

Chapter - 1.

Life Processes.

Q.1. How is oxygen and carbon dioxide transported in human beings?

ans) The exchange of the blood takes up oxygen from the alveolar air and releases CO_2 to the alveolar air. O_2 moves from high concentration to lower concentration due to process of diffusion. CO_2 concentration is more in tissues and less in blood so CO_2 moves from tissues to blood and is called internal respiration.

Q.2. How are lungs designed in human beings to maximise the area for exchange of gases?

ans) Lungs lie in the thoracic cavity on the sides of the heart. Within lungs a major bronchus is divided into secondary bronchi and two membranes. Each bronchioles divides alveolar ducts which enter to alveolar sacs.

→ The large surface area spread out, it would be available for exchange of gases fulfills our requirement of oxygen.

Exercise

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

any The alveoli have a very thin wall composed of simple most non-ciliated squamous epithelium. The surface of alveoli is very large about 80m^2 . The large surface area available for maximise exchange of gases.

Q. what are different ways in which glucose is oxidised to provide energy in various organisms.

any Different ways to provide energy -

i) Aerobic respiration which uses oxygen to convert glucose into CO_2 & H_2O .

ii) Anaerobic respiration which incompletely breaks glucose in absence of oxygen.

Q. what advantage over an aquatic organism does terrestrial organism have with regard to obtaining oxygen for respiration?

any Aquatic organisms such as fishes, obtain oxygen for respiration which is dissolved in water. The amount of oxygen dissolved in water is very low. On the other hand, the terrestrial

Aerobic

(i) It takes place in cytoplasm & mitochondria.

* Organisms that use anaerobic mode of respiration are such as yeasts.

Anaerobic

(ii) It takes in cytoplasm. The mitochondria are not involved.