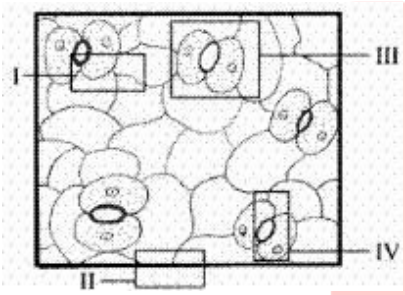
CBSE Test Paper-05

Chapter 06 Life Processes

1. When air is blown from mouth into a test - tube containing lime water, the lime water turned milky due to presence of- **(1)**
   a. water vapours
   b. nitrogen
   c. oxygen
   d. carbon dioxide
2. Shown below are four parts of a slide of an epidermal peel, marked I, II, III and IV. Which part out of these four should be focused under high power to view complete stomata ? **(1)**



   a. II
   b. III
   c. I
   d. IV
3. Which of the following raw material is required for photosynthesis? **(1)**

   A. Carbon dioxide
   B. Oxygen
   C. Water
   D. Hydrogen

   a. All of these
   b. A and B
   c. A and D
   d. A and C
4. A part of de-starched leaf of a potted plant was covered with black paper strips on both sides and the plant was kept in sunlight for 8 hours. The leaf was then tested

with iodine after boiling it in alcohol. Only the uncovered part of the leaf turned blue-black. The inference is that **(1)**

a. CO_2 is necessary for photosynthesis
b. Light is necessary for photosynthesis
c. Chlorophyll is necessary for photosynthesis
d. Water is necessary for photosynthesis

5. Kreb's cycle is a part of **(1)**

a. Fermentation
b. Anaerobic respiration
c. Aerobic respiration
d. Glycoysis

6. Name a vein the human body which carries oxygenated blood. **(1)**

7. From which kind of cells food materials enter in phloem? **(1)**

8. State one main function of Glomerulus **(1)**

9. What is the size of RBC? **(1)**

10. If a plant is releasing carbon dioxide and taking in oxygen during the day, does it mean that there is no photosynthesis occurring? Justify your Answer. **(3)**

11. Give an account of small intestine. **(3)**

12. Discuss the path of ascent of sap. **(3)**

13. List various functions of food. **(3)**

14. Write the summary of oxygen transport in the body. **(5)**

15. Explain role of stomata in exchange of gases in plants. **(5)**

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Answers

1. d. carbon dioxide

   Explanation: Carbon dioxide is given out during expiration. When the gas passes through limewater, the limewater turns milky due to the formation of insoluble calcium carbonate.

2. b. III

   Explanation: Under higher power, objects appear more magnified.

3. d. A and C

   Explanation: Green plants make their own food by the process of photosynthesis. Chlorophyll, the green pigment found in chloroplasts, traps light energy from the sun. The plant also takes in raw materials from the environment, water through its roots and carbon dioxide moves into the stomata by diffusion.

4. b. Light is necessary for photosynthesis

   Explanation: The covered part did not get sunlight which is necessary for photosynthesis. So, light is necessary for photosynthesis.

5. c. Aerobic respiration

   Explanation: The Krebs cycle (or citric acid cycle) is a part of cellular respiration. Named after Hans Krebs, it is a series of chemical reactions used by all aerobic organisms to generate energy.

6. Pulmonary vein carries oxygenated blood.

7. Mesophyll cells of leaves.

8. The filtration of blood in the nephron takes place in the glomerulus.

9. The size of RBC is 7 μm.

10. If plant is releasing carbon dioxide and taking in oxygen during the day, it means that

respiration is happening in plant. But it does not mean that photosynthesis is not happening. Carbon dioxide released after respiration comes out of stomata. For photosynthesis, the plant takes in carbon dioxide from atmosphere. In other words, plant does not depend on respiration for carbon dioxide for photosynthesis.

11. **Small intestine:** It is the longest part of alimentary canal. It is thin walled and highly coiled tubular structure. It is about 3-3.5 metres long and occupies most part of abdominal cavity. It is coiled upon itself. It is differentiated into three regions, viz. duodenum, jejunum and ileum.

    Duodenum is 25 cm long C shaped. It receives the opening of bile pancreatic duct. It also receives the opening of stomach.

    Jejunum is 90 cm long. It lies above and left beyond duodenum.

    Ileum is 180 cm long. Its inner lining is thrown into numerous villi. It is main part for digestion and absorption of food.

12. Upward transport of water and dissolved inorganic salts or ascent of sap takes place through xylem (vessels, tracheiols and xylem parenchyma). The water absorbed by root hairs moves through cortex, passage cells and pericycle to enter the tracheary elements of xylem. It is done either actively through suction pressure (DPD) gradient or passively through transpiration pull. It is lifted upto the leaves as a continuous unbroken column of water in the tracheary elements of xylem by virtue of one or more forces such as root pressure, cohesion and adhesion of water and transpiration pull action simultaneously. From the xylem in the leaf bundles, water moves upto the mesophyll cells along a suction pressure gradient. The mesophyll cells lose water to the atmosphere through stomata because of transpiration.

13. **The functions of food are as follows :**

    a. It provides materials for the growth of the body.
    b. It helps to make new materials necessary for reproduction.
    c. It helps to regulate the body processes to maintain life.
    d. It helps in removal of waste materials from the body.
    e. It helps in repairing damaged cells and tissues.
    f. It helps in maintaining body temperature.

14. Summary of oxygen (O_2) transport

Inspired air (in lungs)	→	O_2 (in alveoli of lungs)		
Oxyhaemoglobin	←	Oxyhaemoglobin	←	Dissolved O_2
(in RBC of tissue capillaries)		(in RBC of lung capillaries)		(in plasma of lung capillaries)
Dissolved O_2	→	Dissolved O_2	→	O_2 consumption
(in plasma of tissue capillaries)		(in cells)		(in cells)

15. Stomata are the openings located on the surface of the leaves which are guarded by two kidney-shaped guard cells. Through stomatal opening, air can pass into or out of leaves. Plants do not have any specialized ventilation mechanism. The exchange of gases take place after the air enters the air spaces present in the cells. Then thin layer of water surrounding the cells dissolves the oxygen which subsequently diffuses across the cell wall.