# KPK Class 10 Biology Short Questions – Chapter 10

## Gaseous Exchange

1. 🌿 Why do plants not need a specialized respiratory system? 🌱

- Plants don't need a specialized respiratory system because they exchange gases (Oxygen and Carbon Dioxide) directly through tiny pores called stomata on their leaves 🌱. Additionally, every cell in the plant can independently exchange gases with the environment, making a complex system unnecessary.

2. Differentiate between the terms "respiration" 🫁 and "breathing" 🌬️.

- Respiration: It's a biochemical process that occurs inside cells, where glucose is broken down to release energy 🔋.

- Breathing: It's a physical process involving the movement of air in and out of the lungs.

3. How are the surface area of leaves 🍃 and lungs 🫁 important for gaseous exchange?

- Leaves: The broad and flat surface area of leaves maximizes exposure to air, allowing efficient gas exchange through stomata.

- Lungs: The large surface area in the lungs (provided by alveoli) ensures a high rate of oxygen absorption and carbon dioxide release during breathing.

4. What is the function of the cartilage present in the walls of the trachea and bronchi? 🫁🌬️

The cartilage in the walls of the trachea and bronchi keeps these airways open and prevents them from collapsing. It ensures a clear passage for air to reach the lungs 🌬️.

5. What is a diaphragm, and what is its role in breathing? 🫁

The diaphragm is a dome-shaped muscle located below the lungs. During inhalation, it contracts and flattens, creating space for the lungs to expand and fill with air. During exhalation, it relaxes, helping push air out of the lungs.

6. What are carcinogens? ⚠ Name any two carcinogens present in tobacco 🚬.

- Carcinogens: Substances that can cause cancer by damaging DNA or promoting uncontrolled cell division.

- Examples in Tobacco: Nicotine and tar are two carcinogens found in tobacco.

7. Compare the composition of inhaled 🌬 and exhaled 💨 air.

- Inhaled Air: Contains more oxygen (~21%) and less carbon dioxide (~0.04%).

- Exhaled Air: Contains less oxygen (~16%) and more carbon dioxide (~4%) due to gas exchange in the lungs.