



Class 11 Biology | Breathing And Exchange Of Gases

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. During normal inspiration, the diaphragm

- A. Relaxes and domes upward
- B. Stops rib movement
- C. Closes the trachea
- D. Contracts and flattens

2. Air enters the lungs when intrapulmonary pressure becomes

- A. Exactly zero
- B. Unrelated to atmospheric pressure
- C. Higher than atmospheric pressure
- D. Lower than atmospheric pressure

3. Which volume remains after maximal forced expiration?

- A. Residual volume
- B. Tidal volume
- C. Vital capacity
- D. Inspiratory reserve volume

4. Tidal volume is 500 mL and breathing rate is 12/min. Minute ventilation is

- A. 12 L/min B. 0.6 L/min C. 24 L/min D. 6 L/min

5. Vital capacity equals

- A. IRV + RV
- B. ERV + RV
- C. TV + RV
- D. IRV + TV + ERV

6. Alveoli support efficient diffusion mainly because they have

- A. Thin walls and large surface area
- B. A dry keratinised lining
- C. No blood supply
- D. Thick muscular walls

7. Most oxygen in human blood is transported

- A. As carbonic acid
- B. As bicarbonate
- C. Bound to haemoglobin
- D. Dissolved in plasma only

8. Most carbon dioxide is transported as

- A. Bicarbonate ions
- B. Dissolved gas only
- C. Free carbon crystals
- D. Oxyhaemoglobin

9. Carbonic anhydrase is especially abundant in

- A. Bone matrix
- B. Platelets
- C. Adipose tissue
- D. Red blood cells

10. High CO₂ and low pH in tissues favour

- A. Closure of alveoli
- B. Conversion of haemoglobin to insulin
- C. Oxygen unloading from haemoglobin
- D. Oxygen binding more tightly

11. In alveoli, oxygen moves into blood primarily because alveolar

- A. Temperature is always zero
- B. Haemoglobin is absent in blood
- C. Oxygen partial pressure is higher
- D. CO₂ partial pressure is higher

12. The basic respiratory rhythm centre lies in the

- A. Medulla oblongata
- B. Thalamus
- C. Cerebellum
- D. Spinal ganglion

13. Damage to alveolar walls that reduces gas-exchange area is typical of

- A. Emphysema
- B. Arthritis
- C. Anaemia alone
- D. Jaundice

14. Asthma mainly involves inflammation and narrowing of

- A. Coronary arteries
- B. Kidney tubules
- C. Bronchi and bronchioles
- D. Intestinal villi

15. A rise in blood CO₂ normally causes breathing to

- A. Become independent of brain control
- B. Increase
- C. Stop permanently
- D. Remain fixed by definition

ANSWER KEY — check after completing all 15 questions

1.D 2.D 3.A 4.D 5.D 6.A 7.C 8.A 9.D 10.C 11.C 12.A 13.A 14.C 15.B