

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

Ans) i) Oxygen enters the blood from the lungs and carbon dioxide is expelled out of the blood into the lungs.

ii) The blood serves to transport both gases.

iii) Oxygen is carried to the cells.

iv) Carbon dioxide is carried away from the cell.

v) Oxygen is carried in form of oxyhemoglobin and carbon dioxide

In form of Carbohemoglobin  
2) Humans are the lungs designed in human beings to maximise the area for exchange of gases?

Ans, lungs play a major role in respiratory system. In humans, a pair of lungs are designed in such a way that they are lined by a thin membrane, the smaller tubes called bronchioles a balloon-like structure called alveoli and a network of blood capillary increase the surface area of gases.

3) What is the need for a system of control and coordination in an organism?

Ans) Nervous System and endocrine system are responsible for control and coordination of complex, multicellular human body with multiple organ systems of complex functioning. Endocrine secretion regulate proper growth and development and functioning of different organs. Nervous System enables us to respond to our

Surroundings and to perform daily activities.

It does by sensing external and internal

Stimuli followed by a relay of sensory

information to central nervous system

for processing and generation of motor

output

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

Ans) Breaking down of glucose involve two processes. In the first step, it is broken into three-carbon molecules called Pyruvate. The Pyruvate is further broken down into energy

in following different way, in various organisms.

1) Aerobic respiration: In this case, Pyruvate is broken down into water and carbon dioxide along with release of energy. It common occurs in mitochondria of cells.

2) ~~Anaerob~~ Anaerobic respiration:  
In aerobic respiration break down of ~~Pyru~~ Pyruvate takes place in presence of oxygen to give rise 3 molecules of carbon dioxide and water. And Pyruvate is converted

into ethanol and carbon dioxide.

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

Ans) Air contains about 21% oxygen while water has 1% oxygen in dissolved state. A terrestrial oxygen organism is able to get several more times oxygen than an aquatic animal. This is the reason that the terrestrial organisms have the advantage of getting more oxygen than aquatic organisms.

Q) Why is trachea provided with cartilaginous ring?

Ans) The cartilaginous ring around the ~~tra~~ trachea to avoid it been collapsed when there is low air air pressure in lungs.