



ORCHIDS
The International School

Grade: X	PA1	Date-7/6/2025
Subject code-	Subject- Science	Marks- 40

Section A

1×8

An aqueous solution turns the red litmus solution blue. Excess addition of which of the following solutions would reverse the change?

- (A) Baking powder (B) Lime
(C) Ammonium hydroxide solution (D) Hydrochloric acid

2. Which of the following reaction can also be termed a thermal decomposition reaction?

- (a) Combination reaction (b) Decomposition reaction
(c) Displacement reaction (d) Double displacement reaction

3. A person went for a medical check-up and found that the curvature of his eye lens was increasing. Which defect is he likely to suffer from?

- (a) Myopia (b) Cataract
(c) Presbyopia (d) Hypermetropia

4. Focal length of plane mirror is

- (a) At infinity (b) Zero
(c) Negative (d) None of these

5. A concave mirror gives real, inverted and same size image if the object is placed

- (a) At F (b) At infinity
(c) At C (d) Beyond C

6. Name the substances whose build-up in the muscles during vigorous physical exercise may cause cramps?

- (a) Ethanol + Carbon dioxide + Energy
(b) Lactic acid + Energy
(c) Carbon dioxide + Water + Energy
(d) Pyruvate

7. Which of the following statements is correct about receptors?

- (a) Gustatory receptors detect taste while olfactory receptors detect smell
- (b) Both gustatory and olfactory receptors detect smell
- (c) Auditory receptors detect smell and olfactory receptors detect taste
- (d) Olfactory receptors detect taste and gustatory receptors smell

8. How will information travel within a neuron?

- (a) Dendrite → cell body → axon → nerve ending
- (b) Dendrite → axon → cell body → nerve ending
- (c) Axon → dendrite → cell body → nerve ending
- (d) Axon → cell body → dendrite → nerve ending

Section B

2×6=12

1. A doctor has prescribed a corrective lens of power +1.5 D. Find the focal length of the lens. Is the prescribed lens diverging or converging?

2. A solution of a substance 'X' is used for whitewashing.

- (i) Name the substance 'X' and write its formula.
- (ii) Write the reaction of the substance 'X' named in (i) above with water.

3. Write the balanced equation for the following chemical reactions.

- (i) Hydrogen + Chlorine → Hydrogen chloride
- (ii) Barium chloride + Aluminum sulphate → Barium sulphate + Aluminum chloride

4. Write short note on: a) Power of accommodation b) Myopia

5. State two vital functions of the kidney.

6. How are the lungs designed in human beings to maximize the area for exchange of gases?

Section C

3×4=12

1. A ray of light travelling in air enters obliquely into water. Does the light ray bend towards the normal or away from the normal? Why?

2. An object 5 cm in length is held 25 cm away from a converging lens of focal length 10 cm. Draw the ray diagram and find the position, size and the nature of the image formed

3. Which gas is usually liberated when an acid reacts with a metal? Illustrate with an example. How will you test for the presence of this gas
4. Draw the structure of neuron and explain its function.

Section D

4×2=8

1. Corrosion is the phenomenon of deterioration of surface of metal in presence of air and moisture. It is a natural process and in the presence of a moist atmosphere, chemically active metals get corroded. This is an oxidation reaction. Rusting is the process where iron corrodes due to exposure to the atmosphere. The main circumstance of corrosion occurs with iron because it is a structural material in construction, bridges, buildings, rail transport, ships, etc. Aluminum is also an important structural metal, but even aluminium undergoes oxidation reactions. However, aluminum doesn't corrode or oxidize as rapidly as its reactivity suggests. Copper (Cu) corrodes and forms a basic green carbonate.

1. What is rusting?
2. Which two metals do not corrode easily?
3. Write the chemical name of the compound formed on corrosion of silver.

2. Blood transport food and waste materials in our bodies. It consists of plasma as a fluid medium. A pumping organ is required to push the blood around. The blood flows through the chambers of the organ in a specific manner and direction. While flowing throughout the body, blood exerts a pressure against the wall of a vessel.

1. Which life process is depicted by the above passage?
2. Name the blood pumping organ.
3. What is the composition of blood.