

CBSE Important Questions for Class 10 Science Chapter 6: CBSE Important Questions for Class 10 Science Chapter 6 which focuses on Life Processes help students grasp the important concepts related to various vital functions that sustain life in living organisms. These questions cover essential topics such as nutrition, respiration, transportation and excretion, providing a detailed overview of how organisms maintain homeostasis and manage their biological processes.

By practicing these questions students can enhance their understanding and retention of the chapter's content, enabling them to perform confidently in their board exams. The PDF containing these important questions is available for download below providing easy access for all learners.

CBSE Important Questions for Class 10 Science Chapter 6 Overview

These important questions are made by subject experts of Physics Wallah to help students understand the key ideas in the chapter.

By practicing these important questions, students can improve their understanding of the topic and get ready for exams. This resource not only helps with exam preparation but also helps students appreciate how living things work.

CBSE Important Questions for Class 10 Science Chapter 6 PDF

You can find the CBSE Important Questions for Class 10 Science Chapter 6 in the PDF link provided below. This PDF includes a collection of important questions to help students review and reinforce their understanding of life processes. By going through these questions, students can better prepare for their exams and gain a clearer understanding of the chapter's main concepts.

CBSE Important Questions for Class 10 Science Chapter 6 PDF

CBSE Important Questions for Class 10 Science Chapter 6 Life Processes

Here we have provided CBSE Important Questions for Class 10 Science Chapter 6 Life Processes-

Question 1. Most of the digestion and absorption of the food takes place in the

- (a) small intestine
- (b) liver
- (c) stomach
- (d) large intestine. (2020)

Answer:

- (a) small intestine

Question 2. Mention the raw materials required for photosynthesis. (Board Term I, 2016)

Answer:

The raw materials required for photosynthesis are:

- **Carbon dioxide (CO₂)**: Absorbed from the atmosphere through small openings called stomata in the leaves.
- **Water (H₂O)**: Absorbed by the roots from the soil and transported to the leaves.
- **Light**: Solar energy is captured by chlorophyll to drive the process of photosynthesis.
- **Chlorophyll**: The green pigment in chloroplasts that absorbs light energy to carry out photosynthesis.

Question 3. State the location and function of gastric glands. (Board Term I, 2014)

Answer:

Gastric glands are located in the walls of the stomach. Their primary function is to secrete gastric juices, which contain:

- **Mucus**: Protects the stomach lining from being damaged by the acidic environment.
- **Pepsin and Rennin**: Enzymes that help in the digestion of proteins.
- **Hydrochloric acid (HCl)**: Creates an acidic environment, which aids in protein digestion and kills harmful bacteria.

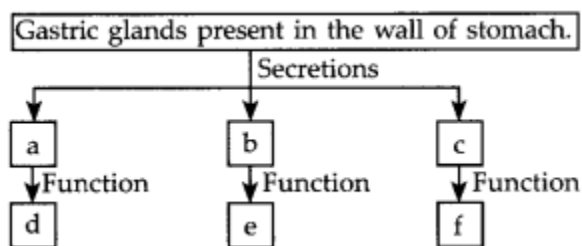
Question 4. Name the glands present in the wall of the stomach that release secretions for digestion of food. Write the three components of secretion that are released by these glands. (Board Term I, 2014)

Answer:

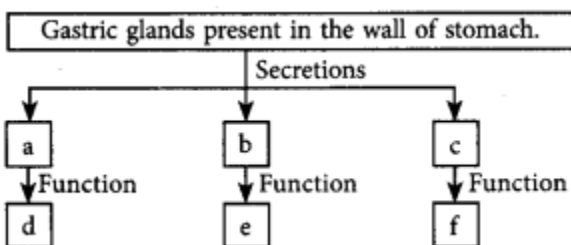
The glands present in the wall of the stomach are called **gastric glands**. These glands release secretions that aid in digestion. The three main components of the secretion are:

1. **Dilute Hydrochloric Acid (HCl)**: Helps create an acidic environment for digestion.
2. **Mucus**: Protects the stomach lining from the acidic contents.
3. **Protein Digesting Enzymes (Rennin and Pepsin)**: Aid in breaking down proteins into simpler substances.

Question 5. Complete the following flow chart as per the given instructions.



Answer:



a – Hydrochloric acid (HCl)

b – Protein digesting enzyme pepsin

c – Mucus

d – HCl makes medium acidic for the activation of an enzyme pepsin.

e – Pepsin acts in acidic medium which breaks down proteins into peptones.

f – Mucus protects the inner lining of stomach from corroding action of HCl.

Question 6. (a) State the role played by the following in the process of digestion :

(i) Enzyme trypsin

(ii) Enzyme lipase-

(b) List two functions of finger-like projections present in the small intestine. (2020)

Answer:

(a) (i) **Enzyme trypsin:** Trypsin is produced by the pancreas in an inactive form called trypsinogen. Once activated, it breaks down proteins into smaller units like peptones and then further into peptides and amino acids. (ii) **Enzyme lipase:** Secreted by the pancreas and small intestine, lipase helps in breaking down fats into fatty acids and glycerol.

(b) The **finger-like projections** in the small intestine, called villi, serve two important functions: (i) They increase the surface area for absorption of nutrients from digested food. (ii) The larger surface area allows for more efficient and quicker absorption of nutrients into the bloodstream.

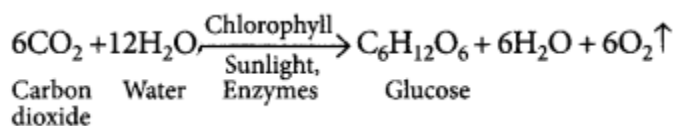
Question 7. Explain the significance of photosynthesis. Write the balanced chemical equation involved in the process. (Board Term I, 2017)

Answer:

Photosynthesis is a crucial process for sustaining life on Earth due to several reasons:

(i) **Food production:** Green plants synthesize their own food using simple raw materials like carbon dioxide (CO₂) and water (H₂O), providing food for other organisms. (ii) **Oxygen release:** The oxygen released during photosynthesis is vital for the respiration of animals, humans, and microorganisms. It also supports combustion. (iii) **Fossil fuels:** Fossil fuels like coal, oil, and natural gas are the result of photosynthesis millions of years ago, storing solar energy.

Balanced chemical equation involved in the process of photosynthesis is given as :



Question 8. Differentiate between autotrophs and heterotrophs and give one example of each. (Board Term 1, 2017)

Answer:

The differences between autotrophs and heterotrophs are:

Autotrophs	Heterotrophs
(i) Autotrophs are organisms that produce organic substances from simple inorganic materials like carbon dioxide (CO ₂), hydrogen sulfide (H ₂ S), and water.	Heterotrophs cannot produce organic compounds from inorganic sources and rely on consuming other organisms for their food.
(ii) They contain chlorophyll to capture solar energy for photosynthesis.	Chlorophyll is absent, so they cannot trap solar energy.
(iii) Autotrophs can be chemoautotrophs or photoautotrophs.	Heterotrophs can be saprophytic, parasitic, or holozoic in their mode of nutrition.
(iv) Autotrophs are placed at the base of the food chain as producers.	Heterotrophs are higher in the food chain, acting as consumers.
(v) Examples include green plants, some bacteria, and protists like <i>Euglena</i> .	Examples include mushrooms, cows, goats, and <i>Euglena</i> .

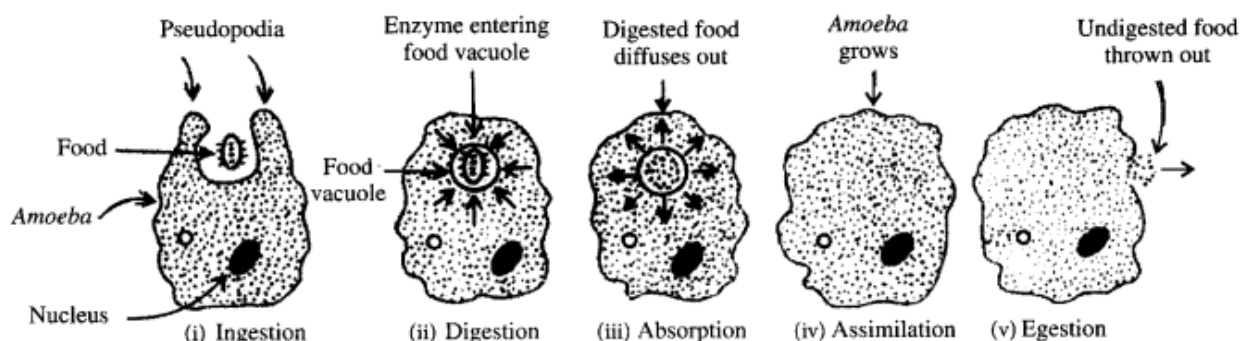
Question 9. Explain with the help of neat and well labelled diagrams the different steps involved in nutrition in Amoeba. (Board Term I, 2015)

Answer:

The mode of nutrition in Amoeba is holozoic. The process of obtaining food by Amoeba is called phagocytosis.

1. Amoeba ingests food by using its finger-like projections called pseudopodia.
2. The food is engulfed with a little surrounding water to form a food vacuole inside the Amoeba. The food is digested inside food vacuole by digestive enzymes.
3. Food is absorbed directly into the cytoplasm of Amoeba by diffusion.
4. Food is used to obtain energy and growth of Amoeba.
5. When considerable amount of undigested food collects inside Amoeba then its cell membrane ruptures at any place to throw out this undigested food.

Diagrammatic representation of different stages in the holozoic nutrition (feeding) of Amoeba is as follows:



Question 10. (a) What is peristaltic movement?

(b) 'Stomata remain closed in desert plants during daytime'. How do they do photosynthesis? (Board Term I, 2013)

Answer:

(a) Peristaltic movement is a type of muscular contraction that occurs in the walls of the alimentary canal. This movement involves the relaxation and contraction of gut muscles, which creates a wave-like motion that helps to push partially digested food downwards through the digestive tract. This coordinated movement is essential for the efficient movement of food from the esophagus to the stomach and through the intestines.

(b) Desert plants have adapted to survive in arid environments by keeping their stomata closed during the daytime to minimize water loss through transpiration. Instead, they open their stomata at night to take in carbon dioxide (CO_2). The CO_2 is stored in their cells until daytime when photosynthesis occurs. During the day, these plants use the stored CO_2 , along with sunlight, to carry out photosynthesis, thereby producing energy while conserving water. This adaptation allows them to thrive in harsh conditions while still performing essential metabolic processes.

Question 11. (a) Why is nutrition necessary for the human body?

(b) What causes movement of food inside the alimentary canal?

- (c) Why is small intestine in herbivores longer than in carnivores?**
(d) What will happen if mucus is not secreted by the gastric glands? (2020)

Answer:

(a) Nutrition is essential for the human body because it provides the energy needed for various life activities, such as respiration, circulation, and excretion. Even during sleep, biological processes continue to occur that require energy. In addition to energy, nutrition is crucial for growth, tissue repair, and maintaining overall health. It supplies the necessary nutrients that support bodily functions and help prevent deficiencies and diseases.

(b) The movement of food inside the alimentary canal is caused by a series of coordinated muscular contractions known as peristalsis. The walls of the alimentary tract contain smooth muscles that contract and expand alternately. This rhythmic contraction and expansion propel the partially digested food through the digestive organs, ensuring that it moves from the esophagus to the stomach and through the intestines.

(c) The small intestine in herbivores is longer than in carnivores because herbivores primarily consume plant material, which is rich in cellulose. Cellulose is difficult to digest and requires more time for enzymatic breakdown, often aided by symbiotic bacteria. A longer small intestine provides more surface area and time for digestion and nutrient absorption. In contrast, carnivores eat meat, which is easier to digest and does not contain cellulose, allowing for a shorter small intestine.

(d) Mucus plays a critical role in protecting the inner lining of the stomach from the corrosive effects of hydrochloric acid (HCl) and digestive enzymes such as pepsin. If mucus is not secreted by the gastric glands, the stomach lining becomes vulnerable to damage, leading to erosion and inflammation. This can result in conditions such as acidity, gastric ulcers, and severe discomfort due to the exposure of the stomach lining to harsh digestive substances.

Question 12.

(a) State the form in which the following are stored:

(i) Unused carbohydrates in plants.

(ii) The energy derived from food in humans,

(b) Describe the process of nutrition in Amoeba with the help of diagram. (Board Term I, 2016)

Answer:

(a) State the Form in Which the Following Are Stored:

(i) Unused Carbohydrates in Plants:

Unused carbohydrates in plants are stored in the form of complex sugar known as **starch**. When the plant needs energy, starch is broken down into simple sugars like glucose.

(ii) The Energy Derived from Food in Humans:

In humans, the energy derived from food is stored in the form of **adenosine triphosphate (ATP)** molecules. The assimilated food molecules contain energy in their chemical bonds, which is released during cellular respiration and then trapped by forming bonds between adenosine diphosphate (ADP) and inorganic phosphate (Pi) to synthesize ATP. The energy stored in ATP is then utilized for various cellular processes.

(b) Describe the Process of Nutrition in Amoeba with the Help of a Diagram:

Amoeba is a unicellular organism that feeds on tiny plants and animals found in water. The mode of nutrition in Amoeba is **holozoic**, and the process of obtaining food is called **phagocytosis**. The steps involved in this process are as follows:

1. Engulfing Food:

When a food particle comes close to Amoeba, it extends its temporary finger-like projections called **pseudopodia** around the food particle.

2. Formation of Food Vacuole:

The food particle is engulfed along with some surrounding water to form a **food vacuole** inside the Amoeba.

3. Digestion:

The food is digested inside the food vacuole by **digestive enzymes**.

4. Absorption:

The digested nutrients are absorbed directly into the cytoplasm of the Amoeba by **diffusion**.

5. Utilization of Nutrients:

Part of the absorbed food is used to obtain energy, while the remaining nutrients are utilized for the growth of Amoeba.

6. Egestion:

When a significant amount of undigested food accumulates inside the Amoeba, the cell membrane ruptures at any point, allowing the expulsion of the undigested food. This process is known as **egestion**.

Question 13. Anaerobic process

(a) takes place in yeast during fermentation

(b) takes place in the presence of oxygen

(c) produces only energy in the muscles of human beings

(d) produces ethanol, oxygen and energy. (2020)

Answer:

(a) takes place in yeast during fermentation

Question 14. Diffusion is insufficient to meet the oxygen requirement of multicellular organisms like human. State reason. (Board Term 1,2017)

Answer:

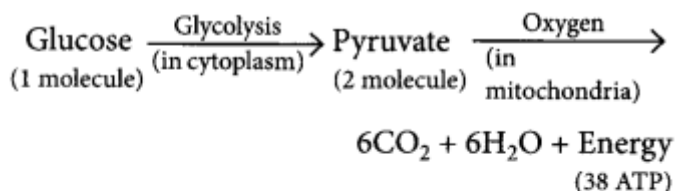
Multicellular organisms have a higher metabolic rate and a larger body volume, which means that oxygen needs to be delivered to many cells quickly. In humans, oxygen must travel considerable distances to reach each cell. As a result, diffusion alone is too slow to supply the necessary oxygen for cellular processes throughout the body. Therefore, multicellular organisms rely on specialized respiratory systems, such as lungs in humans, to efficiently transport oxygen through the bloodstream to meet their oxygen demands.

Question 15. Write two different ways in which glucose is oxidised to provide energy in human body. Write the products formed in each case. (Delhi 2019)

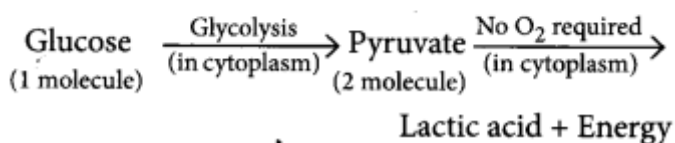
Answer:

The two different ways by which glucose is oxidised to provide energy in human body are:

(i) Aerobic respiration : The end products in aerobic respiration are carbon dioxide, water and energy.



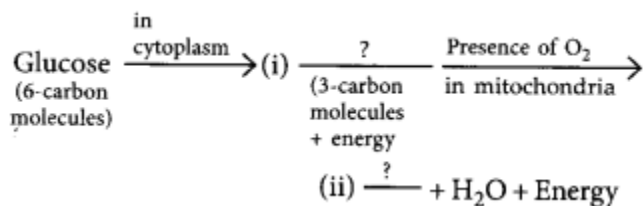
(ii) Anaerobic respiration : The end products are lactic acid and energy.



Question 16. (a) In the process of respiration, state the function of alveoli.

(b) Rate of breathing in aquatic organisms is much faster than that in terrestrial organisms. Give reasons.

(c) Complete the following pathway showing the breakdown of glucose.



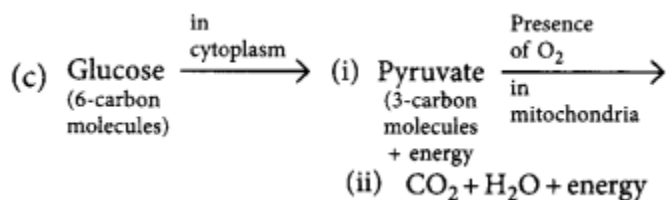
Answer:

(a) Functions of alveoli are :

(i) They increase the surface area for exchange of gases.

(ii) The thin walls of alveoli facilitate rapid exchange of oxygen and carbon dioxide between alveolar air and blood.

(b) Aquatic animals like fishes obtain oxygen from water present in the dissolved form through their gills. The amount of dissolved oxygen is quite small as compared to the amount of oxygen in the air. Therefore, to obtain required oxygen from water, aquatic animals have to breathe much faster than the terrestrial organisms.



Benefits of CBSE Important Questions for Class 10 Science Chapter 6

- **Understanding Exam Format:** Familiarizing themselves with the format and types of questions asked in previous exams helps students understand how to approach similar questions in their exams.
- **Improved Time Management:** By practicing these questions students can learn to manage their time effectively ensuring they can complete the exam within the allotted time.
- **Enhanced Problem-Solving Skills:** Regularly working on important questions helps students develop critical thinking and problem-solving skills which are important for success in exams.
- **Increased Confidence:** By mastering these questions students build confidence in their knowledge and abilities reducing exam anxiety and enhancing their overall performance.