

KENDRIYA VIDYALAYA
PERIODIC TEST -1 (2024 -25)

SUB- SCIENCE

Class – 10_

MAX MARKS:40

Instructions: This question paper has 5 sections. Weightage for questions of each section has written at the start of the respective sections.

SECTION-A

MCQ's (1 mark each)

1. Akash was trying to burn a metal X found in the form of ribbon. The ribbon did burn with a dazzling flame & a white powder Y was formed which is basic in nature. Identify Y:
 - (a) Sodium Chloride
 - (b) Magnesium Chloride
 - (c) Sodium hydride
 - (d) Magnesium oxide
2. In the electrolysis of water, Oxygen gets evolved
 - (a) At cathode
 - (b) In the solution
 - (c) At anode
 - (d) All of the above
3. What is the correct route for blood flow in a human?
 - (a) Right atrium to Right ventricle to Left ventricle to Left atrium Lungs
 - (b) Right atrium to Right ventricle to Lungs to Left atrium to Left ventricle
 - (c) Right atrium to Right ventricle to Left atrium to Left ventricle to Lungs
 - (d) None of the above
4. The blood flowing through a blood vessel has higher concentration of oxygen and very low concentration of carbon dioxide. The blood pressure is likely to be
 - (a) High
 - (b) Low
 - (c) Very low
 - (d) Can't Say
5. Which statement is true for the reflection of light?
 - (a) The angle of incidence and reflection are equal.
 - (b) The reflected light is less bright than the incident light.
 - (c) The sum of angle of incidence and reflection is always greater than 90° .
 - (d) The beams of incident light after reflection diverges at unequal angles.

6. Opening and closing of stomatal pore depends on:
- (a) Atmospheric temperature
 - (b) oxygen concentration around stomata
 - (c) carbon dioxide concentration around stomata
 - (d) water content in the guard cells
7. The gas produced when metal reacts with an acid like HCl is:
- (a) Carbon Dioxide
 - (b) Oxygen
 - (c) Hydrogen
 - (d) Nitrogen
8. Which of these statements is correct about alveoli?
- (A) They form a very large surface area.
 - (B) They have a very thin wall.
 - (C) They are covered with blood capillaries.
 - (D) All of these
9. A student studies that convex lens always forms virtual image irrespective of its position. What causes the convex mirror to always form a virtual image?
- (a) because the reflected ray never intersects
 - (b) because the reflected ray converges at a single point
 - (c) because the incident ray traces its path back along the principal axis
 - (d) because the incident ray of a convex mirror gets absorbed in the mirror

Question No. 10 to 11 consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

- A. Both A and R are true and R is the correct explanation of A
 - B. Both A and R are true and R is not the correct explanation of A
 - C. A is true but R is false
 - D. A is False but R is true
10. Assertion (A): In human heart, there is no mixing of oxygenated and deoxygenated blood.
- Reason (R): Valves are present in the heart which allows the movement of blood in one direction only.
- (a) A
 - (b) B
 - (c) C
 - (d) D
11. Assertion (A): Loss of electrons is referred to as oxidation.
- Reason (R): In a reaction only oxidation or reduction can occur.
- (a) A
 - (b) B
 - (c) C
 - (d) D

SECTION-B

VSA Q's (2 mark each).

12. What are redox reactions. Give an example.
13. On heating copper in air, it becomes black in colour. Write the chemical reaction involved in this process?
14. Write two points of difference between arteries and veins?

OR

What are the raw materials for the photosynthesis? How do plants obtain these?

15. The speed of light in air is $3 \times 10^8 \text{ m s}^{-1}$, whereas that of the speed of light in water is $2.26 \times 10^8 \text{ m s}^{-1}$. What is the refractive index of water with respect to air?

SECTION-C

SA Q's (3 marks each).

16. What are displacement reactions. Give an example?
17. Why is diffusion insufficient to meet the oxygen requirements of multicellular organisms like humans?
18. How does saliva help in the process of digestion?
19. (a) Define the following terms in the context of spherical mirrors:
(i) Centre of curvature
(ii) Principal axis
(iii) Principal focus

SECTION-D

LA Q's (5 marks each).

20. What is respiration. What are the different pathways of glucose breakdown?

OR

Write balanced chemical equations and write the type of reaction when:

- (a) Silver chloride turns grey when kept in sunlight.
- (b) Hydrochloric acid is added to zinc granules.
- (c) Barium chloride reacts with sodium sulphate

SECTION-E

Case Study Based Q's (4 mark).

Study the following paragraph and answer the questions that follow (Q 29 to 31)

According to the law of Conservation of Mass, mass can neither be created nor destroyed in a chemical reaction. That is, the total mass of the elements present in the products of a chemical reaction has to be equal to the total mass of the elements present in the reactants. In other words, the number of atoms of each element remains the same, before and after a chemical reaction and hence, we need to balance a skeletal chemical equation.

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| 21. Why do we need to balance a chemical reaction? | 2M |
| 22. Are word equations balanced chemical reactions? | 1M |
| 23. What is a skeletal chemical reaction? | 1M |