HAPTER -14: BREATHING AND EXCHANGE OF GASES

I - Choose the Correct Answer

1. The alveolar epithelium in the lungs is:

(a) nonciliated columnar

(b) nonciliated squamous

(c) ciliated columnar

(d) ciliated squamous

2. Very high number of alveoli present in a lung is meant for

(a) More space for increasing volume of inspired air

(b) More area for diffusion

(c) Making the organ spongy

(d) Increasing nerve supply

3. When CO2 concentration in blood increases, breathing becomes:

(a) shallower and slow

(b) there is no effect on breathing

(c) slow and deep

(d) faster and deeper

4. Intercostal muscles occur in:

(a) abdomen

(b) thigh

(c) ribs

(d) diaphragm

5. **Assertion:** In mammals, complex respiratory system has developed.

Reason: Mammalian skin is impermeable to gases.

a. Both Assertion and Reason are correct and Reason is the correct explanation for Assertion.

b. Both Assertion and Reason are correct and Reason is not the correct explanation for Assertion.

c. If assertion is true but the reason is false.

d. If assertion is false but the reason is true.

II Answer the following questions

1. Define residual volume, Tidal volume and Vital capacity.

2. A fluid-filled double membranous layer surrounds the lungs. Name it and mention its important function.

3. The transport of oxygen and carbon dioxide in human system is a systematic process. Explain.
4. Where is Pneumotaxic centre located in humans? What is its significance in breathing?
5. Explain the mechanism of breathing with neat labelled sketches.

III Case based questions:

Vascularised bags called lungs (pulmonary respiration) are used by the terrestrial forms for the exchange of gases.

Among vertebrates, fishes use gills whereas amphibians, reptiles, birds and mammals respire through lungs. Amphibians like frogs can respire through their moist skin (cutaneous respiration) also. The lungs are situated in the thoracic chamber, which is anatomically an air-tight chamber.

1. Mention the boundaries of the thoracic chamber that make it an air-tight chamber.
2. What is the significance of making the thoracic chamber air-tight?
3. Why such an arrangement is essential for breathing?
4. Which are the 5 steps that involved in respiration