**1**
28.	**In which case is average speed equal to average velocity?** **A) Body moves in circular path** **B) Body returns to starting point** **C) Body moves in straight line without changing direction** **D) Body moves with variable speed**	**1**

29.	**Which of the following is the SI unit of force?** **A) pascal** **B) newton** **C) joule** **D) watt**	**1**
30.	**When two equal and opposite forces act on a body, the net force is:** **A) Zero** **B) Double the force** **C) Half the force** **D) Negative force**	**1**
31.	**Which of the following is a vector quantity?** **A) Speed** **B) Distance** **C) Velocity** **D) Path length**	**1**
32.	**The following question consists of two statements -Assertion (A) and Reason (R). Answer these questions by selecting the appropriate option given below :** **A. Both A and Reason R are true, and R is the correct explanation of A.** **B. Both A and R are true, but R is not the correct explanation of A.** **C. A is true, but R is false.** **D. A is false, but R is true.** **Assertion (A): Newton's second law gives a measure of force.** **Reason (R): Force is equal to the product of mass and acceleration.**	**1**
33.	**The following question consists of two statements -Assertion (A) and Reason (R). Answer these questions by selecting the appropriate option given below :** **A. Both A and Reason R are true, and R is the correct explanation of A.** **B. Both A and R are true, but R is not the correct explanation of A.** **C. A is true, but R is false.** **D. A is false, but R is true.** **Assertion (A): A body moving in a circular path with constant speed is said to be accelerated.** **Reason (R): In circular motion, only the magnitude of velocity changes.**	**1**

34.	**A runner takes one complete round of a circular track of radius 70 m.** **What is the distance and displacement covered?**	**2**
35.	**<u>Attempt either option A or B.</u>** **A. When a swimmer pushes water backward, he moves forward. Explain.** **OR** **B. A force of 10 N produces an acceleration of 2 m/s^2 in a body. Find its mass.**	**2**
36.	**Differentiate between uniform linear motion and uniform Circular Motion. (Any three)**	**3**
37.	**A cricketer hits a ball with his bat. The speed and direction of the ball change instantly.** **(i). Which law of motion explains the change in velocity of the ball? State it.** **(ii). What happens if a greater force is applied on the ball?**	**3**
38.	**In a car crash, the passengers tend to move forward due to sudden stopping. Modern cars have airbags and seat belts to reduce injuries.** **A. Which law of motion explains why passengers move forward in a crash?** **B. How do airbags and seat belts reduce injury?** **<u>Attempt either option C or D.</u>** **C. A car of mass 1000 kg moving with velocity 20 m/s comes to rest in 5 seconds. Calculate the force exerted by brakes.** **OR** **D.Two opposite forces 25 N (right) and 15 N (left) act on a 5 kg object. Calculate** **(i) Net force (ii) Acceleration .**	**4**

39.	**<u>Attempt either option A or B.</u>** **A. (i) A train travels 120 km at a speed of 60 km/h and the next 120 km at a speed of 40 km/h. Find the average speed of the train for the whole journey.** **(ii) Differentiate between uniform and non-uniform motion. Give examples of each.** **(iii) What is the quantity which is measured by the area occupied below the velocity - time graph ?** **OR** **B. (i)The bus starts from rest and moves with an acceleration of 0.1 m/s^2. Find the time taken and distance travelled to acquire a speed of 36 km/h.** **(ii)Which type of motion is represented by a straight line inclined to the time axis on a distance-time graph? Define this type of motion.** **(iii)What is meant by negative acceleration?**	**5**