

# IB. BREATHING AND EXCHANGE OF GASES

1 x 4 =4 Marks

## ROOT POINTS

- Respiration provides energy** to the body. It is done by oxidation of foods.
- Respiration consists of (i) breathing (ii) diffusion of gases at lungs (iii) transport of gases (iv) diffusion of  $O_2$  and  $CO_2$  at the tissues (v) utilisation of  $O_2$  by the cells.
- Breathing** is a means of **maximising the process of gaseous exchange**.
- Breathing involves two stages: (i) **inspiration** (ii) **expiration**
- Intake of atmospheric air into the Lungs is called **Inspiration**.
- Release of alveolar air to the exterior is called **expiration**.
- Medulla oblongata** controls inhalation and exhalation of air.
- Oxygen transport:** Oxygen is transported from lungs to the tissues mainly by RBC (97%) and 3% by plasma in dissolved state.
- Transport Mechanism** of  $CO_2$  is done in the following ways: [IPE]
  - 7% of  $CO_2$  combines with  $H_2O$  to form **carbonic acid**
  - 23% of  $CO_2$  combines with haemoglobin to form **carbamino compound**
  - 70% of  $CO_2$  combines with  $H_2O$  to form **Bicarbonates**

## FRUITY Qs OF IPE

1 x 4 =4 Marks

- Explain the process of inspiration and expiration under normal conditions.
- What are the major transport mechanisms for  $CO_2$ ? Explain.
- Describe disorders of respiratory system.