

Life Processes Class 10 Extra Questions & Answers

1. The xylem in plants is responsible for the transportation of

- (a) water (b) food (c) amino acids (d) oxygen.

Answer: (a) The xylem is responsible for the transportation of water.

2. The kidneys in human beings are a part of the system for

- (a) nutrition (b) respiration (c) excretion (d) transportation

Answer: (c) In humans, the kidneys are a part of the system for excretion.

3. The autotrophic mode of nutrition requires

- (a) carbon dioxide and water (b) chlorophyll (c) sunlight (d) all of the above

Answer: (d) All of the above.

4. The breakdown of pyruvate into carbon dioxide and water, to release energy occurs in

- (a) cytoplasm (b) mitochondria (c) chloroplast (d) nucleus

Answer: (b) The breakdown of pyruvate into carbon dioxide and water to release energy occurs in the mitochondria.

5. What is the role of saliva in the digestion of food?

Saliva contains a digestive enzyme called Salivary amylase which converts carbohydrates into simple sugars (maltose). It lubricates, moistens, and helps in swallowing of food.

6. What processes would you consider essential for maintaining life?

Answer: Life processes essential for maintaining life are respiration, nutrition, excretion, transportation, etc.

7. What external raw materials do an organism use?

Answer: An organism uses food and oxygen as raw materials. Depending on the complexity of the organism and its environment, there may be variations in the actual raw materials required by the organism.

8. How is the amount of urine produced regulated?

Answer: The amount of water re-absorbed depends on how much excess water is present in the body, and how much dissolved waste needs to be excreted.

9. What is the function of digestive enzymes?

Answer: Digestive enzymes such as amylase, pepsin, trypsin, lipase, etc. help digest complex food molecules into simpler molecules. Blood can readily absorb these smaller particles and transport them to other cells.

10. Explain the role of the acid in our stomach.

Answer: The hydrochloric acid in the stomach dissolves small food particles and acidifies the medium. In this acidic medium, the enzyme pepsinogen can be converted into pepsin. Pepsin is a protein-digesting enzyme. The acidic medium helps kill germs in the food.

11. What are the criteria to decide whether something is alive?

Answer: Any visible movement such as walking, breathing, or growing is generally used to decide whether something is alive or not. However, not all movements of the living organism are visible to the naked eye. Therefore, having life processes is a fundamental criterion that helps decide whether or not something is alive.

12. Why is it necessary to separate oxygenated and deoxygenated blood in mammals and birds?

Answer: Warm-blooded animals such as birds and mammals need more oxygen to perform more cellular respiration. This will help generate more energy to help them cool their bodies in a hotter environment or warm in a cooler one. To achieve this their circulatory system must be more efficient and thus separate the oxygenated and deoxygenated blood.

13. What are the parts of the circulatory system of highly organized plants?

Answer: Two types of conducting tissues exist in highly organized plants – xylem and phloem. The xylem conducts water and minerals absorbed from the soil (via roots) to the rest of the plant. On the other hand, phloem transports food prepared in the leaves to various plant parts.

14. What methods are used by plants to get rid of excretory products?

Answer: Plants expel excess water through the process of transpiration. Waste materials are mostly stored in the cell vacuoles. They may also be stored in the form of gum and resin. These gums and resins are stored in old xylem or old leaves that will eventually fall off. A small amount of waste substances are excreted into the soil as well.

15. Why is diffusion insufficient to meet the oxygen requirements of multi-cellular organisms like humans?

Answer: Multicellular organisms such as humans possess complex body designs. They have certain specialized tissues and cells to perform various functions such as food intake, respiration, etc. Diffusion does not meet their oxygen requirements as their cells are not in direct contact with the outside environment.

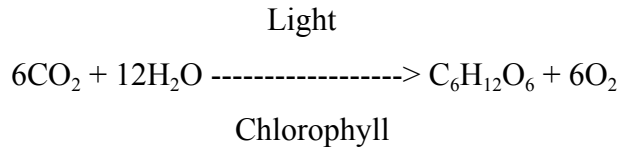
16. Where do plants get the raw materials necessary for photosynthesis?

Answer:

- Carbon dioxide enters the leaves through the stomata.
- Roots absorb water from the soil.
- Sunlight is captured by the chlorophyll in the leaves and other green parts of the plants.

17. What are the necessary conditions for autotrophic nutrition and what are its by-products?

Answer: Photosynthesis is the main condition for autotrophic nutrition. It requires carbon dioxide, water, sunlight, and chlorophyll pigment. The main product of photosynthesis is carbohydrates (food) and oxygen is the by-product.



18. How are the alveoli designed to maximize the exchange of gases?

Answer: The alveoli are small balloon-like structures inside the lungs. The walls of the alveoli have a network of minute blood vessels called capillaries. Each lung contains 300–350 million alveoli, making it approximately 700 million in both lungs. The alveolar surface when spread out covers about 80 m²/ area. This large surface area enables an efficient gaseous exchange.

19. What would be the consequences of hemoglobin deficiency in our bodies?

Answer:

Haemoglobin is a respiratory pigment in the blood. It helps transport oxygen for cellular respiration to various body cells. Therefore, a hemoglobin deficiency in the blood will impact the oxygen-supplying capacity of the blood. This will lead to oxygen deficiency in the cells. Moreover, it can also cause a disease called anemia.

20. How are fats digested in our bodies? Where does this process take place?

Answer: Fats are present as large globules in the small intestine. The small intestine receives secretions such as bile from the liver and pancreatic juice from the pancreas. The bile salts break the large fat globules into smaller ones. Moreover, the salts neutralize these molecules. Later these small globules are digested by the pancreatic enzymes. This is referred to as emulsification of fats. The pancreatic juice contains lipase for breaking down emulsified fats. It takes place in the small intestine.

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

Answer: Lungs contain a network of small and smaller tube-like structures which eventually end in balloon-like structures called alveoli. The gaseous exchange occurs between the blood of the capillaries surrounding the alveoli and the gases in the alveoli. Thus, the site of gaseous

exchange is the alveoli. The lungs get filled during inhalation, ribs are lifted and the diaphragm is flattened. The air rushes inside the lungs and fills the alveoli.

Each lung contains 300-350 million alveoli, a staggering number to help increase the surface area for gaseous exchange. This will make respiration more efficient.

22. What are the advantages of a terrestrial organism over an aquatic organism in obtaining oxygen for respiration?

Answer: Terrestrial organisms take up oxygen directly from the atmosphere while aquatic animals rely on dissolved oxygen in the water. Air contains more oxygen as compared to water. Since the oxygen content in the air is high, terrestrial animals do not need to breathe faster to get more oxygen. On the other hand, aquatic animals need to breathe faster to get more oxygen due to the low oxygen content in the water. Thus terrestrial animals do not have to show many adaptations for better gaseous exchange.

23. How are water and minerals transported in plants?

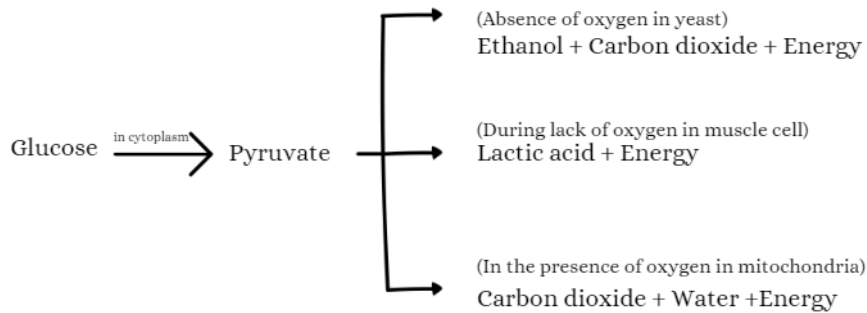
Answer: In xylem tissue, vessels and tracheids of the roots, stems and leaves are interconnected to form a continuous system of water-conducting channels reaching all parts of the plant. Root cells that are in contact with the soil actively take up ions, creating an ion concentration difference between roots and soil. To counter this effect, water from the soil moves into the root. Thus, there is a steady movement of water into the root xylem, creating a column of water that is steadily pushed upwards.

Transpiration creates a suction pressure which forces water into the xylem cells of the roots. The amount of water that is lost through the stomata is replaced by the water from the xylem vessels in the leaf. Evaporation of water from the leaf creates a suction that pulls water from the roots to the xylem. From there, water moves steadily through the interconnected water-conducting channels from the root xylem to all the plant parts.

24. What are the different ways in which glucose is oxidized to provide energy in various organisms?

Answer:

In cytoplasm, glucose is first broken down into a three-carbon molecule known as pyruvate. Further breakdown of pyruvate happens in different ways to generate energy. These pathways of glucose breakdown can be illustrated as follows.



The breakdown of pyruvate in yeast and sometimes in human muscle cells occurs in the absence of oxygen. The result of this anaerobic breakdown will be different in yeast and muscle cells. On the other hand, the breakdown of pyruvate in mitochondria requires the presence of oxygen.

25. How are oxygen and carbon dioxide transported in humans?

Answer: Haemoglobin transports oxygen molecules to all the body cells for cellular respiration. The hemoglobin pigment in the blood gets attached to four oxygen molecules to form oxyhemoglobin resulting in oxygenated blood. The heart pumps and circulates this oxygenated blood to all the body cells. After giving away oxygen to the body cells, blood takes away carbon dioxide, the end product of cellular respiration. Now the blood becomes deoxygenated.

Due to less affinity towards carbon dioxide, hemoglobin carries it in dissolved form. Once the deoxygenated blood reaches the lung alveoli, it exchanges carbon dioxide for oxygen.

26. What are the differences between aerobic and anaerobic respiration? Give examples of anaerobic mode of respiration.

Answer:

Aerobic respiration	Anaerobic respiration
1. Occurs in the presence of oxygen.	1. Occurs in the absence of oxygen.
2. Involves gaseous exchange between the organism and its environment.	2. Exchange of gases is absent.
3. Takes place in cytoplasm and mitochondria.	3. It occurs only in cytoplasm.
4. It always releases carbon dioxide and water.	4. End products vary. (Ethanol and carbon dioxide / Lactic acid)
5. It yields 38 ATPs.	5. It yields only 2 ATPs

Anaerobic respiration is common in the roots of waterlogged plants, parasitic worms, and muscles of animals including humans, and yeasts.

27. How is the small intestine equipped to absorb digested food?

Answer: The small intestine has tiny finger-like projections known as villi. These villi increase the total surface area to boost the efficiency of food absorption. These villi contain many blood vessels that absorb the digested food and transport it to the bloodstream. The blood delivers the absorbed food to every cell of the body.

28. How is food transported in plants?

Answer: In plants, food is transported by the phloem from the leaves to other parts. Translocation (Transportation of food through the phloem) in the phloem is achieved by utilizing energy. The phloem transportation of molecules such as sucrose requires energy from ATPs. This will cause osmotic pressure difference in the tissue helping water enter the tissues. At the same time, the material in the phloem moves into tissues that have less osmotic pressure.

This pressure difference allows phloem tissues to transport materials as needed by the plant. For example, in the spring, sugar stored in the root or stem tissues is transported to the buds which need more energy to grow.

29. What are the components of the circulatory system in humans? What are their functions?

Answer

- The main components of the human circulatory system are the heart, arteries, veins, capillaries, and blood.
- The heart pumps oxygenated blood to all parts of the body through the arteries. In return, these body parts send deoxygenated blood to the heart through the veins. From here, the impure blood is sent to the lungs for oxygenation.
- Blood helps transport oxygen, carbon dioxide, nutrients, and nitrogenous wastes.

Arteries carry blood from the heart to various parts, veins carry blood from the body parts towards the heart and capillaries can carry blood in both ways.

30. What are the differences between the transportation of materials in the xylem and phloem?

Answer:

	Transport of materials in xylem	Transport of materials in phloem
i	Xylem helps with the transportation of water and minerals	Phloem tissue helps in the transport of food.
ii	Xylem transports water upwards from roots to all other parts	Both upward and downward movement of food occurs
iii	Transportation occurs due to simple physical forces such as transpiration pull.	Food transportation requires energy from ATP.

31. State the differences between autotrophic nutrition and heterotrophic nutrition.

Answer:

Autotrophic nutrition	Heterotrophic nutrition
Food is synthesized from simple inorganic raw materials such as carbon dioxide and water.	Food that is obtained directly or indirectly from autotrophs is broken down with the help of enzymes.
The presence of green pigment (chlorophyll) is a necessity	The pigment is not required
Seen in all green plants and some bacteria	Seen in all animals and fungi

32. Describe double circulation in human beings. Why is it necessary?

Answer: The human heart is divided into four chambers – the right atrium, the right ventricle, the left atrium, and the left ventricle. The flow of blood in the heart:

The heart has superior and inferior vena cava, which carry deoxygenated blood from the upper and lower regions of the body respectively, and supply this deoxygenated blood to the right atrium.

- Contraction of the right atrium sends the deoxygenated blood into the right ventricle.
- The subsequent contraction of the right ventricle contracts passes the deoxygenated blood into the pulmonary arteries.
- From the two pulmonary arteries, the deoxygenated blood enters the lungs where it is again oxygenated.
- Pulmonary veins are the entry point of oxygenated blood from the lungs which moves on to the left atrium. Then the left atrium contracts and the oxygenated blood enters the left ventricle.
- The blood passes to the o aorta from the left ventricle. The aorta gives rise to many arteries that distribute the oxygenated blood to all parts of the body.

Therefore, the blood goes twice through the heart. This is known as double circulation.

Importance of double circulation:

Separating oxygenated and deoxygenated blood allows a more efficient supply of oxygen to the body cells. This efficient oxygen supply system is beneficial for warm-blooded animals such as humans.

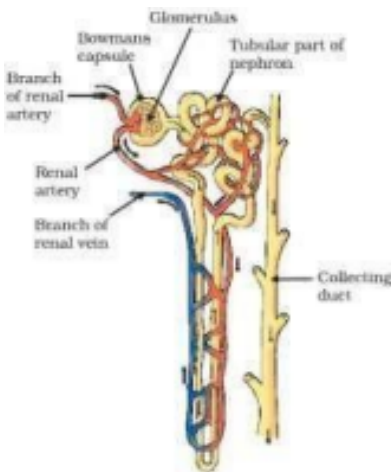
Warm-blooded animals need to maintain a constant body temperature by cooling themselves in a hotter environment and warming their bodies in a cooler environment. Hence, they require more oxygen for increased respiration to produce more energy to maintain their body temperature.

Thus, the human circulatory system is more efficient due to the double circulation in the heart.

33. Describe the structure and functioning of nephrons.

Answer: Nephrons are the basic filtering units of kidneys. Each kidney contains approximately 1-1.5 million nephrons in it. The main components of the nephron are the glomerulus (Cluster of blood capillaries), Bowman's capsule (cup-shaped end of a coiled tub), and tubular part of the Nephron.

Structure of a nephron



Functioning of a nephron:

- In the kidneys, the renal artery is the entry point of blood. This artery is branched into minute capillaries that are associated with the glomerulus.
- At the Bowman's Capsule, water and solute enter the nephrons.

- A significant quantity of water, amino acids, glucose, salts, etc, from the first filtrate are selectively reabsorbed. This reabsorption occurs when the urine is passing through the tube.
- During this time, other unnecessary molecules are added to the urine.
- The collecting duct collects urine from many nephrons.
- From the kidneys, urine passes through the long tube-like structure called the ureter and is collected in the urinary bladder. From the bladder, urine is excreted through the urethra.

34. Compare the structure and function of alveoli in the lungs and nephrons in the kidneys.

Answer:

Alveoli	Nephrons
Alveoli are tiny balloon-like structures present inside the lungs.	Nephrons are tubular structures present inside the kidneys.
The walls of the alveoli are one cell thick and contain a cluster of thin-walled capillaries.	Nephrons are made of glomerulus, and Bowman’s contains an extensive network of blood capillaries and a long renal tube.

Alveolus-Function

(i) Oxygen and carbon dioxide from the capillaries surrounding the alveoli enter the alveoli. And Thus alveoli serve as the site of gaseous exchange.

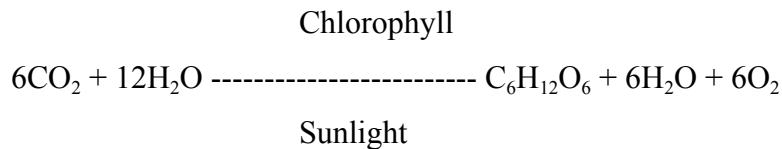
Nephrons- Function

(i) Inside the glomerulus, the renal artery is branched into numerous capillaries. Blood enters the kidneys through these capillaries. Water and solute enter the nephron at Bowman’s capsule. Then the filtrate moves through the tubular part of the nephron. Some substances in the initial filtrate, such as glucose, amino acids, salts, and a major amount of water are selectively re-absorbed as the urine flows along the tube and unwanted molecules are added to the urine. The collecting duct collects urine from many nephrons.

(ii)Nephrons will filter out the nitrogenous waste from the blood.

35. Define photosynthesis. Write the equation and explain the steps.

Answer: Photosynthesis is the process in which green plants use carbon dioxide and water to prepare food in the presence of sunlight. Oxygen gas is liberated as a by-product of photosynthesis. The prepared food is a carbohydrate that is stored as starch.



Photosynthesis takes place in three steps. They are;

1. The chlorophyll absorbs light energy from the sun.
2. This light energy is converted into chemical energy to split a water molecule into hydrogen and oxygen.
3. Hydrogen from the splitting of water molecules is used to reduce carbon dioxide to form carbohydrates.

36. How do stomata open and close?

Answer: The opening and closing of the stomata is under the control of the guard cells. They contain chlorophyll and conduct photosynthesis due to the presence of chloroplast. When they take in water for photosynthesis, it swells and the outer thin wall bulges out. This opens up the stoma. At night, the guard cells lose water, shrink, and straighten the inner walls. This will lead to the closure of the stomata. resulting in the opening of the stoma.

The stomata of desert plants open at night and close during the day to prevent excessive water loss through transpiration. Therefore, CO₂ enters through the stomata at night, stored and used for photosynthesis during the day.

37. Explain the digestion of food in the mouth, stomach, duodenum, and small intestine.

Answer:

- **Mouth:** The teeth break down the food into smaller particles and are mixed with saliva. The salivary enzymes convert the starch into maltose. This partially digested food passes through the esophagus due to peristaltic movements and reaches the stomach.
- **Stomach:** The stomach contains gastric glands that produce stomach acid or hydrochloric acid and enzymes like pepsin. HCl creates an acidic medium for the pepsin and kills microorganisms in the food. Pepsin acts on the protein molecules to break them into peptides.
- **Duodenum:** Duodenum is the upper part of the small intestine where the food is mixed with bile from the gall bladder and pancreatic juice from the pancreas. The bile neutralizes the food and breaks the fat molecules into smaller globules. In the next step, the enzyme from the pancreatic juice breaks down the food particles. Trypsin acts on peptides and lipase on the fat globules.
- **Small intestine:** In the small intestine, the peptides are broken down into amino acids while the lipase breaks the fat globules into fatty acids and glycerol. Meanwhile, the carbohydrates are digested into glucose molecules. These molecules are absorbed by the villi present on the small intestine walls. The remaining undigested food is passed into the large intestine for excretion.
- **Large intestine:** In the large intestine, water is reabsorbed and only the dry and waste materials are removed and excreted through the anus.

38. Name the components of pancreatic juice and explain their functions.

Answer: Pancreatic juice contains digestive enzymes that digest food particles. It contains,

- Trypsin that breaks down protein molecules
- Pancreatic amylase digest carbohydrates in the food
- Lipase breaks down fat molecules into glycerol and fatty acids.

39. Explain the function of the pancreas and liver in the human digestive system.

Answer: The liver and pancreas are essential organs of the digestive system. The liver secretes bile liquid which is stored in the gall bladder. Bile contains bile salts and bile pigments. The bile salts help with the neutralization of the acidified food from the stomach and also in the emulsification of fat molecules.

The pancreas secretes pancreatic juice that contains enzymes such as trypsin to digest proteins, amylase to digest carbohydrates, and lipase for fat digestion.

40. Name the components of gastric juice and explain their functions.

Answer: Gastric glands produce gastric juice which contains, hydrochloric acid, mucus, and the digestive enzyme pepsin.

- Hydrochloric acid disinfects and acidifies the food particles so that pepsin enzyme can act on them.
- Pepsin digests the acidified protein molecules and breaks them into peptides for further digestion.
- The mucus secreted by the gastric glands protects the inner walls of the stomach from highly acidic hydrochloric acid.

41. What are autotrophs? Explain the conditions necessary for autotrophic nutrition.

Answer: Autotrophs are living organisms that can prepare their own food from inorganic materials such as carbon dioxide and water. Green plants are autotrophs that make their food by photosynthesis.

The necessary conditions for autotrophic nutrition are the presence of sunlight, availability of carbon dioxide and water. Plants take carbon dioxide through their stomata in the leaves and their roots absorb water from the soil.

42. Define the following types of nutrition with examples

- **Holozoic**
- **Saprophytic**
- **Parasitic**

Answer:

1. Holozoic nutrition is where the organism directly consumes the food, digests it, and egests it. Eg. Amoeba, paramecium, etc.

2. Saprophytic nutrition is when the organism takes food from dead and decaying materials such as logs, dead animals, etc. Here the digestion of food happens outside and the organism takes in the digested food. Eg., Mushrooms, bread mold, yeasts, etc.
3. Parasitic nutrition is the complete dependence of the food requirements of an organism on another organism. Here, organisms take in food from other organisms without killing them. Eg. Lice, tapeworms, leeches, etc.

43. What is chlorophyll? Explain its role in photosynthesis.

Answer: Chlorophyll is the green-colored pigment present in green parts of the plant. Plants appear green because of the presence of this pigment. It is the site of photosynthesis for plants. It absorbs the light energy from the sun and helps convert it into chemical energy for photosynthesis.

44. What do you mean by nutrient? Name four nutrients present in our food.

Answer: Nutrients are chemical compounds necessary for living organisms to sustain their lives. Nutrients are necessary for their growth and energy for their metabolic processes. Some of the main nutrients in our food are carbohydrates, proteins, and fats. These nutrients are digested and broken down into simpler compounds such as glucose, amino acids, fatty acids, and glycerol to be used for the metabolic activities.

45. Name the substances on which the following enzymes act.

1. Amylase
2. Lipase
3. Pepsin
4. Trypsin

Answer:

1. Amylase- carbohydrates
2. Lipase - fats
3. Pepsin- proteins
4. Trypsin- peptides

46. Explain how the following circumstances affect the rate of photosynthesis.

- 1. A cloudy morning but bright sunshine in the afternoon**
- 2. No rainfall in the area for an extended period.**
- 3. Dust gathered on the leaves**

Answer:

1. The cloudy morning reduces the rate of photosynthesis but will increase in the bright afternoon sunshine.
2. Lack of rain for a while reduces the availability of water and thus the rate of photosynthesis will also decrease.
3. Dust accumulated on the leaves blocks the stomata and reduces gaseous exchange. This will cause a reduction in photosynthesis.

47. Leaves of a healthy potted plant were coated with Vaseline. Will this plant remain healthy for long? Give a reason.

Answer: A coating of Vaseline on the leaves blocks the stomata preventing gaseous exchange and transpiration. As a result, the plant will be unable to obtain carbon dioxide and the rate of photosynthesis reduced. The plant will be unable to make its food and will eventually die.

48. Give reasons.

- 1. The small intestine in herbivores is longer than that of carnivores.**
- 2. The stomach has a lining of mucus.**

Answer:

1. Herbivores eat plant parts that contain cellulose. Cellulose takes a longer time to digest completely. To enable the complete digestion of cellulose, their food must remain longer in the small intestine. On the other hand, carnivores are not dependent on the plant parts and cannot digest cellulose. Thus herbivores have a longer small intestine than carnivores.
2. The mucus lining protects the inner walls of the stomach from hydrochloric acid. Without the mucus lining, the acid causes erosion on the walls, and ulcers are formed in the stomach.

49. Name the following:

- 1. The process of converting light energy into chemical energy in plants.**
- 2. Organisms that cannot make their own food.**
- 3. Organisms that prepare their food.**
- 4. This cell organelle is the site of photosynthesis.**
- 5. The cells surrounding a stomatal pore.**
- 6. An enzyme secreted by gastric glands that acts on proteins.**

Answer:

1. Photosynthesis.
2. Heterotrophs.
3. Autotrophs.
4. Chloroplast
5. Guard cells
6. Pepsin.

50. Answer the following.

- 1. Which organ secretes bile?**
- 2. Where is bile stored?**
- 3. What is the function of bile?**

Answer:

1. The liver secretes bile.
2. Bile is stored in the gallbladder.
3. Bile helps with the emulsification of fats and neutralization of the partially digested food from the stomach.

51. Explain why bile juice does not contain any digestive enzyme, yet it is essential for digestion.

Answer. Bile is a digestive enzyme secreted by the liver . Although it does not contain any enzymes;

it plays an important role in the digestion of fats. Bile juice also makes medium alkaline and

activates the enzyme lipase.

52. Tooth enamel is one of the hardest substances in our body. How does it undergo damage eating chocolates and sweets?

Answer. The acid is formed in the mouth after a sugary food (chocolates and sweets) has been taken.

This acid lowers the pH in the mouth. Tooth decay starts when the pH of acid formed in the mouth falls below 5.5. This is because then the acid becomes strong enough to attack the enamel of our teeth and corrode it.

53. How would non-secretion of hydrochloric acid in our stomach affect food digestion?

Explain.

Answer. Hydrochloric acid is secreted by the glands present on the stomach walls. It creates an acidic medium for pepsin to act. Therefore, if HCl were not secreted in the stomach, then pepsin would not be activated. This would affect protein digestion.

54. Meena who is studying in Class X gets tired very soon and her skin color is turning pale, her hemoglobin content in the blood is also low She is confused about this situation.

a. Which disease is she suffering from?

b. What is the role of hemoglobin in our blood?

Answer. a. Anaemia

b. It carries oxygen to different parts of the body.

55. What is the advantage of a four-chambered heart?

Ans. In a four-chambered heart, the left half is separated from the right half by a septum. This prevents oxygenated and deoxygenated blood from mixing. This allows a highly efficient supply of oxygenated blood to all parts of the body. This is useful in animals that have high energy needs, such as birds and mammals.

56. Why is chlorophyll extracted from the leaf before testing it for the presence of starch?

Answer. The green-colored pigment chlorophyll can give a wrong indication of a positive starch

test. Therefore chlorophyll is removed before testing for starch.

57. A farmer floods his field every day thinking that watering in this manner will give a better yield of his wheat crop. What will be the result of this action of the farmer?

Answer. This will result in waterlogging of the soil due to which roots cannot breathe and ultimately plants will die.

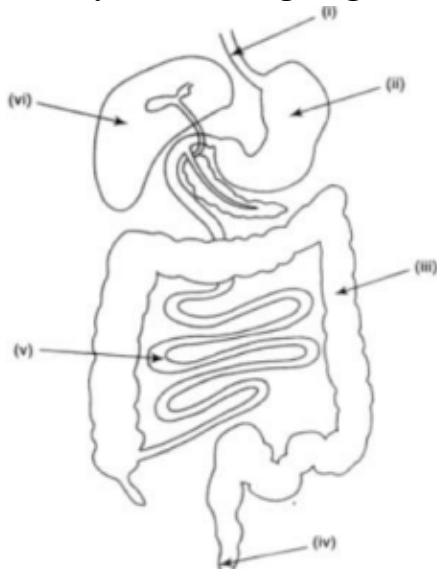
58. Label a, b, and c in the following equation for respiration.

	Glycolysis		In presence of O ₂			
C ₆ H ₁₂ O ₆	----->	C ₃ H ₄ O ₃	----->	c. _____ +	6H ₂ O +	38ATP
		a. _____ —	In b. _____			

Answer

- a. Pyruvic acid
- b. Mitochondria
- c. 6CO₂

59. Study the following diagram and answer the following questions



- a. Label *i, ii, iii, iv, v, vi*
- b. What are the changes happening to food in part (ii)

c. Name the juice secreted by (v).

d. Give two functions of (iii)

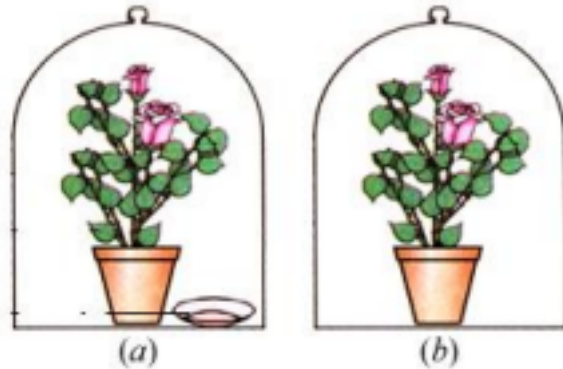
- Answer .
- i- Oesophagus
 - ii-stomach
 - iii-Large intestine
 - iv-Anus
 - v-Small intestine
 - vi-Liver

b. Gastric juice is produced. It releases mucus, HCl and pepsin. Proteins are getting digested here.

c. Intestinal juice

d. Absorbs water, helps to get rid of waste

60. Study the following diagram and answer the following questions:



a. Name the atmospheric gas which is essential for photosynthesis.

b. What is kept in figure (a) and why?

c. State the difference between the plants in the pots a and b after a few days?

- Answer.
- a. CO_2
 - b. KOH in order to deprive the plant of CO_2
 - c. Plant of (a) will turn yellow because of lack of nourishment and plant of pot (b) will remain healthy.
