Life Processes: Exercise Questions		
Q.1	The kidneys in human beings are a part of the system for (a) Nutrition. (b) Respiration.	
Sol.	(c) Excretion. (d) Transportation. (c) Excretion.	
Q.2	The xylem in plants are responsible for (a) Transport of water. (b) Transport of food. (c) Transport of amino acids (d) Transport of ovygen	
Sol.	(a) Transport of water.	
Q.3	The autotrophic mode of nutrition requires (a) Carbon dioxide and water. (b) Chlorophyll. (c) Sunlight (d) All of the above	
Sol.	(d) all of the above.	
Q.4	The breakdown of pyruvate to give carbon dioxide, water and energy takes place in (a) cytoplasm. (b) mitochondria.	
Sol.	(b) mitochondria	

Q.5 How are fats digested in our bodies? Where does this process take place?

Sol. Digestion of fats occurs in the small intestine. Fats are generally present in the intestine in the form of large globules. Due to these large globules, enzymes cannot act on them. Bile salts break them down into smaller globules and increase the efficiency of enzyme action. Pancreatic juice secreted by the pancreas contains an enzyme called lipase which helps to break down emulsified fats. The walls of the small intestine also contain glands which secrete intestinal juice. The enzymes present in intestinal juice finally convert fats into fatty acids and glycerol.

Q.6 What is the role of saliva in the digestion of food?

Sol. Saliva contains the enzyme salivary amylase which breaks complex molecules starch into sugars like matltos.

Q.7 What are the necessary conditions for autotrophic nutrition and what are its byproducts?

Sol.

The necessary conditions necessary for autotrophic nutrition: Sunlight, water, carbon dioxide and chlorophyll.

Byproduct of photosynthesis: Oxygen

Q.8 What are the differences between aerobic and anaerobic respiration? Name some organisms that use the anaerobic mode of respiration.

Sol. In aerobic respiration, the complete oxidation of glucose occurs and form water and carbon dioxide. In anaerobic respiration, the incomplete oxidation of glucose occurs and form either lactic acid or alcohol. Yeast and bacteria are the organisms that use anaerobic mode of respiration.

Q.9 How are the alveoli designed to maximise the exchange of gases?

Sol. The wall of alveoli are thin and contains a fine network of blood capillaries to facilitate the exchange of gases between blood and air filled in alveoli. Alveoli have balloon like structure which provides maximum exchange of gases.

Q.10 What would be the consequences of a deficiency of haemoglobin in our bodies?

Sol. Haemoglobin is the responsible for transportation of oxygen to the body cell for energy production by cellular respiration. Deficiency of haemoglobin will provide less oxygen to different cells. Finally person fall sick and feel weak.

Q.11 Describe double circulation in human beings. Why is it necessary?

Sol. In double circulation, complete segregation of oxygenated and deoxygenated blood occurs. Due to this, in one cycle of circulation, blood passes twice through the heart. Therefore, the name is double circulation. This is very necessary for maximum use of oxygen because humans are warm blooded animals and need extra energy to keep their body temperature constant.

Q.12 What are the differences between the transport of materials in xylem and phloem? *Sol.* The differences between the transport of materials in xylem and phloem

Transportation in xylem	Transportation in phloem
1. It transports water and dissolved	1. It transports prepared food material from
minerals from roots to leaves and other	leaves to other parts of plant in dissolved
parts.	form.
2. It takes place in only one direction i.e.	2. It takes place bidirectional i.e. upward
upward direction.	and downward direction.
3. This is passive transport as no energy is	3. This is an active transport as it requires
required.	energy.

Q.13 Compare the functioning of alveoli in the lungs and nephrons in the kidneys with respect to their structure and functioning.

Sol: Comparison between the functioning of alveoli in the lungs and nephrons in the kidneys with respect to their structure and functioning:

Alveoli	Nephrons
1. It is functional unit of lungs	1. It is the functions unit of kidney.
2. Alveoli are small bag like structure.	2. Nephrons are a fine network of tubules.
3. A lungs has about 30 crore alveoli.	3. A kidney has about 10lakh nephrons.
4. Exchange of gases like O ₂ and CO ₂	4. Exchange of materials like salt and water
through diffusion.	through high pressure.
5. Alveoli are the site of exchange of gases.	5. Alveoli are the filtration unit.