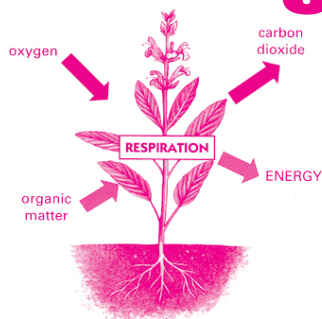


5. RESPIRATION IN PLANTS

1 x 8 = 8 Marks

ROOT POINTS



- Respiration** provides energy to the plant body. It is done by the oxidation of food.
- The compounds that are oxidised during respiration are known as **respiratory substrates**.
- Glucose** is the favoured substrate for respiration.
- All the energy contained in a respiratory substrate does not release freely into the cell, but it is trapped as a chemical energy in the form of ATP.
- The energy trapped in ATP is utilised in various energy requirements of the organism.
- In plants respiration happens in two ways.
 - Gaseous exchange through Stomata and Lenticels
 - Cellular respiration
- Cellular respiration** is of two types (i) aerobic respiration (ii) anaerobic respiration.
- Respiration in the presence of oxygen is called **aerobic respiration**.
Ex: Glycolysis, Krebs's cycle.
- Respiration in the absence of oxygen is called **anaerobic respiration**. Ex: Fermentation
- Glycolysis:** [IPE]
 - Glycolysis is the first step of **respiration** in all living organisms.
 - It occurs in cytoplasm of cells.
 - During Glycolysis, Glucose molecules break down to **release energy**.
 - Glycolysis is the **oxidation** of one glucose molecule to form 2 molecules of pyruvic acid.
- Krebs's Cycle:** [IPE]
 - Krebs's cycle is a cycle of reactions used by all aerobic organisms to generate energy.
 - It takes place in mitochondria.
 - Acetyl coenzyme (CoA) is oxidised to form CO_2 and H_2O .
 - Also, ADP is converted into **energy-rich** ATP.

FRUITY Qs OF IPE

1 x 8 = 8 Marks

- Give an account of glycolysis. Where does it occur? What are the end products? Trace the fate of these products in both aerobic and anaerobic respiration
- Explain the reactions of Krebs's cycle.