



# D.A.V. PUBLIC SCHOOLS, SAMASTIPUR

First Periodic Test: 2024-2025

Class - X

SCIENCE

Time: 1 Hour

Max. Marks: 20

## General Instructions:

- i. This question paper consists of 10 questions in 4 sections.
- ii. All questions are compulsory.
- iii. Section A consists of 05 objective type questions carrying 1 mark each.
- iv. Section B consists of 02 Very Short questions carrying 02 marks each.
- v. Section C consists of 02 Short Answer type questions carrying 03 marks each.
- vi. Section D consists of 1 Long Answer type question carrying 05 marks.

### SECTION-A

1. The mole ratio of hydrogen and oxygen gases liberated during electrolysis of water is
  - (a) 1:1
  - (b) 2:1
  - (c) 4:1
  - (d) 1:2
2. Which of the following is incorrectly paired with its function?
  - (a) Gall Bladder – enzymatic digestion of lipids, proteins and polysaccharides.
  - (b) Oesophagus – transport of food from the mouth to the stomach.
  - (c) Stomach- mechanical and some chemical digestion of food
  - (d) Large intestine- absorption of ingested sugars, fats and amino acids.
3. Which of the following statement is not true about respiration?
  - (a) During inhalation, ribs move inwards and diaphragm is raised
  - (b) In the alveoli, exchange of gases takes place, i.e. oxygen from alveolar air diffuses into blood and carbon dioxide from blood into alveolar air.
  - (c) Hemoglobin has lower affinity for  $\text{CO}_2$ .
  - (d) Alveoli increases surface area for exchange of gases.
4. A white precipitate can be formed by adding common salt solution to the solution of.
  - (a)  $\text{CuSO}_4$
  - (b)  $\text{AgNO}_3$
  - (c)  $\text{BaCl}_2$
  - (d)  $\text{Na}_2\text{SO}_4$
5. When light is incident on a glass slab, the incident ray, refracted ray and the emergent ray are in three media A, B and C. If  $n_1$ ,  $n_2$  and  $n_3$  are the refractive indices of A, B and C respectively and the emergent ray is parallel to the incident ray, Which of the following is true?
  - (a)  $n_1 < n_2 < n_3$
  - (b)  $n_1 > n_2 > n_3$
  - (c)  $n_1 < n_2 = n_3$
  - (d)  $n_1 = n_2 < n_3$

### **SECTION-B**

6. What is the composition of gastric juice? Also give functions of each.
7. Write balanced chemical equations for the following:
  - (a) Magnesium ribbon is burnt in oxygen.
  - (b) Lead nitrate salt is heated in a dry test tube.

### **SECTION-C**

8. Write the different ways in which glucose is oxidized to provide energy in human body. Write the products formed in each case.
9. a) What is double displacement reaction? Give an example.  
Balance the given reactions:
  - (b)  $\text{Fe}_2\text{O}_3 + \text{Al} \rightarrow \text{Al}_2\text{O}_3 + \text{Fe}$
  - (c)  $\text{C}_2\text{H}_6 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$

### **SECTION-D**

10. Write the sign convention used for spherical mirrors.  
A student wants to project the image of a candle flame on a screen 60 cm in front of a mirror by keeping the candle at a distance of 15 cm from its pole.
  - (i) Name the type of mirror used.
  - (ii) Also calculate
    - (a) Magnification of the image produced.
    - (b) Distance between object and its image.
  - (iii) Draw a ray diagram to show the image formation.

**or**

- (a) An object is placed at a distance of 12 cm from a concave mirror. The image formed is real and four times larger than the object. Calculate the distance of the image from the mirror.
- (b) By drawing a neat ray diagram, show that the formation of the image of a point object placed above the principal axis of a convex mirror. Explain the construction.

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