13/5/21

pg-105, in text question -

(3) How is oxygen and $CO_2$ transported in Human Beings?

ans - In our body the $CO_2$ which dissolves in the blood is carried out from all parts of our body through the veins, then it is transported to the lungs, $CO_2$ by the process of diffusion is expelled out through our nostrills.
The oxygen that is inhaled by us it reaches to our lungs and it is diffused into the blood transported by the heart and combines with the haemoglobin and then the haemoglobin rich blood then is carried to the heart through pulmonary veins. This blood is pumped to all parts of body through the arteries.

(4) How the lungs are designed in human beings to maximise the area for the exchange of gases?

ans - In human beings lungs have tubes which are called as Bronchioles which divides into baloon like structure called alveoli. The alveoli provide large surface area where the exchange of gases can take place.

## Exercise - Q no. 9

(9) How are the alveoli designed to maximise the exchange of gases.

ans → Alveoli are baloon like structured and are thin walled and have blood vessels to facilitate gas exchange between blood and the air in the alveoli. as alveoli are balloon like structure so they are are designed to maximise the exchange of gases.

(Q no- 2 and 3 are the same question i.e. pg-los Q no 3,4

(Q4) What are the different ways in which glucose is oxidized to provide energy in various organisms ?

ans - glucose is broken in the cytoplasm of cell, this process produces pyruvate. and pyruvate breaks down which takes in different organisms -

Glucose (6-C molecule) → (In the cytoplasm) → Pyruvate (3 carbon) molecule

- Absence of $O_2$ → yeast → Ethanol + $CO_2$ + Energy
- lack of $O_2$ → in muscle cell → lactic acid + energy
- presence of $O_2$ (in mitochondria) → $CO_2$ + $H_2O$ + Energy

(5) What is the advantage over an aquatic animal does a terrestial organisms have with regard to obtaining oxygen for respiration ?

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ans- Aquatic animals gets the $O_2$ in dissolved form from the water as the solubility of $O_2$ in water is less so there is not so much $O_2$ available for aquatic organisms to breathe. but the terrestrial animals takes the $O_2$ directly from the air so their breathing is faster.

6) Why is the trachea provided with cartilaginous rings ?

ans- The cartilaginous rings are provided with trachea to protect it from collapsing during the absence of air. It keeps the trachea rigid, and allows it to expand when breathing occur.