

CBSE Test Paper-02
Chapter 06 Life Processes

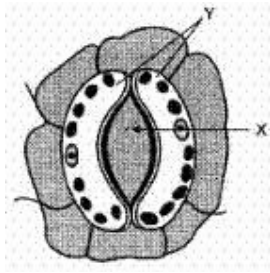
1. Bile is secreted by **(1)**
 - a. Pancreas
 - b. Duodenum
 - c. Liver
 - d. Gall bladder

2. Covering with black paper strips should be tested for presence of **(1)**
 - a. O₂ in leaf
 - b. Starch in leaf
 - c. Water in leaf
 - d. CO₂ in leaf

3. Twenty dry raisins were soaked in 50 mL of water and kept for one hour at 50°C. Which out of the following was the correct observation? **(1)**
 - a. 10 raisins absorbed water, 10 did not
 - b. 15 raisins absorbed water, 5 did not
 - c. 8 raisins absorbed water, 12 did not
 - d. all the 20 raisins absorbed water

4. Which gland in the human body which secretes digestive enzymes as well as a hormone? **(1)**
 - a. Ovary
 - b. pancreas
 - c. thyroid
 - d. Testis

5. Four students, A, B, C and D, make the records given below, for the parts marked 'X' and 'Y' in this diagram.



Student	X	Y
A	Stoma	Guard cell
B	Guard cell	Stoma
C	Epidermal cell	Stoma
D	Stoma	Epidermal cell

The correct record, out of these, is that of student : **(1)**

- a. A
- b. C
- c. B
- d. D

6. Name the system responsible for transportation of materials in human body. **(1)**
7. Name thin walled air sacs of the lungs. **(1)**
8. What is mode of nutrition in fungi? **(1)**
9. Mention any three methods adopted by plants to minimise the transpiration rate. **(1)**
10. Mention the role of pancreatic enzyme. **(3)**
11. How is opening and closing of stomata regulated? **(3)**
12. How does water reach upto the leaves ? **(3)**
13. Differentiate between aerobic and anaerobic respiration. **(3)**
14. Describe the process of urine formation in kidneys. **(5)**
15. What is nutrition? Briefly explain the two major kinds of nutrition. **(5)**

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Answers

1. c. Liver

Explanation: Bile or gall is a dark green to yellowish brown fluid, produced by the liver of most vertebrates, that aids the digestion of lipids in the small intestine. In humans, bile is produced continuously by the liver (liver bile), and stored and concentrated in the gallbladder (gallbladder bile).

2. b. Starch in leaf

Explanation: The covered part of the leaf does not show presence of starch, while the uncovered part shows starch.

3. d. all the 20 raisins absorbed water

Explanation: All raisins absorb water due to endomosis at high temperature.

4. b. pancreas

Explanation: Pancreas is both an endocrine and an exocrine gland, in that it functions to produce endocrinic hormones released into the circulatory system (such as insulin, and glucagon), to control glucose metabolism, and also to secrete digestive/exocrinic pancreatic juice (such as trypsin), which is secreted eventually via the pancreatic duct

5. a. A

Explanation: Stomatal pore is grounded by guard cell.

6. 1) Blood vascular system
2) Lymphatic system

7. Each small tube ends in clusters of thin-walled air sacs, called alveoli. It is the alveoli that receive the oxygen and pass it on to the blood

8. In fungi, there is saprotrophic mode of nutrition. In this case organisms obtain food from dead and decaying organic matter.

9. Three methods adopted by plants to minimize the rate of transpiration are:
 - i. In some cases leaves are rolled to cover stomata (e.g. some grasses)
 - ii. The stomata may be sunken (e.g. Nerium)
 - iii. In some cases, leaves may be dropped or absent as in most cacti.
10. Pancreatic enzymes help break down fats, proteins and carbohydrates. A normally functioning pancreas secretes about 8 cups of pancreatic juice into the duodenum, daily. This fluid contains pancreatic enzymes to help with digestion and bicarbonate to neutralize stomach acid as it enters the small intestine. Pancreatic enzyme trypsin helps in digesting protein and the pancreatic amylase helps in the breakdown of starch.
11. Stomatal pores in plants regulate the amount of water and solutes within them by opening and closing their guard cells using osmotic pressure. When water enters the guard cells from the subsidiary cells by osmosis, then the guard cells swell up and the stoma opens. When the water moves out of the guard cells, then it shrinks and the stomatal pore closes.
12. Water is taken up by the roots and reaches the leaves through the xylem vessels which are a part of the vascular bundle.

13.

Aerobic Respiration	Anaerobic Respiration
a) It occurs in the presence of oxygen	a) It occurs in the absence of oxygen
b) It occurs in cytoplasm and in the mitochondria	b) It occurs in cytoplasm
b) Complete breakdown of glucose occurs	c) Incomplete breakdown of glucose occurs
d) End products are CO ₂ and H ₂ O	d) End products are CO ₂ and ethyl alcohol or lactic acid
e) Amount of energy produced is more.	e) Amount of energy produced is less.

14. Urine is formed in the nephron of kidneys. Nephron is the structural and functional unit of the kidney. Blood at high pressure travels into these tubules by the tuft of blood capillaries called glomerulus contained in Bowman's capsule.

- i. **Filtration:** Blood enters the glomerulus through the afferent arterioles. It passes under high pressure that results in the filtration of blood. Water and small molecules are forced out of glomerular capillary walls and Bowman's capsule. Large molecules remain in the blood of the glomerulus.
- ii. **Selective reabsorption:** Some molecules are selectively reabsorbed into the blood. The glomerular filtrate flows through the proximal convoluted tubule, the U-shaped Henle's loop and distal convoluted tubule. The useful substances such as glucose, amino acids and salts which require energy are reabsorbed by a process called selective reabsorption. Hence, the filtrate now contains urea, some salts and water. Reabsorption of solutes increases the water concentration of the filtrate. Water is then reabsorbed into the blood by osmosis.
- iii. **Tubular secretion:** Some nitrogenous waste products like creatinine and some other substances like K^+ are removed from the blood by DCT (Distal Convoluted Tubule) and are passed to blood. The urine thus formed is collected in the urinary bladder.

- ## Modes of nutrition

1. **Autotrophic or Holophytic nutrition:** All green plants and certain protozoans (Euglena) have evolved a mechanism to directly use the energy of sunlight for preparing organic food in their own body from simple raw materials i.e. CO_2 and H_2O . These single inorganic materials are transformed into glucose and oxygen is evolved.

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6CO_2	+	$6\text{H}_2\text{O}$	$\xrightarrow[\text{Light}]{\text{Chlorophyll}}$	$\text{C}_6\text{H}_{12}\text{O}_6$	+	O_2
Carbon dioxide		Water		Glucose		Oxygen

Some bacteria are known as chemotrophs, as they obtain energy released during oxidation of inorganic chemicals, and the process as chemosynthesis. Nitrifying bacteria Nitrosomonas and Nitrobacter are chemotrophs.

2. **Heterotrophic nutrition:** Animal, fungi, (Amoeba) and many bacteria cannot utilize sun energy. They use chemical bond-energy of organic molecules synthesized by other organisms in building their own organic molecules. Such a mode of feeding is termed heterotrophic nutrition, and the organisms having it are called heterotrophs.

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