

Board – CBSE

Class – 11

Chapter – Breathing and Exchange of gases

1. What Is Breathing?
2. Write the organs of respiration in the entities given below:
  - a) Flatworm
  - b) Frog
  - c) Birds
  - d) Cockroach
3. What are the formulae of Respiratory Quotient (RQ)?
4. What is the exchange of gases?
5. Cigarette smoking causes emphysema. Give a reason.
6. What is the role of oxyhaemoglobin after releasing molecular oxygen in the
7. Explain why the diffusion of carbon dioxide by the diffusion membrane per unit difference in partial pressure is much greater compared to oxygen.
8. Mention the main parts involved in initiating a pressure gradient between the lungs and the atmosphere during normal respiration.
9. List the following steps in a sequential manner for the completion of the respiration process.
  - a) Diffusion of oxygen and  $\text{CO}_2$  across the alveolar membrane
  - b) Transportation of gases by blood
  - c) Utilization of oxygen for catabolic reactions by the cells and hence the resultant release of  $\text{CO}_2$
  - d) Pulmonary ventilation through which atmospheric air is drawn in and carbon dioxide-rich alveolar air is given out
  - e) Diffusion of oxygen and carbon dioxide between tissues and blood
10. Give the role of intercostal muscles in respiration.
11. Describe how our brain gets a continuous supply of oxygen from the atmosphere.
12. Explain Erythrocytes can carry out an aerobic metabolism only.
13. Explain briefly the first step is respiration?

14. Write a note on bronchitis and its prevention.
15. What is the difference between carbamino haemoglobin and oxyhaemoglobin?
16. State the differences between the following:
  - a) Expiratory and inspiratory reserve volume
  - b) Total lung capacity and vital capacity
  - c) Occupational respiratory disorder and Emphysema
17. What is functional residual capacity?
18. Describe the transport of  $O_2$  and  $CO_2$ ?
19. What is hypoxia, artificial hypoxia & Anaemic hypoxia?
20. How is respiration regulated?
21. Describe transport mechanism of  $CO_2$
22. Describe in brief the respiratory organs of man.
23. Explain how our heart muscles get a continuous supply of atmospheric oxygen.
24. Define oxygen dissociation curve? Why does it have a sigmoidal pattern?
25. Volume Diffusion of gases occurs in the alveolar region only and not in the other parts of the respiratory system. Why?
26. What is the role of carbonic anhydrase? Show by series of reactions how carbonic anhydrase starts their actions leading to the formation of haemoglobinic acid?