HW
13/05/21

HOME ASSIGNMENT

Ch - Life Processes

1. In text Question - 3, 4, Pg No. - 105 and Exercise Question No. - 9.

Q3. How are oxygen and carbondioxide transported in human beings?

Ans- In human beings, oxygen is carried from the lungs by the respiratory pigment haemoglobin which is present in red blood ~~cells~~ corpuscles. Haemoglobin has a very high affinity for oxygen. Carbon dioxide is more soluble in water than oxygen. So, most of the carbondioxide produced during respiration in the human body is transported in the dissolved form in our blood.

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

Ans- There are millions of alveoli in the lungs. The presence of millions of alveoli in the lungs provides a very large area for the exchange of gases. And the availability of large surface area maximises the exchange of gases.

For example, if all alveoli from the two human lungs are unfolded, they would give an area of about 80 square metres (which is nearly the size of a tennis court!).

Ex Q9. How are the alveoli designed to maximise the exchange of gases?

Ans- There are millions of alveoli (thin-walled air-sacs) in the lungs. The presence of millions of alveoli in the lungs provides a very large area for the exchange of gases. And the availability of large surface area maximises the exchange of gases. For example, if all alveoli from the two human lungs are unfolded, they would give an area of about 80 sq.m.

Q4. What are the different ways in which glucose is oxidised to provide energy in various organisms?

Ans- There are two different ways in which glucose is oxidised to provide energy in various organisms:

- Aerobic respiration and
- Anaerobic respiration

Aerobic respiration uses oxygen (of air) whereas anaerobic respiration takes place without oxygen.

(i) In aerobic respiration, the glucose food is completely broken down by the oxygen (of air) inhaled during breathing to form carbondioxide and water, and a lot of energy is released.

(ii) In anaerobic respiration, the glucose food is incompletely broken down by micro-organisms like yeast in the absence of oxygen (of air) to form ethanol and carbondioxide, but much less energy is released.

5. What advantage over an aquatic organism does a terrestrial organism have with regard to obtaining oxygen for respiration?

Ans- The aquatic organisms use the oxygen dissolved in water for carrying out respiration. The amount oxygen dissolved in water is, however, limited. The terrestrial organisms take oxygen from air which contains much higher amount of oxygen. Thus, a terrestrial organism has an advantage over an aquatic organism in regard to obtaining oxygen because it is surrounded by an oxygen-rich air from which it can take any amount of oxygen.

6. Why is the trachea provided with cartilaginous rings?

Ans- In the trachea, or windpipe, there are tracheal rings, also known as tracheal cartilages. Cartilage is strong but flexible tissue. The cartilaginous rings of the trachea in respiratory system is to stabilize the trachea and keep

it rigid while allowing the trachea to expand and lengthen when the person breathes.

Q2. Repeated Question

Q3. Repeated Question

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