



BIOLOGY

BOOKS - MBD BIOLOGY (ODIA ENGLISH)

BREATHING AND RESPIRATION

Question Bank

1. The amount of air that moves in and out of the lungs, with each normal inspiration and

expiration is called

A. Residual volume

B. Vital capacity

C. Tidal volume

D. None of these

Answer: C



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2. The greatest quantity of the air that can be expired, after a maximum inspiratory effort is its:

A. Residual volume,

B. Tidal volume

C. Vital capacity

D. Lung, volume

Answer: C



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3. Carbonic anhydrase is mostly active in

A. RBC

B. WBC

C. Blood plasma

D. Blood platelets

Answer: A



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4. Maximum amount of CO_2 transport occurs as.

A. Dissolved in plasma

B. Carbamino haemoglobin complex

C. Bicarbonate

D. None of the above

Answer: C



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5. Amount of O_2 present in one gram of hemoglobin is :

A. 20 ml

B. 1.36 ml

C. 13.6 ml

D. None of these

Answer: B



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6. PCO_2 released from body is:

A. 15 mm

B. 23 mm

C. 30 mm

D. 70 mm

Answer: C



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7. In lungs air is separated from the venous blood is by ,

A. Squamous epithelium + tunica externa
of blood vessels

B. Squamous epithelium + endothelium of
blood vessels

C. Transitional epithelium + tunica media
of blood vessels

D. Columnar epithelium + 3 layered wall of
the blood vessel.

Answer: B



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8. A molecule of haemoglobin carries oxygen
molecules

A. 1

B. 2

C. 3

D. 4

Answer: D



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9. Respiratory centre is present in:

A. Medulla oblongata

B. Cerebellum

C. Cerebrum

D. Diencephalon

Answer: A



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10. Vital capacity of lungs is:

A. 1500 ml

B. 2000 ml

C. 5800 ml

D. 500 ml

Answer: C



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11. In carbon dioxide poisoning there is:.

- A. Increase in carbon dioxide concentration
- B. Decrease in oxygen availability
- C. Decrease in free haemoglobin
- D. None of the above

Answer: B



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12. Oxygen carried in inhalation ultimately reaches

A. Bronchioles

B. Bronchus

C. Trachea

D. Alveoli

Answer: D



13. Exchange of gases in lung alveoli occurs through:

- A. Active transport
- B. Osmosis
- C. Simple diffusion
- D. Passive transport

Answer: C



14. Haemoglobin is:

A. Vitamin

B. Skin pigment

C. Blood carrier

D. Respiratory pigment

Answer: D



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15. Vocal cords occur in:

A. Pharynx

B. Larynx

C. Stomach

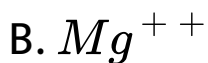
D. Oesophagus

Answer: B



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16. Concentration of carbonic acid does not increase in blood due to presence of



Answer: A



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17. Bicarbonat is produced inside

A. Lymphocyte

B. Erythrocyte

C. Neutrophils

D. Basophils

Answer: B



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18. The cells which do not respire:

A. Epidermal cells

B. Fibroblast

C. Cortical cells

D. Erythrocyte

Answer: D



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19. The layers of uneven columnar cells which form tracheal lining are component of:

A. Brush border epithelium

B. Stratified epithelium

C. Pseudostratified epithelium

D. Ciliated epithelium

Answer: C



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20. Diffusion of oxygen in tissues of cockroach occurs through:

A. Blood

B. Integument

C. Tracheae

D. Tracheole

Answer: D



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21. Oxygen carried by blood is liberated in:

A. Arteries

B. Capillaries of body

C. Capillaries of lungs

D. Heart

Answer: B



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22. Adam's Apple represents:

A. Arytenoid cartilage

B. Cricoid cartilage

C. Thyroid cartilage

D. All of the above

Answer: C



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23. Vital capacity of lungs is:

A. 4.5 - 5. l

B. 3.5 - 4.5 l

C. 2.5 - 3.9 l

D. 1.5 . - 2.5 l

Answer: B



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24. Hiccough (hiccup) is due to activity of:

A. Intercostal muscles

B. Food in air tract

C. Diaphragm

D. Inadequate oxygen in the environment

Answer: C



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25. Apnoea is:

- A. Decreased ventilation
- B. Absence of breathings
- C. Laboured breathing
- D. Increased ventilation

Answer: B



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26. Book lungs are respiratory structures of:

A. Arachnida

B. Mollusca

C. Mammals

D. Earthworms

Answer: A



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27. Bicarbonate ions formed inside erythrocytes pass out into plasma while chloride of plasma pass into erythrocytes, This phenomenon is called:

- A. Bohr effect
- B. Haldane effect
- C. Hamburger phenomenon
- D. Pneumotoxic area

Answer: C



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28. Respiratory centre of the brain is stimulated by:

- A. Carbon dioxide content in venous blood
- B. Carbon dioxide content in arterial blood
- C. Oxygen content in venous blood
- D. Oxygen content in arterial blood

Answer: D



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29. Carbon dioxide entering erythrocytes react with water to form carbonic acid. The enzyme is:

A. Carbonic anhydrase

B. Carboxypeptidase

C. Hydrolase

D. Oxidoreductase

Answer: A



30. Blue copper protein complex contained in some molluscs in their plasma for O_2 transport is

- A. Haemocyanin
- B. Chlcirocruorirt
- C. Bilirubin
- D. Haemoglobin

Answer: A





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31. Determination of oxygen carried by haemoglobin is done by:

- A. pH
- B. Partial pressure of oxygen
- C. Partial pressure of CO_2
- D. All of the above

Answer: B



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32. Gases diffuse over the respiratory surface because of:

- A. P_{O_2} is more in alveoli
- B. P_{O_2} is more in blood than tissue
- C. P_{CO_2} is more in alveoli than the blood
- D. P_{CO_2} is more in blood than tissue

Answer: A



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33. Inspiratory centre is located in:

A. Cerebellum

B. Cerebrum

C. Hypothalamus

D. Medulla oblongata

Answer: D



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34. Maximum amount of CO_2 transport occurs as.

A. Sodium bicarbonate

B. Sodium carbonate

C. Potassium carbonate

D. Magnesium carbonate

Answer: A



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35. Dissociation curve shifts to right when

- A. O_2 concentration decreases
- B. CO_2 concentration decreases
- C. CO_2 concentration increases
- D. Chloride concentration increases

Answer: C



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36. Epithelial lining of tracheoles is

A. Pseudostratified columnar

B. Pseudostratified sensory

C. Squamous sensory

D. Cuboidal and columnar

Answer: D



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37. Thoracic cage of man is formed by

A. Ribs and sternum

B. Ribs, sternum and thoracic vertebrae

C. Rib, sternum and lumbar vertebrae

D. Ribs and thoracic vertebrae

Answer: B



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38. Vital capacity of lungs is:

A. $IRV + ERV + TV$.

B. $IRV + ERV + TV - RV$

C. $IRV + ERV + TV + RV$

D. $TRV + ERV$

Answer: A



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39. In crustaceans respiration occurs through

A. Trachea

B. Gills

C. Book lungs

D. Book gills

Answer: B



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40. Insect tracheal system opens to the outside through:'

A. Spiral valve

B. Peden

C. Spiracle

D. Taenidio

Answer: C



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41. Oxyhaemoglobin dissociated at:

A. Low P_{O_2} in tissue

B. High P_{O_2} in tissue

C. Equal P_{O_2}

D. All time irrespective of P_{O_2}

Answer: A



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42. How many molecules of oxygen are used during glycolysis of one glucose molecule ?

A. 38

B. 34

C. 2

D. 0

Answer: D



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43. With reference to human respiration which is correct?

A. Pulmonary ventilation is equal to alveolar ventilation

B. Alveolar ventilation is less than pulmonary ventilation

C. Alveolar ventilation is more than pulmonary ventilation

D. Pulmonary ventilation is less than alveolar ventilation

Answer: B



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44. Which is true for CO_2 concentration ?

A. More in alveolar air than in: expired air

B. More in expired air than in alveolar air

C. More in inspired air than in expired air

D. More in inspired air than in alveolar air

Answer: A



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45. Respiratory centre in brain is sensitive to:

A. CO_2

B. Hb

C. N_2

D. CO

Answer: A



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46. When CO_2 concentration in blood increase breathing become .

A. Shallower and slow

B. There is no effect on breathing

C. Slow and deep

D. Faster and deeper

Answer: D



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47. Blood analysis of a patient reveals an unusually high quantity of carboxyhaemoglobin content. Which of the following conclusions is most likely to be correct ?

A. Carbon disulphide

B. Chloroform

C. Carbon dioxide

D. Carbon monoxide

Answer: D



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48. In glycolysis, during oxidation electrons are removed by:

A. ATP

B. Glyceraldehyde-3-phosphate

C. NAD^+

D. Molecular oxygen

Answer: C



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49. Lungs are enclosed in:

A. Pericardium

B. Peritoneum

C. Pleural membrane

D. None of these

Answer: C



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50. After taking a long deep breath we do not respire for some second due to :

A. More CO_2 in blood

B. More O_2 in blood

C. Less CO_2 in blood

D. Less O_2 in blood

Answer: C



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51. Which of the following substances if introduced into the bloodstream, would cause coagulation of blood at the site of its introduction ?

A. Prothrombin

B. Fibrinogen

C. Thromboplastin

D. Heparin

Answer: C



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52. Which structure of man is similar to spiracle of cockroach ?

A. Mouth,

B. Anus,

C. Nostril

D. Ear

Answer: C



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53. Capacity of lungs for air in the healthy man

is :

A. 3000 ml

B. 1500 ml

C. 6000 ml

D. 10000 ml

Answer: C



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54. Lung ventilation movement is due to:

A. Coastal muscles and diaphragm

B. Coastal muscles only

C. Diaphragm only

D. Lung wall

Answer: A



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55. Which one of the following statement is incorrect ?

A. In insects circulating body fluids serve to distribute oxygen to tissue.

B. The principle of counter current flow facilitates efficient respiration in gills of fishes.

C. The residual air in lungs slightly decrease the efficiency of respiration in mammals.

D. The presense of non-respiratory air sasc, increase the efficiency of respiration in

birds.

Answer: A



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56. The majority of carbon dioxide produced by our body cells is transported to the lungs:

- A. As carbonates
- B. Attached to haemoglobin
- C. Dissolved in the blood

D. As bicarbonates

Answer: D



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57. Glycolysis occurs in:

A. Nucleus

B. Cytoplasm

C. Mitochondria

D. Lysosome

Answer: C



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58. In glycolysis enzyme playing key role in splitting 6C compound into 3C compound is:

A. Hexokinase

B. Aldolase

C. Isomerase

D. Enolase

Answer: D



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59. Membrane separating air in pulmonary alveoli from blood capillaries :

- A. Alveolar epithelium
- B. Cardiac epithelium
- C. Endothelium blood capillaries
- D. Both a and c

Answer: D



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60. One mole of glucose on metabolism liberates how many kilocalories of energy ?

A. 180

B. 80

C. 160

D. 380

Answer: D



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61. Enzymes of Krebs cycle are located in the matrix of mitochondria except one which is located in the inner mitochondrial membrane.

Name the enzyme.

A. Isocitrate dehydrogenase

B. Malate dehydrogenase

C. Succinate dehydrogenase

D. Lactate dehydrogenase

Answer: C



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62. The overall goal of glycolysis, Krebs' cycle and the electron transport system is the formation of:

A. ATP in one large oxidation reaction

B. Sugars

C. Nucleic acids

D. ATP in small stepwise units

Answer: D



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63. Which one of the following mammalian cells is not capable of metabolising glucose to CO_2 aerobically ?

A. Unstriated muscle cell

B. Liver cell

C. Red blood cell

D. White blood cell

Answer: C



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64. Trachea is made up of ____ cartilage.



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65. Erythrocytes carry out anaerobic respiration only because they don't have _____



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66. Cigarette smoking leads to a disease called _____



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67. Which structure of man is similar to spiracle of cockroach ?



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68. Oxidative phosphorylation occurs in



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69. Volume of air left in the lungs after maximum forced expiration is called_____



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70. Exchange of gases occur through skin is called _____



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71. _____ prevents the. passage of food particles into the respiratory tract.



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72. Partial pressure of CO_2 at sea level is _____
mm of Hg.



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73. In human beings the left lung consists of _____lobes and the right lung consist of _____lobes.



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74. What term is used for sound box of the human?



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75. What are respiratory organs of reptiles, birds and mammals?



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76. What is the structure through which protozoan, sponges and coelenterata respire ?



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77. What is the respiratory organ in arachnids



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78. What is the respiratory organ in Nereis ?



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79. Through what Frog respire during hibernation and aestivation



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80. Name the sense organ in the nasopalatine duct to smell food ?



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81. What are the functional units of lungs ?



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82. What is the double layered covering of the lungs called ?



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83. Name the reflex action which suddenly removes air through the nasal cavity to clean

it



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84. Name the sense organ that lies on the schneiderian membrane:



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85. Name the cord which vibrates in larynx to produce sound



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86. Name the body cavity in which lungs are present.



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87. Which artery brings deoxygenated blood to lungs?



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88. Which blood vessel takes oxygenated blood from lungs



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89. Name the opening between two vocal cords.



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90. Which is respiratory pigment in man ?



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91. Name the metal present in haemoglobin



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92. Which enzyme catalyzes the reaction between CO_2 and H_2O that produces carbonic acid ?



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93. Respiratory centre is present in:



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94. Vital capacity of lungs is:



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95. Due to muscular spasm of diaphragm, a noisy inspiration occurs. What is it called?



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96. Name the muscular portion that separates thoracic cavity from abdominal cavity.



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97. Stomach is a common passage for air and food.



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98. Adam's apple is a protrusion of cricoid cartilage.



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99. Pharynx is a voice box.



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100. Alveoli are sites for food exchange.



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101. Diaphragm is a dome shaped partition of cardiac muscle.



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102. Intake of air is called expiration.

A. True

B. False

C.

D.

Answer: inspiration



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103. W.B.Cs transport O_2 .

A. True

B. False

C.

D.

Answer: R.B.Cs



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104. Myoglobins are present in R.B.Cs.



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105. Carbonic anhydrase is present in W.B.Cs.

A. True

B. False

C.

D.

Answer: R.B.Cs



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106. Respiratory centres are located in cerebellum.

A. True

B. False

C.

D.

Answer: medulla oblongata



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107. What is chloride shift ? Write its significance during respiration.



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108. How does haemoglobin help in the transport of oxygen from lung to tissue ?



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109. What is the role of carbonic anhydrase enzyme in the transport of gases during respiration ?



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110. What is Bohr effect ? Write its significance.



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111. List the three major forms in which CO_2 is transported in our blood.



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112. What is branchial respiration ? Explain.



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113. Differentiate between aerobic and anaerobic respiration.



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114. Distinguish between breathing and respiration.



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115. Differentiate between inspiration and expiration.



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116. Differentiate between lung capacity and vital capacity.



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117. Differentiate between trachea and tracheae.



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118. Give an account of respiratory system in man.



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119. What is pulmonary respiration ? Describe mechanism of pulmonary respiration in man.



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120. Describe the process of transport of oxygen and carbon dioxide in blood.



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121. Draw a labelled a diagram of respiratory system of man.



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