

SCIENCE : Life Processes

83. How does fat digestion take place in the body? Where does this process occur?

Ans: The digestion of fats takes place in the small intestine. The fat which enters the small intestine is in the form of large globules. The following steps are involved in the process:

- * Large globules are broken down into small globules by bile salts.

- * The lipase enzyme, which is present in pancreatic juice breaks emulsified fat.

- * The pancreas secretes the pancreatic juice.

- * The walls of the small intestine secrete enzymes that aid in breaking fats into fatty acids.

84. What are the consequences of haemoglobin deficiency?

Ans: Haemoglobin is the oxygen carrier, so its deficiency affects the blood supply of oxygen to tissues. Anaemia show symptoms like breathlessness and tiredness with a lack of iron.

85. What is double circulation in humans? Mention its importance.

Ans: Humans have double circulation as the blood passes twice through the heart in one complete cycle. There are two circulations:

Pulmonary circulation begins from the right ventricle, and the blood is expelled into the pulmonary trunk. The blood reaches the vascular system of the lungs, becomes oxygenated and then returns to the heart, i.e. the left atrium through pulmonary veins.

Systemic circulation starts from the left ventricle, sending blood to the aorta. The aorta supplies the oxygenated blood to various parts of the body. The aorta divides into arteries, arterioles and then capillaries. The deoxygenated blood collected by the venules, join to form veins and vena cava finally and pour back blood into the right auricle of the heart.

The importance of double circulation in humans is that:

- 1) There is no mixing between the oxygenated and deoxygenated blood.
- 2) The system ensures oxygen supply efficiently.
- 3) Maintenance of body temperature.

86. What are the differences between the transportation of materials between Xylem and phloem?

Ans: In Xylem, the transportation of water and minerals takes place from the roots to the leaves. The conduction takes place through xylem vessels and tracheids, which are the dead tissues.

The transportation takes place in phloem from

leaves to the other parts of the plant. The process is conducted through sieve tubes and companion cells.

87. Compare the alveoli and nephron functioning, including structure.

Ans: The alveoli are balloon-like structures which are one-celled thick and comprise an extensive network of blood capillaries. The site of gaseous exchange in the lungs is the alveoli. The exchange of oxygen and carbon dioxide occurs between the blood flowing in the capillaries of the alveoli and the gases present in the alveoli.

Nephrons are long tubular structures composed of nephrons, Bowman's capsule and a long renal tube. The nephrons are the structural and functional unit of kidneys. Their main function is filtration and removing the nitrogenous blood in the form of urine.

88. Name the cell organelle in which photosynthesis occurs.

Ans: Photosynthesis occurs in the chloroplast of the plant.

89. In the experiment "light is essential for photosynthesis", why does the uncovered part of the leaf turn blue-black after contacting iodine solution?

Ans: Due to starch production, the uncovered part of the leaf turns blue-black after adding iodine solution.

90. What do you understand by emulsification?

Ans: Emulsification is the breakdown of large fat globules into small fat droplets.

91. Explain the process of nutrition in amoeba.

Ans: The steps in the nutrition of amoeba are ingestion, digestion, assimilation and egestion.

When amoeba comes in contact with the food, it sends out pseudopodia, which engulfs the food particle forming a food cup. This process is called ingestion.

When the tips of the encircling pseudopodia touch each other, there is the formation of a food vacuole, a temporary stomach that secretes digestive juices. This step is known as digestion.

The digested food gets absorbed and diffuses into the cytoplasm and then assimilates.

The egestion of the non-digested food occurs at any point on the body surface.

92. How is digestion affected when the bile duct is completely blocked? Explain

Ans: On blockage of the bile duct, digestion of fats is affected as the bile juice will not reach the small intestine.

93. Why do the trachea walls not collapse when there is less air in them?

Ans: The rings of the soft cartilage bones do not allow the trachea to collapse when air is in it.