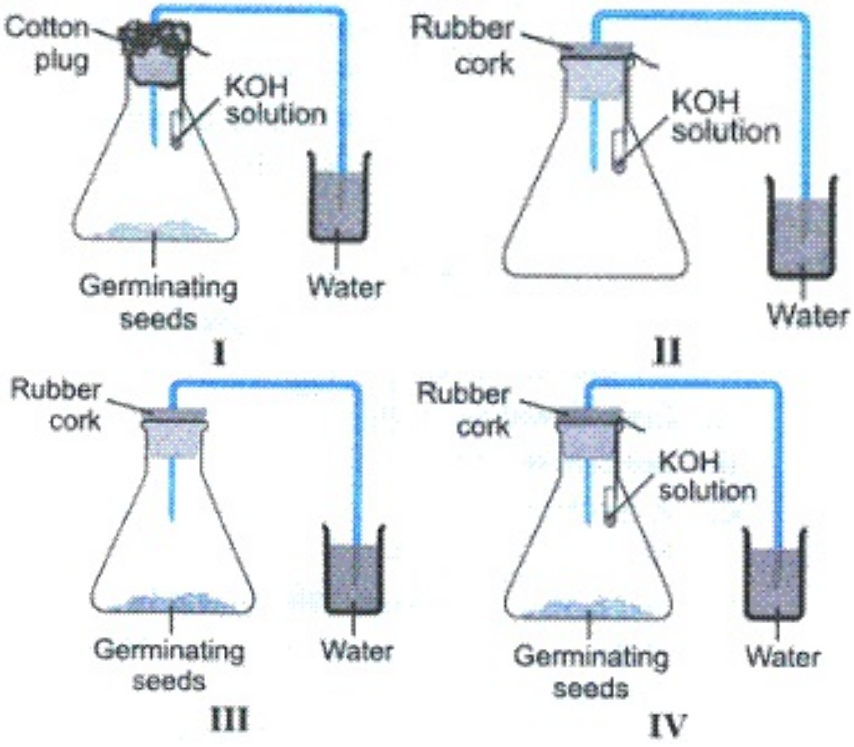
CBSE Test Paper-01

Chapter 06 Life Processes

1. Instant source of energy is _____. **(1)**
   a. Sucrose
   b. Fats
   c. Glucose
   d. Amino acids
2. Which of the following element is essential for the formation of protein **(1)**
   1. N
   2. Ca
   3. Na
   4. Fe
3. Out of the four experimental set-up shown below, which one will demonstrate the evolution of carbon dioxide during respiration of germinating seeds ? **(1)**



   a. III
   b. II
   c. IV

d. I

4. A leaf from a destarched plant is covered with black paper strip as shown in figure 1. The starch test is done on the leaf after 8 hours.

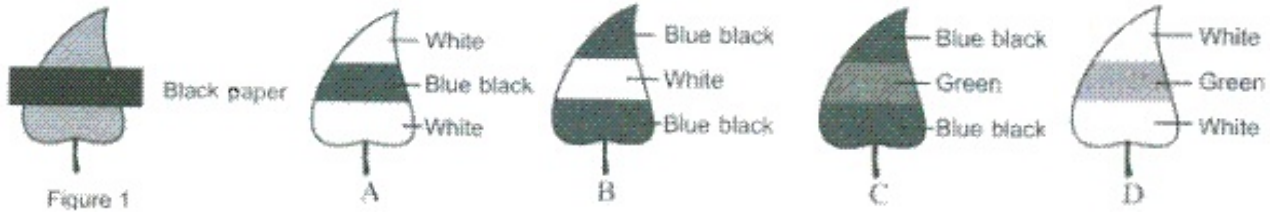


Figure 1

The result will be as shown in diagram. **(1)**

1. D
2. C
3. A
4. B

5. To prepare a good temporary mount of the petunia leaf peel showing many stomata, the student has to get the peel from the **(1)**
    1. lower surface of the leaf
    2. tip of the leaf
    3. point of attachment of the leaf to its petiole.
    4. upper surface of the leaf
6. Which are material required for setting up an experiment to show that light is necessary for photosynthesis? **(1)**
7. What is excretion? How do unicellular organisms remove their wastes? **(1)**
8. Why carbon dioxide is mostly transported in dissolved form? **(1)**
9. In which cell organelle does respiration occur? **(1)**
10. What are the end products formed during fermentation in yeast? Under what conditions a similar process takes place in our body that leads to muscle cramps? **(3)**
11. What are the components of the gastric juice? What are their functions? **(3)**
12. Why is urine more concentrated in summers? **(3)**
13. Only deoxygenated blood is pumped through a fish's heart. Is it true? Justify your answer. **(3)**
14. What are the components of transport system in human beings? What are function of these components? **(5)**
15. What is the significance of photosynthesis? **(5)**

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Answers

1. c. Glucose
   Explanation: Glucose is simple sugar which is formed when carbohydrate get broken. Also, the carbohydrates get digested into glucose. Since, glucose does not have to be digested, it acts as an instant source of energy
2. a. N
   Explanation: Nitrogen is a component of amino acids and urea. Amino acids are the building blocks of all proteins. So, N is essential for the formation of protein.
3. c. IV
   Explanation: Presence of KOH solution, germinating seeds and rubber cork in conical flask and water in beaker.
4. d. B
   Explanation: Sunlight is not available to the covered portion, hence no starch remains white after starch test.
5. a. lower surface of the leaf
   Explanation: Stomata are mainly present on the lower surface of the leaf.
6. A healthy potted plant, a petri dish, a beaker containing water, forceps, a water bath, a piece of wire gauze, a tripod, a burner, a box of matches, alcohol a strip of black paper, iodine solution and clips.
7. The biological process which involves the removal of harmful metabolic wastes from the body is called excretion. Unicellular organisms remove wastes by simple diffusion through their body surfaces. Where as multicellular organism has various organs for excretion such as kidney.
8. Carbon dioxide is more soluble in water than oxygen that's why it is transported in soluble form.
9. Respiration occurs in the mitochondria of a cell.
10. The end products formed during anaerobic respiration or fermentation in yeast are

carbon dioxide and ethanol along with ATP. A similar process in seen in our body when there is lack of oxygen in muscles, leading to the muscle fatigue. It results due to the accumulation of lactic acid produced during anaerobic respiration of glucose. The energy or ATP produced during anaerobic respiration is much less as compared to aerobic respiration.

11. Gastric juice contains three components: hydrochloric acid, enzyme pepsin and mucus. Their functions are:
    1. Hydrochloric acid in the stomach is used to make the medium acidic to facilitate the action of the enzyme pepsin and to kill germs if any.
    2. Enzyme pepsin digests proteins to convert them into peptones.
    3. The mucus helps to protect the stomach wall from its own secretions of hydrochloric acid.
12. In summers consumption of water is increased and despite that amount of urine excreted is less. This is because most of the water is excreted in the form of sweat which is evaporated soon due to high environmental temperature. It keeps our body cool and hence concentrated yellowish urine is excreted.
13. Yes, this statement is true, only deoxygenated blood is pumped in to fish's heart. The heart pumps out deoxygenated blood, which is oxygenated by the gills. It is then supplied to other body parts from where deoxygenated blood is returned to the heart and this is possible because fish have two chambered heart.
14. **There are two main transport systems in human beings:**

    1) Blood vascular system.

    2) Lymphatic system.

    Components of blood vascular system

    1. **Blood**: It is a reddish viscous fluid connective tissue. In an adult human being, it is 5-6 litres in amount. It is heavier than water and about five times thicker. Blood is slightly alkaline with a pH of 7.3-7.45. Blood consists of two parts – plasma and formed elements. (RBC, WBC and blood platelets)
    2. **Heart:** It is a hollow, muscular pumping organ. Heart is very well protected by thoracic cage formed by ribs and muscles and a double walled transparent sac called pericardium. They cavity of pericardium, pericardial cavity is filled with pericardial fluid. It is shock absorbing and act as a lubricant so as to allow free frictionless movements.The heart in fact, has four water tight chambers, the

receiving chambers called auricles or atria and the distributing chambers ventricles. The left half of the auricle receives purified blood from the lungs and empties into left ventricle. The left ventricle distributes blood to various organs and tissues through the blood vessels.

3. **Blood vessels**: The blood vessels which carry oxygenated blood are called arteries. The arteries on reaching the organ, divide into arterioles. They further divide to form capillaries of finer dimensions. Exchange of materials takes place across the capillaries. It is possible because the walls of capillaries are extremely thin. The blood from the tissues is cleared by small venules which unite to form veins. Several veins from different organs join to form various vena cava.

Components of Lymphatic system

1. Lymph : Lymph is similar to blood but RBCs are absent in lymph.
2. Lymph vessels:
3. Lymph capillaries: Lymph is formed from the fluid which leaks from blood capillaries and goes to the intercellular spaces in the tissues.
4. Lymph nodes

15. Photosynthesis is the most important and basic process which sustains life on this earth. It has manifold significance such as:
    a. It synthesises food from inorganic substances. This food becomes the ultimate source of energy and life for all the living organisms.
    b. It is the only known method which release oxygen in the atmosphere and keeps the O_2 concentration constant. The consumption of O_2 by living organisms during respiration is compensated by photosynthesis.
    c. It also helps to keep the CO_2 concentration in the atmosphere constant. The CO_2 being released due to the respiration of living organisms is being incorporated into glucose during photosynthesis.
    d. Coal, petroleum and natural gas are fossil fuels. These have been produced by the application of heat and compression on the past plants.
    e. All useful plant products such as timber, rubber, resins, drugs, oils, fibres etc. are derived from the process of photosynthesis.
    f. Green plants are the main producers of food in the ecosystem. All other organisms directly or indirectly depend on green plants for food.