

# Life Processes Practice Paper 4 QnA

**1. In which of these organisms is the food broken down and absorbed outside the body?**

- a) Amoeba
- b) Mushroom**
- c) Paramoecium
- d) Lice

**2. Organisms that synthesize carbohydrates from inorganic compounds using energy from the sun are**

- a) Decomposers
- b) Carnivores
- c) Herbivores
- d) Producers**

**3. What percentage of solar radiation do the green plants absorb for photosynthesis?**

- a) 10%**
- b) 8%
- c) 5%
- d) 1%

**4. After a long break from routine exercise, an athlete suffered muscular cramps during a heavy exercise session. This happened due to:**

- a) formation of pyruvate due to lack of carbon dioxide
- b) formation of ethanol in the presence of oxygen
- c) formation of lactic acid due to lack of oxygen**
- d) formation of carbon dioxide due to lack of oxygen

**5. Assertion(A): In plants, there is no need for specialized respiratory organs.**

**Reason (R): Plants do not have a high demand for gaseous exchange.**

**(a) A and R are true and R is the correct explanation of A.**

(b) A and R are true but R is not the correct explanation of A.

(c) A is true but R is false.

(d) A is false but R is true.

**6. Why before carrying out the test for the presence of starch in a leaf on exposure to sunlight, is the leaf put in alcohol contained in a beaker and boiled over a water bath?**

The leaf is treated with alcohol to remove the green-colored pigment chlorophyll and the blue-black color is easily visible (in the presence of starch) after treatment with iodine.

**7. What is the purpose of making urine in the human body? Name the organs that store and release urine.**

To filter out nitrogenous waste products like urea and uric acid from the blood.

The urinary bladder stores urine.

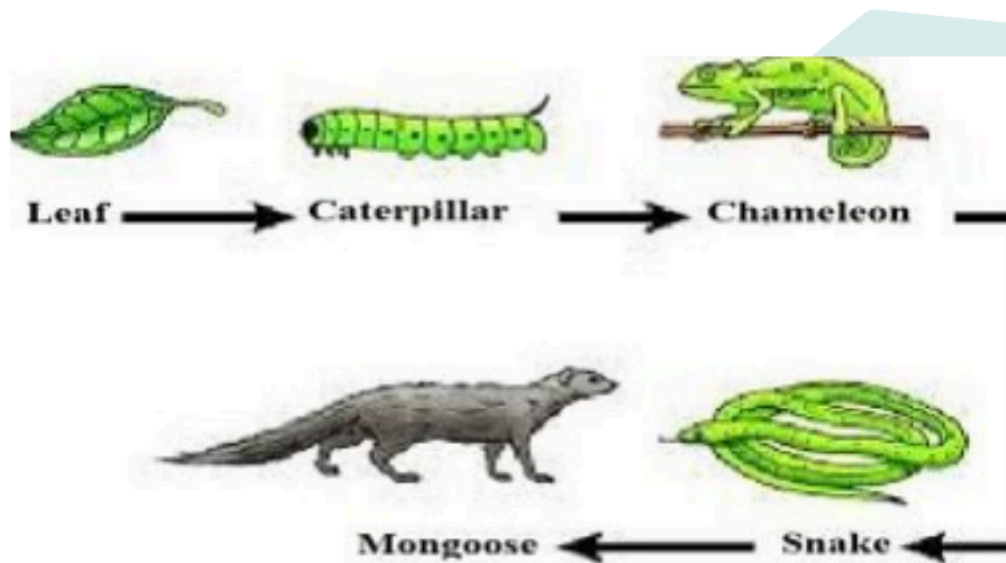
Urine is excreted through the urethra.

**8. Why do arteries have thick and elastic walls whereas veins have valves?**

The blood emerges from the heart under high pressure and flows through arteries. They have thick and elastic walls to withstand this pressure.

Veins have valves to ensure that the blood flows in one direction only.

**9. Study the food chain given below and answer the questions that follow:**



**a) If the total energy available at the third trophic level is 100 joules, then how much energy will be available at the producer level? Justify your answer.**

**b) Can there be 2 more trophic levels in this food chain before the fourth level? Justify your answer.**

Answer:

a) 10000J because only 10 % of energy is available for the next trophic level.

b) No, since the loss of energy at each step is so great that very little usable energy will remain after 4 trophic levels.

**10. i. What constitutes the central nervous system?**

**ii. What is the function of the spinal cord?**

**iii. How is the spinal cord protected?**

Answer:

i. The brain and the spinal cord constitute the central nervous system (CNS).

ii. The spinal cord is concerned with spinal reflex actions and the conduction of nerve impulses to and from the brain.

iii. The spinal cord is enclosed in a bony cage called the vertebral column and is surrounded by membranes called meninges which protect it.

**11. a. A doctor has advised Sameer to reduce his sugar intake and do regular exercise after checking his blood test reports.**

**What is Sameer is suffering from?**

**Which hormone is responsible for this disease?**

**Name the organ that produces the hormone.**

**11b. Which hormone is present in the areas of rapid cell division in a plant and which hormone inhibits the growth?**

Answer:

11a) Sameer is suffering from diabetes.

Insulin is the hormone responsible for the disease.

The organ that produces insulin is the pancreas.

11b) Cytokinins are present in the areas of rapid cell division in plants and abscisic acid inhibits plant growth.

**12. a. Define excretion.**

**b. Name the basic filtration unit present in the kidney.**

**c. Draw a neat diagram of the human excretory system in human beings and label the following organs of the excretory system that perform the following functions.**

**i. Produces urine.**

**ii. Collect urine from the kidney.**

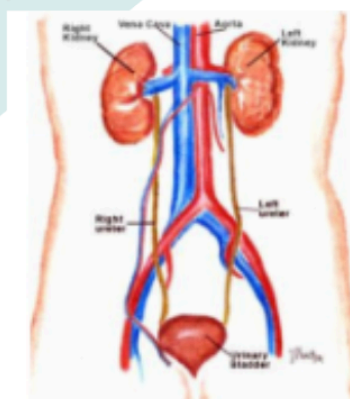
**iii. Store urine until it is passed out.**

Answer:

a. Excretion is the process that removes harmful metabolic waste such as urea, uric acid, and salts from our bodies.

b. Nephron is the basic filtration unit present in the kidney.

c. Diagram of the Human Excretory System is shown below.



i. Kidney produces urine

ii. The ureter is a long tube that collects urine from the kidney.

iii. The urinary bladder stores urine until it is passed out.

**13. Read the following and answer the questions.**

The small intestine is the longest part of the alimentary canal. It is a narrow tube of about 6 meters that lies coiled in the abdomen. The length of the small intestine varies depending on the type of food animals eat.

**(i) Humans are not able to digest cellulose whereas they are able to digest starch due to**

- (a) absence of enzyme cellulase**
- (b) alkaline pH in the small intestine
- (c) presence of villi
- (d) acidic pH in the stomach.

**(ii) Butter is not digested in the stomach as lipase and bile are**

- (a) released in the small intestine**
- (b) inactive in stomach
- (c) released in the large intestine
- (d) absorbed in the stomach.

**(iii) Identify the correct statement.**

- (a) Carnivores have a longer small intestine as they eat meat.
- (b) Herbivores have a shorter small intestine as they eat grass
- (c) Herbivores have a longer small intestine as they eat grass.**
- (d) None of these

**(iv) Various types of movements are generated by which layer of the small intestine.**

- (a) serosa
- (b) muscularis**
- (c) mucosa
- (d) submucosa

**14. Read the following and answer the questions.**

Respiration is an energy-releasing enzymatically controlled process that involves a stepwise oxidative breakdown of food substances inside living cells. The oxidative breakdown of respiratory substrates with the help of atmospheric oxygen is aerobic respiration. Glucose is completely broken down into CO<sub>2</sub> and H<sub>2</sub>O by this process of oxidation and a large amount of energy is produced.

**(i) The site of Krebs' cycle is**

- (a) peroxisome
- (b) cytoplasm
- (c) mitochondria**
- (d) none of these.

**(ii) The respiratory pathway that is common in all living organisms is X. It occurs in the Y and produces two molecules of Z. Identify X, Y, and Z and choose the correct answer.**

(a) glycolysis, mitochondrion, pyruvic acid

**(b) glycolysis, cytoplasm, pyruvic acid**

(c) Krebs' cycle, cytoplasm, acetyl CoA

(d) Krebs' cycle, mitochondrion, acetyl CoA

**(iii) The number of oxygen molecules used in glycolysis is**

(a) 0

**(b) 2**

(c) 4

(d) 6

**(iv) The end product of aerobic respiration is**

(a) NADH

(b) oxygen

(c) ADP

**(d) CO<sub>2</sub>,+ATP + H<sub>2</sub>O**

