Biology - FSC Part 1 Biology English Medium Chapter 13 Preparation

Q1. Differentiate between spiracles and tracheoles.

Ans 1: Spiracles : The trachea open to exterior by pores on the surface called spiracles,There are ten pairs of spiracles present on the lateral sides of the body.

Ans 2: Tracheoles: The main trachea divide and subdivide forming very fine tubules called trachelos .They continuously supply oxygen to living cells directly.

Q2. In hot and dry season,level of O_2rises inside the leaf.Give its reasons.

Ans 1: In hot and dry day the level of oxygen inside the leaf rises,This is because the stomata close to prevent the loss of water.The level of oxygen rises because closed stomata do not let it go out.

Q3. What is rubisco? Give its function.

Ans 1: Rubisco is an enzyme which is the most abundant protein in the chloroplast and probably in the world.
In calvin cycle when a molecule of carbon dioxide reacts with RuBP this reaction is catalyst by the enzyme called rubisco.But in PHotorespiration rubisco can act as both carboxylase as well as oxygenase.

Q4. What is external respiration?

Ans 1: The exchange of respiratory gasses between the organisms and its environment is called external respiration/organisms respiration.

Q5. Discuss respiratory mechanism in cockroach.

Ans 1: Cockroach has ten pairs of spiracles,When abdomen contracts the first four pairs of spiracles open ,air rushed in through these four pairs of spiracles into tracheoles.Abdomen contracts the anterior four pairs of spiracles close and posterior six parts of spiracles open.In this way inhalation and exhalation takes place.

Q6. What is photorespiration?Name organelles involved in it.

Ans 1: The respiration which takes place during day time is called photorespiration.The pathway in which RuBP is converted into the serine is called photorespiration.Peroxisomes and mitochondria,chloroplast are involved in photorespiration.

Q7. Enlist properties of respiratory surface in animals.

Ans 1:

1. Large surface and moisture.
2. Ventilation
3. Thin epithelium
4. Capillary network

Q8. How does breathing differ from cellular respiration?

Ans 1: Breathing : Organismic respiration is also known as breathing or ventilation,Breathing is a process in which fresh air containing more oxygen is pumped into the lungs and air with more carbon dioxide is pumped out of the lungs.

Ans 2: Cellular respiration is directly involved in the production of energy necessary for all living organisms,It is process by which cell utilizes oxygen,produce carbon dioxide,extracts and conserve the energy from food molecule in biologically is useful form such as ATP.

Q9. How carbon dioxide absorbed by the cell wall of the mesophyll cells?

Ans 1: The carbon dioxide reaches to the mesophyll cells by passing through the intercellular spaces and then absorbed by the moist cell surface or mesophyll cells.

Q10. What is emphysema?Give its effects and cause.

Ans 1: Emphysema is breakdown of alveoli.In the result of constant coughing the absorbing surface of the lungs is greatly reduced.
