Very Short Answer Type Questions

Q.1. Name two groups of animals showing branchial respiration.

Ans. Crustaceans and fishes show branchial respiration.

Q. 2. Name the organ of respiration in an aquatic molluscs and an insect.

Ans. Aquatic molluscs: Gills. Insects : Trachea.

Q. 3. What is glottis and epiglottis ?

Ans. Glottis is the opening of pharynx into larynx while epiglottis is a leaf-like cartilage that covers the wind-pipe or trachea.

Q. 4. Which respiration can occur both in water and air ?

Ans. Cutaneous respiration.

Q. 5. Name the types of respiration based on the absence or presence of oxygen.

Ans. Based on the absence or presence of oxygen, respiration is of two types-anaerobic and aerobic respiration.

Q. 6. What constitutes the conducting part of the respiratory system ?

Ans. The part of the respiratory system starting with the external nostrils upto the terminal bronchioles constitutes the conducting part.

Q. 7. Define breathing ?

Ans. The process of exchange of O_2 from the atmosphere with CO_2 produced by the cells is called breathing.

Q. 8. Name the double walled sac, which cover the lungs in mammals.

Ans. Pleura.

Q. 9. Where does exchange of gases occurs?

Ans. Exchange of gases occurs in lung alveoli and tissue cells.

Q. 10. What is Adam's apple ?

Ans. The size of larynx in man grows larger and becomes prominent and therefore, it is called as Adam's apple.

Q. 11. How does diaphragm help in respiration ?

Ans. Diaphragm increases the volume of thoracic cavity during inspiration and decreases the volume of thorax during expiration.

Q. 12. What is pulmonary respiration ?

Ans. Respiration by lungs is termed as pulmonary respiration.

Q. 13. Name the structure which prevent the collapsing of trachea.

Ans. Cartilaginous rings are the structure which prevent the collapsing of trachea.

Q. 14. How is the thoracic cavity (chamber) enclosed ?

Ans. Expiring all the air a person is capable of through lungs is called forceful expiration. For example, sneezing is the sudden forceful expiration.

Q. 15. What is Tidal Volume ? **KVS Silchar 2017**

Ans. It is the volume of air inspired or expired in each normal breathe. This is about 500 ml in an adult person.

Q. 16. What is respiratory quotient ? **KVS 2015**

Ans. Respiratory quotient is the ratio of the volume of carbon dioxide produced to the volume of oxygen consumed in respiration over a period of time.

$$\mathrm{RQ} = \frac{\text{Volume of } \mathrm{CO_2} \text{evolved}}{\text{Volume of } \mathrm{O_2} \text{absored}}$$

Q. 17. Name three forms in which CO_2 is transported by the blood.

Ans. As bicarbonates, carbonic acid and carbamino haemoglobin.

Q. 18. Give the vital capacity of lungs of a normal adult person.

Ans. 3.5 to 4.5 litres.

Q. 19. Where does exchange of gases occurs ?

Ans. Exchange of gases occurs in lung alveoli and tissue cells.

Q. 20. What is oxygen haemoglobin dissociation curve ?

Ans. The relationship between the partial pressure of oxygen and percentage saturation of haemoglobin with oxygen is graphically illustrated by a curve called oxygen haemoglobin dissociation curve.

Q. 21. What is carbamino-haemoglobin ?

Ans. carbamino-haemoglobin is the complex formed when carbon dioxide combines with the globin part of haemoglobin.

Q. 22. Which is the common energy carrier in cells?

Ans. ATP is the common energy carrier in cells.

Q. 23. How is the movement of air into and out of the lungs facilitated ?.

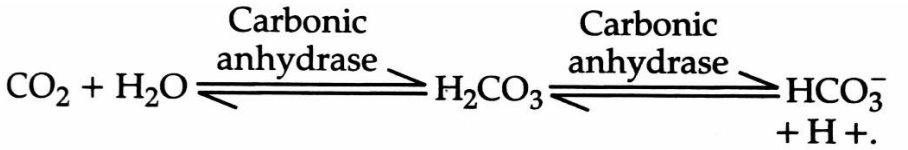
Ans. The movement is facilitated by the creation of pressure gradient between the lungs and the atmosphere.

Q. 24. What is the percentage of O_2 in the inspired an expired air ?

Ans. Inspired air = 21 percent O_2 and expired air = 16 percent O_2.

Q. 25. What is the role of carbonic anhydrase in RBCs?

Ans. About 70% of CO_2 reacts with water to form carbonic acid in RBCs in the presence of enzyme carbonic anhydrase.



Q. 26. State the PO_2 and PCO_2 in the blood after tissue respiration?

Ans. After tissue respiration, PO_2 and PCO_2 in deoxygenated blood are 40 mm Hg and 45mm Hg respectively.

Q. 27. What is vital capacity ?

Ans. The maximum volume of air a person can breathe in after forced expiration. This includes ERV, TV and IRV or the maximum volume of air a person can breathe out after a forced inspiration.