

BIOLOGY

BOOKS - BEYOND PUBLICATION

RESPIRATION - THE ENERGY PRODUCING SYSTEM

Example

1. Distinguish between Inspiration and

Expiration



2. Distinguish between Aerobic and Anaerobic respiration



3. Distinguish between Respiration and Combustion



4. Distinguish between Photosynthesis and Respiration



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5. Even though both are oxidation processes, combustion and respiration are different in many aspects. Explain those differences .



6. State two similarities between aerobic and anaerobic respiration.



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7. Food sometimes enters the wind pipe and causes choking. How does it happen?



8. Why does the rate of breathing increase while walking uphill at a normal pace in the mountains? Give two reasons.



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9. "Air leaves the tiny sacs in the lungs to pass into capillaries." What modification is needed in the statement?



10. Balu said that , "Plants perform Photosynthesis during day time. They respire during night time ".

Do you agree with Balu? Why? Why not?



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11. Why does a deep sea diver carry oxygen cylinder on his/her back?



12. How are alveoli designed to maximise the exchange of gases ?



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13. Where will the release of energy from the glucose in respiration take place '? Mala writes lungs, while Jiya writes muscles. Who is correct and why?



14. What is the role of epiglottis and diaphragm in respiration?

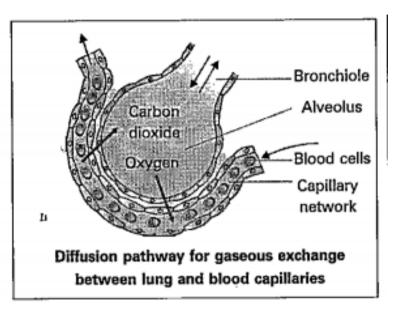


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15. How does gaseous exchange take place at blood level ?



16. Analyse the cellular respiration in human with the help of the diagram given here





17. Explain the mechanism of gaseous exchange at bronchiole level.



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18. After a vigorous exercise or work we feel pain In muscles. What is the relationship between pain and respiration



19. Raju said , " Stems also respire along with leaves in plants ". Can you support this statement? Give your reasons



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20. What will happen, if there is no diaphragm in the human body?



21. if you have a chance to meet pulmonologist , what questions are you going to ask about pulmonary respiration ?



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22. What procedure do you follow to understand anaerobic respiration in your school laboratory?



23. In the experiment of anaerobic respiration with yeast

What did you understood about anaerobic respiration?



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24. How you can prove that carbondioxide is essential for plants?



25. How do yeast cells convert glucose solution to CO_2 and ethyl alcohol ?



26. What are your observations in combustion of sugar activity?



27. Collect information about cutaneous respiration in frog. Prepare a note and explain

them in your classroom.



28. How does frog respire with the help of skin



29. Collect information about respiratory diseases (because of pollution, tobacco) and discuss with your classmates.



30. What is the pathway of air from nostril to alveolus?



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31. Draw a block diagram showing events in respiration . Write what you understood about cellular respiration :



32. How do you appreciate the mechanism of respiration in our body?



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33. Prepare an article on anaerobic respiration to present school symposium



34. Prepare a cartoon on discussion between haemoglobin and chlorophyll about respiration.



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35. Can it be said that Priestly's experiment helped us to find out more about composition of air? How?



36. What was produced by combustion according to Lavoisier?



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37. What didi Lavoisier find out about air from the experiments?



38. What conclusion can be drawn from Lavoisier's experiments?



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39. Which gas do you think is Lavoisier talking about when he says chalky acid gas ?



40. Which gas according to Lavoisier is respirable air ?



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41. What steps in the process of respiration does Lavoisier mention ?



42. It is a common observation that our breath is warmer than the air around us, does respiration have anything to do with this?



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43. What does this experiment indicate?



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44. Which gas turns lime water milky?

45. Which gas to do think might be present in greater quantities ?



46. We are also aware of the fact that water vapour deposits on a mirror if we breathe out on it , where does this water vapour come from in Exhaled air ?

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47. What do you notice? What happens to your breath as you try to swallow



48. Why are we advised not to talk while eating food?



49. What is the role of diaphragm and ribs in respiration? Are both active in man and woman?



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50. What is helping you to swallow without deflecting it to the wind pipe?



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51. What can be concluded from this?



52. What happens during the process of breathing?



53. Which gas needs to be removed from our body during exhalation? Where does the extra amount of gas come from ?



54. What is the composition of inhaled air?



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55. When exhaled air is compared with inhaled air, is there any difference in composition?



56. What has raised the percentage of carbon dioxide in exhaled air?



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57. Why does the amount of oxygen vary between exhaled and inhaled air?



58. Do cells of alveoli or lungs also require oxygen to carry out cellular respiration? Why / Why not?



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59. After undergoing strenuous exercise we feel pain in muscles, does adequate oxygen reach the muscles?



60. What is being formed in the muscles?



61. Which gas is released when a baker prepares a dough by mixing yeast in it?



62. Respiration is an energy releasing pathway do you agree? Justify your answer.





63. What are the other ways in which our body loses heat?



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64. Is the rate of heat production always the same



65. Why does the velocity of gas molecules increase with increase in temperature?



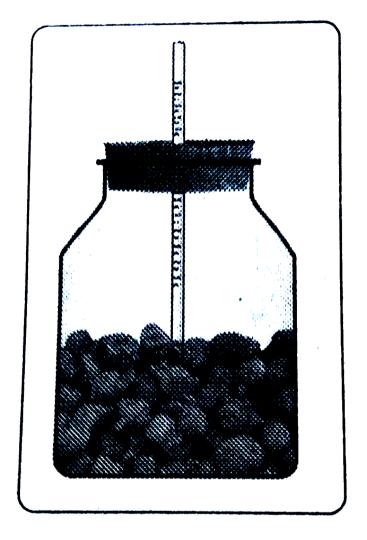
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66. Does the temperature increases steadily or does it abruptly increase at a time of the day?



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67. What change did you observe in the thermometer in the given experiment?



Where does the heat come from?



68. How do you test the presence of water vapour and heat in the exhaled air?



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69. What happens to your breathe as you try to swallow the food?



70. What is helping you to swallow without deflecting it to the wind pipe?



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71. What procedure do you follow to understand anaerobic respiration in your school laboratory?



72. Which gas is evolved during the combustion of sugar?



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73. How you can prove that carbondioxide is essential for plants?



74. Write the experimental procedure and draw the arrangement of apparatus to show that CO_2 is evolved in respiration.



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75. How can we show that heat is liberated during respiration



76. You might have conducted and experiment in your school laboratory to prove that CO_2 is essential for Photosynthesis. Raju, who is in 9th class, wanted to perform the same experiment. He had some doubts regarding this experiment. Clarify them.

Write the apparatus used to perform this experiment.



77. Draw the graphs of $y=2^x$, $y=4^x$, $y=8^x$ and $y=10^x$ in a single graph and mention your observation



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78. Why does the velocity of gas molecules increase with increase in temperature ?

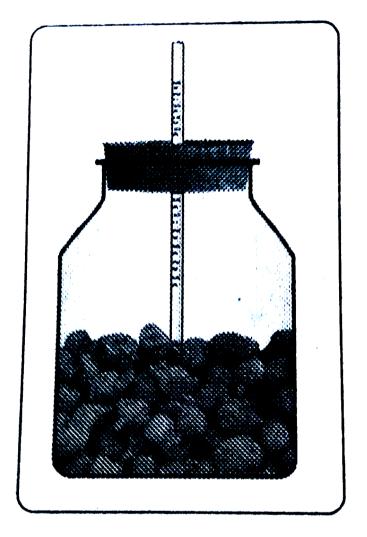


79. Does the temperature increases steadily or does it abruptly increase at a time of the day?



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80. What change did you observe in the thermometer in the given experiment?



Where does the heat come from?



81. What will happen if the respiratory tract is not moist?



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82. Are both lungs similar in size?



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83. Why are alveoli so smell and uncountable in number?



84. In which organisms does exchange of gases take place through diffusion ?



85. What are the other areas on the plant body through which gaseous exchange takes place?



86. How does breathing takes place in mangrove plants?



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87. Define a continuous function at a point.



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88. What are variations? Explain with a suitable example.



89. How is energy released in the cytoplasm



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90. In which process respiration takes place?



91. How does respiration takes place in plants where roots are present in wet places?



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92. Where can we can observe breathing or aerial roots?



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93. What is fermentaiton?



94. What are the respiratory organs of pulmonary respiration ?



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95. What is cellular respiration?



96. What are the factors that control respiration?



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97. Site of protein synthesis in a prokaryotic cell is



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98. What is the use of ATP?



99. What is respiration?



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100. Mention the uses of fermantation?



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101. What is combustion?



102. What is aerobic respiration?



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103. I occur when 'oxygen debt ' arises in muscles . I cause muscle cramps. Who am I?



104. What is respiration?

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105. How is chest cavity formed?



106. What is breathing?



107. Name the organs involved in respiration.



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108. How does inhalation takes place?



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109. How does exhalation takes place?



110. Name the structure that plays important role in respiratory movements.



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111. Name the part that plays major role in respiratory movements in woman .



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112. How are the lungs protected?



113. Why are the lungs not of the same size?



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114. What is the shape of red blood cells?



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115. Why are R.B.C red in color?



116. What is the life span of RBC?



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117. What is the place where the dead RBC are destroyed?



118. Where are new blood cells are formed?



119. Which bacteria converts pyruvic acid to lactic acid?



120. What are the end products of aerobic respiration?



121. What are the end products of anaerobic respiration?



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122. What is the first stage In respiration?



123. What is palate?



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124. Name the respiratory organs present in fish



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125. What is cutaneous respiration?



126. What type of respiration do you find in insects?



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127. What are alveoli?



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128. What is the function of epiglottis?



129. What are the elements present in haemoglobin and chlorophyll?



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130. Chlorophyll contains



131. How is chlorophyll uefull to nature?



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132. What happens to your breathe as you try to swallow the food?



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133. Can we say that combustion and respiration are almost same actions. What

Watch Video Solution 134. Function of epiglottis is **Watch Video Solution 135.** Fermented idli, dosa produce smell. Name the microorganism responsible for producing such smell.

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evidences do you have for this?

136. What is the pathway of air from nostril to alveolus?



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137. What are pleura?



138. Read the sentence, find the error and rewrite it.

At a height of 13 km, the concentration of oxygen is much lower about 1/6th at sea level.



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139. What is Glycolysis?



140. What is the fate of pyruvate in the absence of oxygen in plants?



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141. In aerobic respiration pyruvate is converted into?



142. What is the main reason for feeling pain in muscles after strenuous exercise ?



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143. What is anaerobic respiration?



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144. In tracheal, respiratory system which carry air directly to the cells in the tissues ?



145. What are the number of ATP molecules produced when one glucose molecule is completely oxidised?



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146. Why is the rate of breathing in aquatic organisms such faster than terrestrial organisms?



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147. What has raised the percentage of carbon dioxide in exhaled air?



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148. What are the reasons for the animals to develop different types of respiratory organs?



149. What would be the consequences of deficiency of haemoglobin in our bodies ?



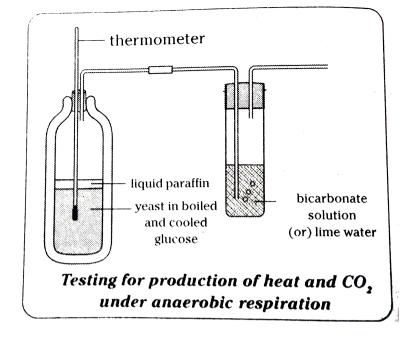
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150. What is cellular respiration?



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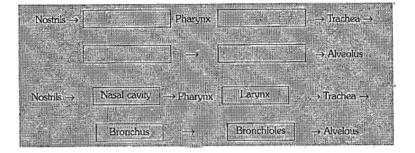
151. To observe Anaerobic respiration a student conducted experiment with yeast. In this experiment,



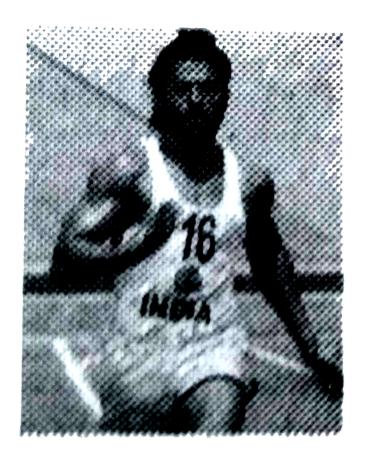
What are the observations he made during the experiment?



152. Filling in the blank in the pathway of air from nostrill ot alveolus.







153.

Why did this athlete get muscle cramps after his running race?



154. How are the lungs designed in human beings to maximise the area for exchange of gases?



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155. What advantage over an aquatic organism does a terrestrial organism have with regard to obtaining oxygen for respiration?



156. What is the reason for the high breathe rate in a weight lifter during weight lifting?



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157. What do you know about carbonmonoxide poisoning? How does it show a hazardous impact on helath?



158. Mention in a sequence the parts involved in human respiration.



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159. What is the total lung capacity of human being ?



160. Why is human life impossible at higher altitude without a supplementary supply of oxygen?



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161. How does the respiration in amoeba and hydra occur through diffusion ?



162. Write a brief note on tracheal respiration in insects .



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163. Why are special respiratory organs are absent in unicellular organisms?



164. How the trachea is prevented from collapsing?



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165. If a person has haemoglobin levels of 8g/dl, what would this result in?



166. What are the reasons for the animals to develop different types of respiratory organs?



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167. Collect the information about respiratory rates in different ages in man.



168. Collect the information about different respiratory organs in different animals.

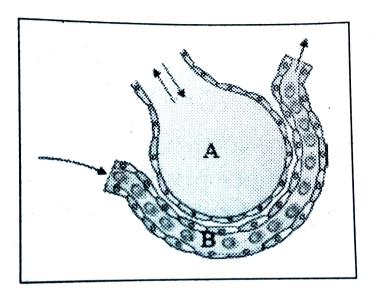


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169. How do you appreciate the role of ATP as energy currency?



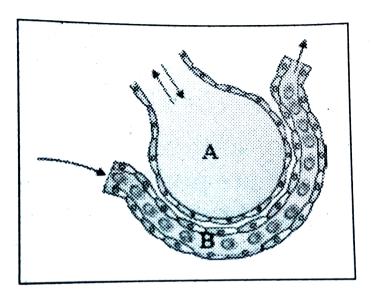
170. Observe the diagram.



This picture is related to which biosystem?



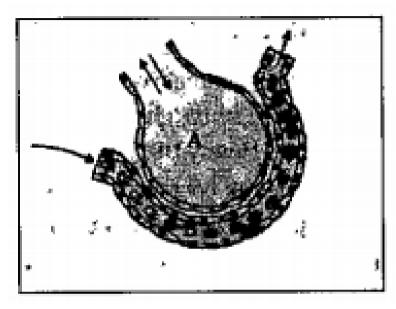
171. Observe the diagram.



Write the names of the parts of A,B



172. Observe the below diagram.

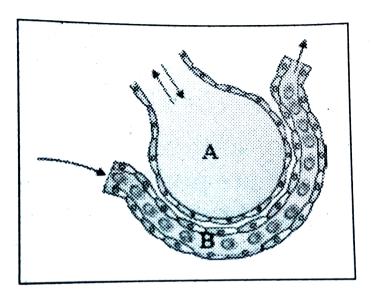


To which

system they are linked with?



173. Observe the diagram.



Which process is happening here? What happens as a result of it?



174. A person reached a specific distance once on foot and once by running . In which situation his legs pain ? Why



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175. What is the advantage of the wet and warm passage of air from the nostrils to capillaries?



176. In the experiment of anaerobic respiration with yeast

Why was liquid paraffin poured on glucose?



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177. In the experiment of anaerobic respiration with yeast

What did you understood about anaerobic respiration?



178. See the below table . Write what you know from it .

Gas	% in inhaled air	% in exhaled air
Oxygen	21	16
Carbon dioxide	0.03	4.4
Nitrogen	78	78



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179. Why are we advised not to talk while eating food?



180. You have learnt that anabolic and Catabolic reactions produces energy in plants. What are those two reactions? Write for differences in between these two reactions



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181. if you have a chance to meet pulmonologist, what questions are you going to ask about pulmonary respiration?



182. Which gas is released when a baker prepares a dough by mixing yeast in it?



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183. What are the events of steps in respiration?



184. What will happen if the respiratory tract is not moist?



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185. Why are alveoli so smell and uncountable in number ?



186. Why does a deep sea diver carry oxygen cylinder on his/her back?



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187. Write a brief note on respiration in plants.



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188. How do you show the presence of carbondioxide in exhaled air?



189. Describe the structure of mitochondria with the help of a diagram.



190. Which cell organelle is called energy currency or power house of cell ?



191. Describe the structure of mitochondria with the help of a diagram.



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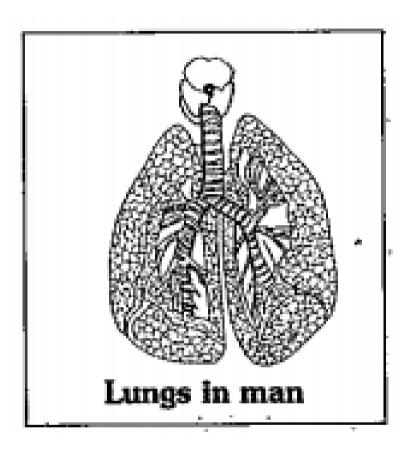
192. Why does the exchange of gases happen only in alveoli, though arteries are present in pharynx, trachea and bronchus?



193. Draw a neat labelled diagram of power house of a cell. What is the function of inner membrane?



194. Label the parts for given diagram.





195. Raju asked his teacher,while playing I get fatigue. Write the reasons for this and method to reduce the fatigue.

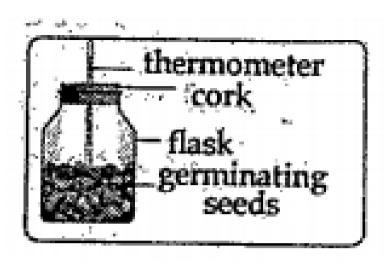


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196. What is the aim of this experiment?

What changes do you observe in thermimeter

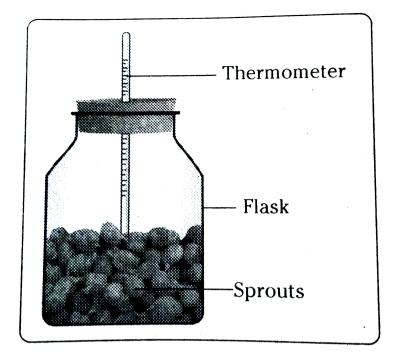
reading?





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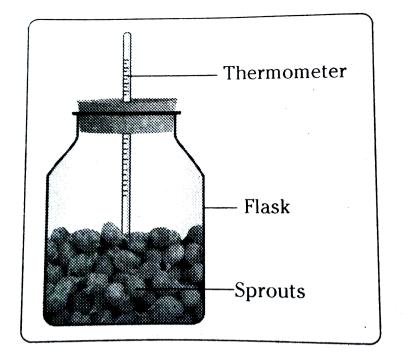
197. In your opinion , where did this heat come from ?





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198. What precaution should we take , while doing this experiment ?





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199. Which of the following are essential to conduct the experiment to prove that heat is liberated during respiration?

(i)Flask , (ii)Thermometer , (iii) Cork , (iv)Sprouting seeds , (v)Lime water , (vi)Dry seeds.



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200. Why is human life impossible at higher altitude without a supplementary supply of oxygen?



201. The concentration of oxygen in air decreases as we go up from sea level. Explain briefly.



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202. What are different ways in which glucose is oxidised to provide energy in various organisms?



203. What are different ways in which glucose is oxidised to provide energy in various organisms?



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204. Write the adaptations seen in plants living in water logged conditions.



205. Write the adaptations seen in plants living in water logged conditions.



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206. Explain briefly about Pranayama - the art of breathing.



207. How the capacity of lungs can be improved by yoga?



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208. What are the functions carried out by adrenalin?



209. Explain the evolutionary changes in energy releasing system.



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210. Collect the information about different respiratory organs in different animals.



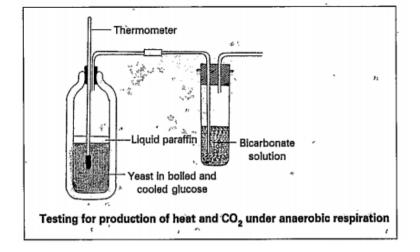
211. Match the following.

Column-I Redox change	Column-II Equivalent weight	Column-HI Number of electrons involvedin change
A) $MnO_2 \rightarrow Mn_2O_3$	i) $E_{MnO_2} = M/2$	P) 4
B) $MnO_2 \rightarrow MnSO_4$	ii) $E_{MnO_2} = M/4$	Q) 2
C) $MnO_2 \rightarrow Mn$	$E_{MnO_2} = M/1$	R) 3
D) $KMnO_4 \rightarrow Mn_2O_3$	$E_{MnO_4} = M/4$	S) 8



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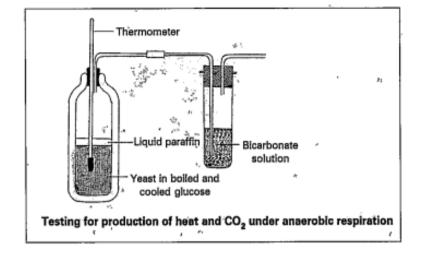
212. Observe the above diagram and answer the following questions.



What does the above setting (diagram) indicate?



213. Observe the above diagram and asnwer the following questions.



observe the above diagram and answer the following questions.

Why boiled and cooled glucose is covered with paraffin.

What is the use of adding diazine green to glucose solution? What change you notice in glucose solution?

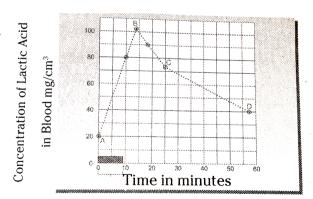
Why lime water is used in this experiment.

Why bulb of thermometer is dipped in the glucose water.



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214. Observe the following graph and answer the questions given below .



Graph showing effects of vigorous excercise on the concentration of lactic acid in blood.

What was the concentration of lactic acid in the blood to start with ?



215. Heat is evolved during respiration. How can you prove it?



216. Match the following

Column-I

- A) Orbital angular momentum of the electron in a hydrogen- like atomic orbital.
- B) A hydrogen-like one-electron wave function obeying Pauli's principle.
- C) Shape, size and orientation of hydrogenlike atomic orbitals.
- D) Probability density of electron at the nucleus in hydrogen-like atom

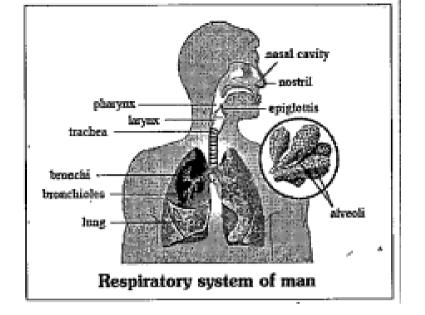
Column-II

- P) Principal quantum number
- Q) Azimuthal quantum number
- R) Magnetic quantum number
- S) Electron spin quantum number



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217. Observe the following diagram and answer the following questions.

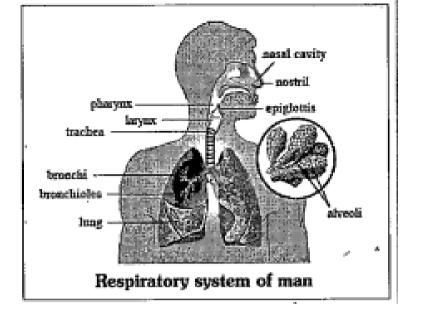


What is the name of pharynx?



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218. Observe the following diagram and answer the following questions.

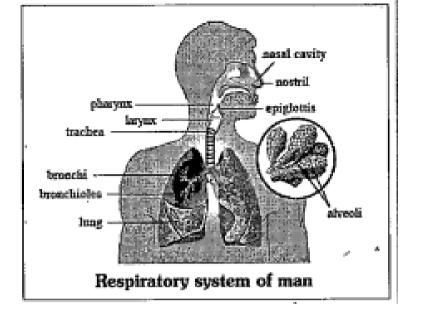


What are the smaller units in lungs?



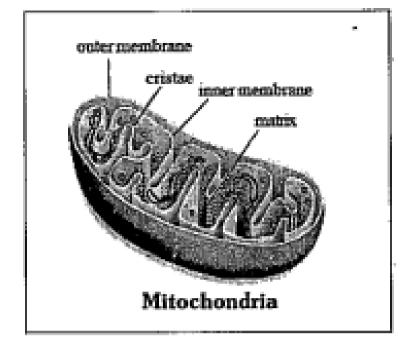
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219. Observe the following diagram and answer the following questions.



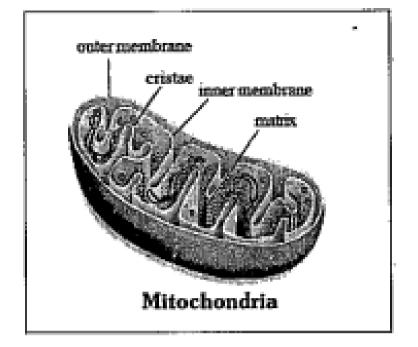
Write about the membrane around lungs.





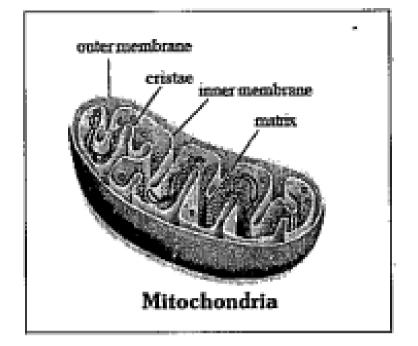
Identify the parts fro the given diagram.





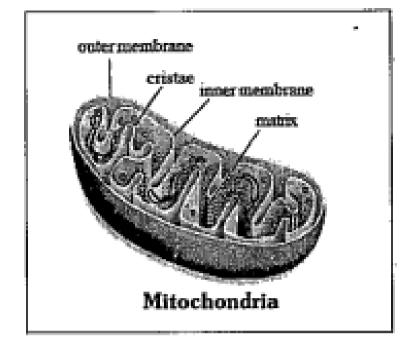
What is the importance of matrix.





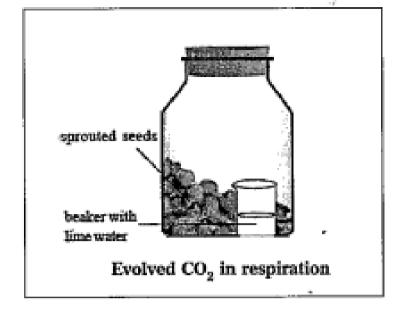
Why it is called as power house.





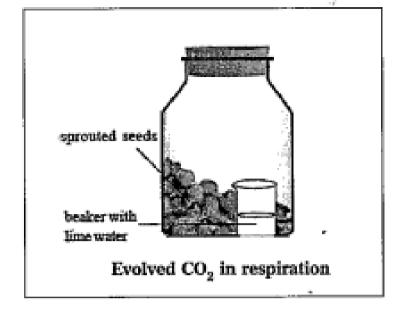
What is meant by Cristae?





Give reasons for taking germinations seeds for this experiment.

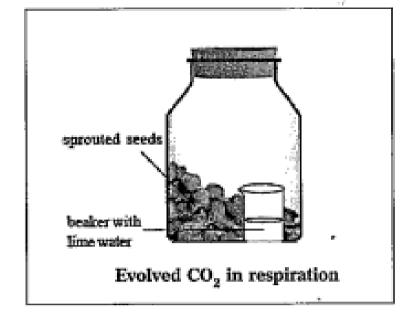




Why lime water turned into milky white?

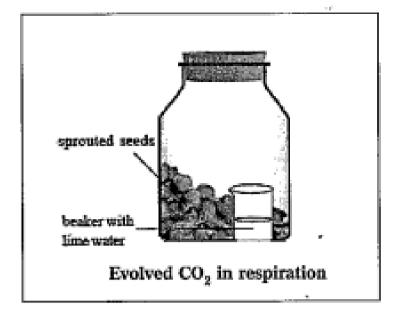


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Mention the process taken place in this experiment.





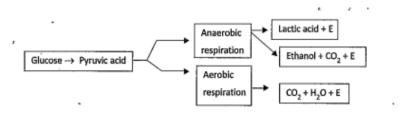
What is the purpose for doing this experiment.



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Exercise

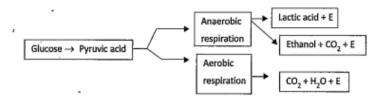
1. Read the following flow chart and answer the questions



What is the process takes place for the formation of pyruvic acid?



2. Read the following flow chart and answer the questions

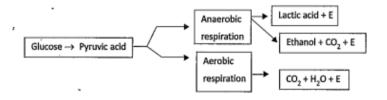


In which organisms lactic acid is produced?



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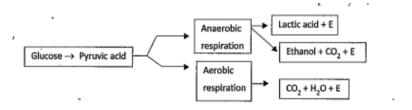
3. Read the following flow chart and answer the questions



In yeast what type of respiration takes place?



4. Read the following flow chart and answer the questions



Write the fate of Glucose.



5. Read the passage and answer the following questions

When oxygen present in the air in within the normal limits, then almost of all it is carried in the blood by binding to haemoglobin present in RBC blood cells.

Name the protein present in blood.



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6. Read the passage and answer the following questions

When oxygen present in the air in within the normal limits, then almost of all it is carried in the blood by binding to haemoglobin present in RBC blood cells.

Which carries oxygen to each cell?



7. Read the passage and answer the following questions

When oxygen present in the air in within the normal limits, then almost of all it is carried in the blood by binding to haemoglobin present in RBC blood cells. \backsim

What compound is formed after combining of oxygen with heamoglobin.



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8. Read the passage and answer the following questions

When oxygen present in the air in within the normal limits, then almost of all it is carried in the blood by binding to haemoglobin present in RBC blood cells.

Haemoglobin is similar with which structure present in plant?



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9. Read the passage and answer the following questions.

Stomata in leaf where gaseous exchange takes place in plants. There are other areas on the plant body as well through which gaseous exchange takes place like surface of roots, lenticells on stem etc., some plants have specialized structures like breathing roots of mangroove plants as well as tissue in orchids that produces oxygen. Oxygen also require for production of energy.

What are the structure in plants for gaseous exchange?



10. Read the passage and answer the following questions.

Stomata in leaf where gaseous exchange takes place in plants. There are other areas on the plant body as well through which gaseous exchange takes place like surface of roots, lenticells on stem etc., some plants have specialized structures like breathing roots of mangroove plants as well as tissue in orchids that produces oxygen. Oxygen also require for production of energy.

How gaseous exchange takes place in mangroves?



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11. Read the passage and answer the following questions.

Stomata in leaf where gaseous exchange takes place in plants. There are other areas on the plant body as well through which gaseous exchange takes place like surface of roots, lenticells on stem etc., some plants have specialized structures like breathing roots of mangroove plants as well as tissue in orchids that produces oxygen. Oxygen also require for production of energy.

What is the importance of oxygen?



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12. Read the following table answer the following questions.

ORGANISM	ORGAN	PROCESS
Amoeba / Hydra	-	Diffusion
2. Insects	Trachea	Tracheal
3. Fish	, Gills	Branchial
4. Frog	Skin	Cutaneous

What type of respiration takes place in insects?

13. Read the following table answer the following questions.

ORGANISM	ORGAN	PROCESS
Amoeba / Hydra	-	Diffusion
2. Insects	Trachea	Tracheal
3. Fish	Gills	Branchial
4. Frog	Skin	Cutaneous

Skin is the respiratory organ in which organisms?



14. Read the following table answer the following questions.

ORGANISM	ORGAN	PROCESS
Amoeba / Hydra	-	Diffusion
2. Insects	Trachea	Tracheal
3. Fish	, Gills	Branchial
4. Frog	Skin	Cutaneouş

What is the process takes place in unicellular organisms.



15. Read the following table answer the following questions.

ORGANISM	ORGAN	PROCESS
Amoeba / Hydra	-	Diffusion
2. Insects	Trachea	Tracheal
3. Fish	Gills	Branchial
4. Frog	Skin	Cutaneous

What are the organs present in plumonary respiration?



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16. Exhaled air contains ___ and ___



17. A flap like muscular valve controls movement of air and food is



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18. Energy currency of the cell is



Watch Video Solution

19. Lenticels are the respiratory organs that exist in part of the plant.

20. Mangrove trees respire with their _____



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21. We will find vocal cords in

A. Larynx

B. Pharynx

C. Nasalcavity

D. Trachea

Answer:



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22. Cluster of air sacs in lungs are called

- A. Alveoli
- B. Bronchi
- C. Bronchioles
- D. Air spaces



Watch Video Solution

23. Which of the following is correct?

- A. The diaphragm contains volume of chest cavity increased.
- B. The diaphragm contracts volume of chest cavity discreased.

- C. The diaphragm expands volume of chest cavity increased
- D. The diaphragm expands volume of chest cavity decreased



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24. Respiration is a catabolic process because of

- A. Breakdown of complex food molecules
 - B. Conversion of light energy
 - C. Synthesis of chemical energy
- D. Energy storag



Watch Video Solution

25. Energy is stored in

A. Nucleus

- B. Mitochondria
- C. Ribsosmes
- D. Cell well



- **26.** The air which helps in burning is
 - A. Oxygen
 - B. Carbon dioxide

- C. Nitrogen
- D. None



- 27. the acid formed in stomach is-
 - A. Oxygen
 - B. Carbon dioxide
 - C. Nitrogen

D. Water vapour

Answer:



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28. Which of the following group constitute the right pathway of gases in the respiratory system?

A. Nostrils ightarrow Nasal cavity ightarrow Larynx ightarrow

Pharynx ightarrow Bronchus ightarrow Trachea ightarrow

Bronchioles ightarrow Alveolus ightarrow Blood

B.Nostrils ightarrow Nasal cavity ightarrow Pharynx ightarrow

Larynx ightarrow Trachea ightarrow Bronchus ightarrow

Bronchioles ightarrow Alveolus ightarrow Blood

A. Larynx

B. Trachea

C. Nasalcavity

D. Lungs

Answer:



- **29.** Which of the following is correct?
- (i)The diaphragm contracts volume of chest cavity increased
- (ii)The diaphragm contracts volume of chest cavity decreased
- (iii)The diaphragm expands volume of chest cavity Increased
- (iv)The diaphragm expands volume of chest cavity decreased
 - A. Expiration
 - B. Respiration

- C. Inspiration
- D. All the above



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30. What has raised the percentage of carbon dioxide in exhaled air?

- A. 0.0004
- B. 0.0003

C. 0.04

D. 0.05

Answer:



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31. Name the oxygen carrying pigment in blood

A. Chloroplast

B. Haemoglobin

- C. Poryhperin
- D. All of these



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32. What is the percentage of oxygen in the exhaled air?

- A. 0.14
- B. 0.15

C. 0.16

D. 0.17

Answer:



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33. Read the sentence, find the error and rewrite it.

At a height of 13 km, the concentration of oxygen is much lower about 1/6th at sea level.

A. Medium
B. high
C. Nill
D. less
Answer:
Watch Video Solution
34. Cellular respiration
A. Cytoplasm

- B. Mitochondria
- C. Nucleus
- D. None



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35. When vegetation is brunt in the absence of oxygen, which of the following will be formed?

A. Sugar

- B. Starch
- C. Ethanol
- D. Lactic acid



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36. What are the substances that are used for the production of energy in all living organisms?

- A. Celluose
- B. Starch
- C. Gulcose
- D. Sucrose



Watch Video Solution

37. How does the respiration in amoeba and hydra occur through diffusion ?

B. Osmosis
C. Diffusion
D. Inhalation
Answer:
Watch Video Solution
Watch Video Solution
Watch Video Solution 38. Alveoli occurs in

A. Transpiration

B. Trachea
C. Gills
D. Lungs
Answer:
Watch Video Solution
39. Terrestrial animals take oxygen from
Watch Video Solution

40. What is cutaneous respiration?
A. Cockroach
B. Earthworm
C. Crab
D. Parrot
Answer:
Watch Video Solution
41. Skin has no respiratory role in

B. Lizard
C. Frog
D. Salamandar
Answer:
Watch Video Solution
42. Amphibious animal
A. Leech

A. Earthworm

- B. Earthworm
- C. Frog
- D. cockroach



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43. I am a flap like structure, arresting the entry of food into respiratory tract. Who am I?

A. Tongue

B. Gills C. Epiglottis D. Operculum **Answer: Watch Video Solution**

44. Name the respiratory organs present in fish

A. Fish

- B. frog
- C. pigeon
- D. butterfly



- 45. Trachea are found in
 - A. Earthworm
 - B. Cockroach

- C. Fish
- D. Frog



- **46.** Name the structure that plays important role in respiratory movements.
 - A. Epiglottis
 - B. Sinus venosus

- C. Stomach
- D. Diaphragm



- **47.** Pulmonary respiration occurs through
 - A. Skin
 - B. Gills
 - C. Trachea

D. Lungs

Answer:



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48. Photosynthesis is

- A. Cytoplasm
- B. Chloroplat
- C. Mitochondria
- D. Nuleus



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- **49.** Dark respiration occurs in
 - A. Chloroplast
 - B. Cytoplasm
 - C. Mitochondria
 - D. All of these

Answer:

50. Name the reactions taking place in the presence of sunlight.

A. light

B. chlorophyll

C. Optimum temperature

D. Moisture

Answer:

Watch Video Solution

51. Energy is released in the process of

A. Synthesis of protiend

B. Synthesis of carbohdydrates

C. Cell division

D. Oxidation of glucose

Answer:



52. Photosynthesis is

- A. Constructive process
- B. Anabolic process
- C. Cantabolic process
- D. A and B

Answer:



53. Photosynthesis is

- A. Oxidation of glucose
- B. Photosynthesis
- C. Reduction of CO₂
- D. Sunlight

Answer:



54. Water molecule is formed in

- A. Respiration
- B. Photosynthesis
- C. Cell division
- D. Transpiration

Answer:



55. Dark respiration occurs in

- A. plants only
- B. Plants and animals
- C. All living organisms
- D. Bacteria

Answer:



56. From wh	ere do the	single	celled	organisms
get oxygen ?)			

- A. Air
- B. Soil
- C. Water
- D. Both water and air



57. The rate of respiration is measured by

A. $0^{\circ}C$

B. $45^{\circ}C$

C. $100^{\circ}\,C$

D. `60^@C

Answer:



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58. The structure that acts as lid over glottis

- A. Epiglottis
- B. Gill amelia
- C. Larynx
- D. Pharynx



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59. Layrnx is

A. A part of tracheas

- B. A part of lung
- C. An upper part of tracheas
- D. A part of bronchlole



Watch Video Solution

60. We can use lime water to test the presence of CO_2 in respiration experiments. What change do you observe in lime water ?

- A. Change in colour
- B. change in smell
- C. change in state
- D. change in shape



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61. What happens to plant if the rate of respiration becomes more than the rate of photosynthesis?

- A. 1 true
- B. 2 true
- C. 1 and 2 true
- D. 2 and 3 true



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62. (CH_2O)n+O_2 -----CO_2+H_2O+ Energy

What does this equation indicate?

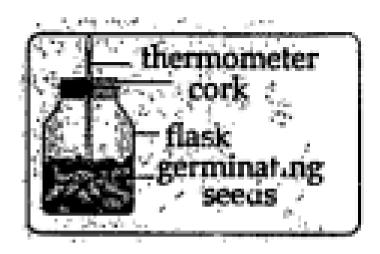
- A. Photosynthesis
- B. Excretion
- C. Respiration
- D. Fermentation



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63. The following experiment is set up to show that the heat is given out during respiration But there is no rise in the thermometer This is

because



A. germinating seeus have not been kept under water in the flask

- B. The cork on the flask is made of rubber
- C. Dry seeds are kept in the flask
- D. no heating apparatus is present



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64. Photosynthesis and respiration both are called

- A. Anabolic activities
- B. Catabolic activities
- C. Metabolic activities

D.



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65. Which of the following group represent the correct sequence of steps in respiration

A.Breathing ightarrow Gaseous exchange at lungs

ightarrow Gaseous exchange at tissue level ightarrow Gastransport by blood ightarrow Cellular respiration .

B. Breathing \rightarrow Gaseous exchange at lungs

ightarrow Gas transport by blood ightarrow Gaseous

exchange at tissue level ightarrow Cellular respiration.

A. 1,2,3,4

B. 3,1,2,4

C. 4,2,1,3

D. 4,3,1,2

Answer:



66. Observe the following equation and find out the correct answer for? (CH_2O)n+O_2 ---CO 2 + H 2O+?

- A. Energy is not released
- B. Energy is not oxidised
- C. More energy is released
- D. Ethyl Alcohol is formed with small amount energy

Answer:

67. What is the chemical used to identify the presence of oxygen is anaerobic respiration experiment?

A. Diazene green

B. Potassium hydroxide

C. Betadin

D. the rod containing Sulphur

Answer:

68. Observe the statemens

Manju boils the milk immediately after taking out from the refrigerator.

Kavitha keeps the milk outside for some time to get the room temperature, than boils the milk.

A. a,b are correct

B. a correct b wrong

C. a wrong b correct

D. a, b both are wrong

Answer:



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69. Arrange the flow chart in a proper way.

A. 1,2,4,5,3

B. 3,4,5,1,2

C. 1,5,4,3,2

D. 1,2,3,4,5

Answer:



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70. Arrange the following pathways in a proper way.

A. Nostrils---- Pharynx ---- Trachea ----- Blood

B. Blood---- Nostrils ----Nasal cavity----

Pharynx----- Trachea

C. Larynx----Trachea---- Bronchioles----

Nostrils

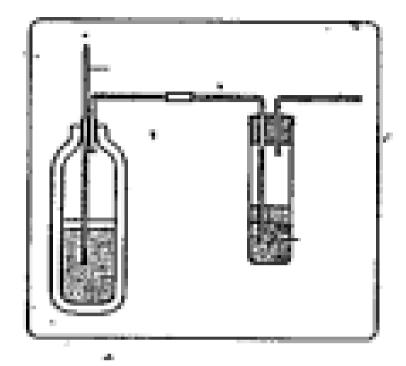
D. Nostrils ----Pharynx----- Trachea---

- Alveolus

Answer:



71. Observe the given apparatus and write the name of the experiment.



A. Photosynthesis

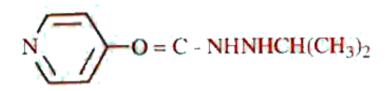
B. Mechanism of respiration

C. Mechanism of anaerobic respiration

D. O₂ Heat



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72.

The drug is a

A. a

B. a,b

C. c,a,d

D. d

Answer:



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73. Vasu said that Ethanol is released on fermentation. Bose said that fermentaiton is the process of anaerobic respiration.

A. Both are wrong

B. Both are correct

C. Vasu is correct

D. Bose is correct

Answer:



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74. Match the following.

List - I List - II

- Grass hopper a) Gills
- FishTrachea
- 3) Frog c) Skin

- A. 1-c,2-b,3-a
- B. 1-a,2-c,3-b
- C. 1-a,2-b,3-c
- D. 1-b,2-a,3-c



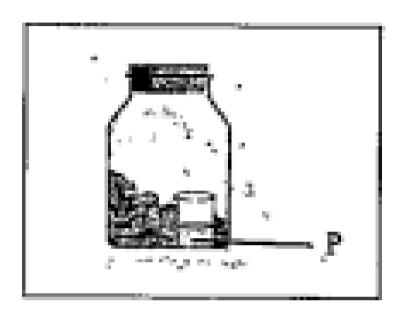
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75. Athelete suffer cramps when they participate in running race. This is due to

- A. Conversion of pyruvate to ethanol
- B. Conversion of pyruvate to gulocose
- C. Non converison of gluse pyruvate
- D. Conversion of pyruavate to lactic acid



76. What is the purpose of the experiment?



A. To test the presence of oxygen in respiration

B. To test the evloution of CO_2 in respiration

C. To test the evoluiton of heat in respiration

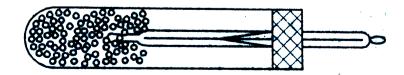
D. To test anabolic activity

Answer:



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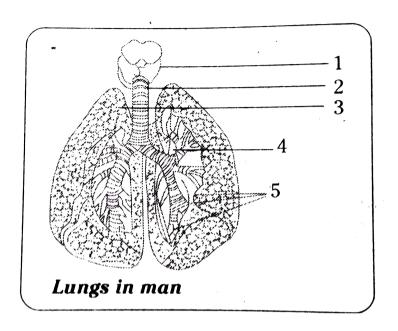
77. The following alternative apparatus arrangement is to prove



- A. CO₂ is evolved in respiration
- B. O₂ is evolved in respiration
- C. CO₂ is released in respiration
- D. Heat is released in respiration



78. Label the parts for given diagram.



A. CO₂ capillary network

B. Alvelous, O₂

C. O_2,CO_2

D. Blood cell, CO₂



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79. The air we breathe out is warmer than air because.

- A. Heat is liberated
- B. Carbon dioxide is leberated
- C. Nitrogen is liberated
- D. All the above



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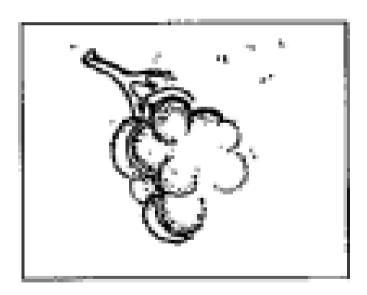
80. Oil is applied on the lowe side of the leaf

- A. Photosynthesis does not take place
- B. Respiration does not take place
- C. Transpiration does not take place
- D. All the above



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81. Identify the following figure



A. Lungs

- B. Chest cavity
- C. Alveoli
- D. Heart



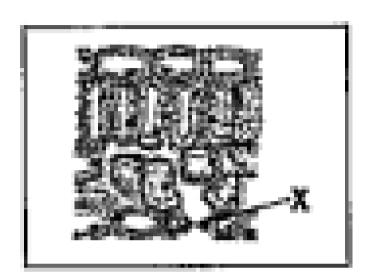
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82. What are the respiratory organs of Dolphins?

A. Lings

- B. Gills
- C. Skin
- D. Trachea





A. Air space

B. Stomata

C. Mesophyll

D. Epidermis



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84. From Nasal cavity the air goes into pharynx After pharynx the track is divided into passage Those are

- (1) Stomach, duodenum
- (2) Trachea, digestive canal
- (3) Larynx, Epiglottis

A. 1 Only

- B. 1 and 2
- C. 2 Only
- D. 1 and 3



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85. When pressure is exerted on lungs the following one occurs.

A. inspiration

- B. chest cavity increases
- C. expiration
- D. Chest cavity decreases



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86. Identify the scientist

He stated that respiration is a type of combustion and combustion is the source of heat in animals .

- A. 1
- B. 2
- C.1&2
- D. Both are false



- **87.** Arrange the following in order
- (1) Pharynx
- (2) Larynx

- (3) Alvelous
- (4) Bronchus.
 - A. 1,2,3,4
 - B. 1,3,4,2
 - C. 1,2,4,3
 - D. 2,1,4,3



88. Find the reasons for slow breathing in walking compared to running fast

- A. Variation in inhalation and exhalation
- B. Supply of O_2 and removal of CO_2
- C. Tension and stress at rest and running
- D. Variation in contraction and reflaxation of lungs at rest and run fast

Answer:



89. One of the following is not true about ATP

- A. it is Adeosine Tri Phosphate
- B. ATP stores less energy
- C. Every ATP molecule has 7200 calories of energy
- D. ATP has energetic phosphate bonds.

Answer:



90. Glucose----- Pyruvate----- Lactic acid + Less energy

A. Mitochondria

B. Muscles

C. Yeast

D. Man

Answer:



91. Glucose----- Pyruvate----- Lactic acid + Less energy

A. Bacteria

B. Animals

C. Plants

D. B and C

Answer:



92. Glucose---- Pyruvate -----Ethanol + Less energy

- A. Virus
- **B.** Muscles
- C. Yeast
- D. B & c

Answer:



93. What happens to plant if the rate of respiration becomes more than the rate of photosynthesis?

- A. 1 is true
- B. 2 is true
- C. 1 and 2 true
- D. 2 and 3 true

Answer:



94. Gaseous exchange takes place in alveloi

Alveloi are enclosed in blood capilaries.

A. Both a and b are true

B. a is true b is false

C. a is false b is true

D. both a and b are false

Answer:



95. Find the correct statement

(1) When we are running pain occurs in muscles.

(2) Due to the conversion of lactic acid to pyruvic acid muscle pain occurs

A. 1,2 are true

B. 1 true 2 false

C. 2 true 1 false

D. 1,2 are false

Answer:

96. Consider the following statements.

(a) Vibration of vocal cords gererate voice

Exhaled air create vibrations at vocal cords.

A. Both a and b are true

B. a is true b is false

C. a is false b is true

D. both a and b are false

Answer:

97. What is vitiated air?

A. Hydrogen

B. Nitrogen

C. Oxygen

D. Carbonate

Answer:



- 98. Consider the following statements.
- (a) Temperature of inhaled air is regulated to the body temperature in nasal cavities
- (b) The inhaled air becomes moist
 - A. Both a and b are true
 - B. a is true b is false
 - C. a is false b is true
 - D. both a and b are false

99. Much of CO_2 is transported by the blood as

A. 1 and 2 only

B. 2,3 and 4 only

C. 1,2 and 3 only

D. 2 and 3 only

Answer:



100. Which of the following is not correct regarding Haemoglibin

A. Hameoglobin is a respiratiory pigment

B. Iron is located in the center of

Haemoglobin

C. Haemoglobin performs transportation

O_2 and CO_2

D. Haemoglobin and chlorophyll are

present in plants.



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101. Glucose----- lactic acid

The above conversion tells about.....?

- A. Aerobic respiration
- B. Anaerobic respiration
- C. Fermentation
- D. B or C



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102. During jogging body temperature rises why?

- A. Due to over sweating
- B. Temperature increases due to over exercise
- C. To regain strength with CO₂

D. Over consumption and loss of glucose in the body

Answer:



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103. Identify the scientist

He was a renowned chemist. He wrote a textbook of "Human physiology " in the mid - 19th century.

- A. Lavoisier
- B. William Harvey
- C. John Daper
- D. Joseph Priestly



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104. Who did comprehensive work on properties of gases , their exchange and respiration?

- A. John Daper and Johnshon
- B. Joseph Priestly and Lavoisier
- C. Ingenhouz and Engelman
- D. Pelletier and Caventou



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105. The interior lung is divided into millions of small chambers called

- A. Nephrons
- B. Corpus Leuteum
- C. Alvelous
- D. Neuron



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106. If oxygen is not utilised, pyruvic acid is converted in to either ___ (1) or ___ (2) and very little amount of energy is liberated.

A. Lactic acid Ethyl alchol								
B. Nitric acid								
C. Both A and B								
D.								
Answer:								
Watch Video Solution								
107. Accumulation of this results in muscular pain								

- A. Citric acid
- B. Nitric acid
- C. Lactic acid
- D. Hydrochloric acid



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108. The amount of air which one can inhale/exhale with maximum effort is called

- A. I,ii and iii
 - B. ii,iii and iv
 - C. I and iii
 - D. I and iv



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109. The parts that help in respiration of plants stomata

Pneumatophores								
Bark								
A. I and iii								
B. ii and iii								
C. I,ii and iii								
D. iii and iv								
Answer:								
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Lenticels

110. Type of oxidation in respiration is by	

- A. I and ii
- B. ii and iii
- C. iii and iv
- D. ii and iv



111. Ravi pasted wax on the lower side of leaf

This inhibts the following process.

Respiration

Photosynthesis

Excretion

Transport

A. I and ii

B. ii and iii

C. iii and iv

D. ii and iv



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112. What are the respiratory organs of Dolphins?

- A. Gills
- B. skin
- C. lungs
- D. Trachea



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113. choose the correct option

1) Insects (C) A) Gills

2) Frog (B) B) Trachea

3) Fish (A) C) Lungs

A. 1 and 2 are correct

B. 2 and 3rd are correct

C. only 3 is correct

D. None of the above

Answer:



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114. If we go on remove the formed lactic acid in muscles......

- A. Muscles becomes fatigue
- B. Muscles do not become fatigue
- C. Pain in Muscle occurs

D. Muscles lost activeness

Answer:



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115. Identify the correct statement.

A. High energy is released during

Anaerobic respiration

B. Oxygen dept arises in Anaerobic

respiration

C. Ethanol is formd in Anaerobic

respiratoin

D. Mitochondria perticipates in Anaerobic respiration

Answer:



116. Which of the following are essential to conduct the experiment to prove that heat is liberated during respiration?

(i)Flask , (ii)Thermometer , (iii) Cork , (iv)Sprouting seeds , (v)Lime water , (vi)Dry seeds.

A. I and ii

B. ii and iii

C. iii and iv

D. iv and i

Answer:



117. Likitha made an experiment that CO_2 is liberated during respiration. But the lime water in it do not changed to milky white what is the error made by her?

A. She tightened the cap of the bottle

B. She took lime water in a small beaker

C. She took seeds tha are germinated

D. She applied wax around the cap of the

bottle

Answer:

118. Read the sentence, find the error and rewrite it.

$$Hb+O_2 o HbO_2$$
 (in tissues)

$$HbO_2
ightarrow Hb + O_2$$
 (in lungs)

- A. This process occurs in lungs
- B. This process occurs in tissues
- C. It occurs in blood vessels
- D. It occurs in the respiratory track



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119. The volume of the dough increased in bread preparation due to

- A. Diffusion
- **B.** Fermentation
- C. Distillation
- D. Evaporation



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120. What are the components present in exhaled air?

- B. O_2 water vapour
- C. CO_2 water vapour
- D. Water vapour only



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121. The flexible and flattened muscle present in the chest cavity which is useful to move lungs forward and backward is

- A. Circular muscle
- B. Cardiac Muscle
- C. Diaphragm
- D. None of these



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122. The structure that is spongy to

A. Heart

B. Lungs

C. Kidney

D. None of these

Answer:

- **123.** choose the correct option
 - 1) Cutaneous respiration (c) a) Lungs
 - 2) Bronchial respiration (b) b) Skin
 - 3) Pulmonary respiration (a) c) Gills

Correct answer is

- A. 1 and 2 are correct
- B. 2 and 3rd are correct
- C. only 3 is correct

D. none of the above

Answer:



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124. Energy currency of the cell is called ____

A. Calorie

B. Photon

C. ATP

D. Mitochondria



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125. Breathing roots are present in

- A. Aquatic plants
- B. Mangroves plants
- C. Terrerstial plants
- D. Dessert plants

Answer:



126. The term respiration was derived from

Latin word

A. Breath

B. Respire

C. Inhale

D. Exhale

Answer:



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127. Which gas turns lime water milky?

A. Carbondioxide

B. Oxygen

C. Hydrogen

D. Nitrogen

Answer:



128.	Vocal	cords	are	present	in	this	part	of
resp	iration	ı syster	n					

- A. Mouth
- B. Larynx
- C. Pharynx
- D. Trahea



129. A flap like muscular valve controls movement of air and food is ____

- A. Glottis
- B. Epiglottis
- C. Mucus
- D. Bronchus

Answer:



130. Glucose is converted into ethyl alcohol by



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131. Respiratory organs are not similar to all organisms Describe with examples



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132. You want ot talk to your drill teacher about muscular pain while doing exercise

Write some questions that you ask him



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133. Write about energy currency in the body.



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134. What are the respiratory organs of Cockroach?

A. Blood vessels

- B. Mucos glands
- C. Gills
- D. Trachea



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135. The number of lobes in the right and left lung of man respectively are

A. 2

- В. 3
- **C.** 4
- D. 5



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136. Lenticels are the respiratory organs that exist in ___ part of the plant.

A. Young

- B. Soft
- C. Woody
- D. None



- 137. Heamoglobin contians an atom of
 - A. Magnesium
 - B. Cacium

C. Potassium

D. Iron

Answer:



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138. The blue dye Diazine green turns to which colour when the supply of oxygen around it is short?

A. Red

- B. Pink
- C. Yellow
- D. Black



- 139. Ethanol boils at a lower temperature of......
 - A. About $60^{\circ}\,$ C
 - B. About $65\,^\circ$ C

C. About $70^{\circ}\,$ C

D. About $75^{\circ}\,$ C

Answer:



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140. Respiration is a catabolic process because of

A. Anabolic process

B. Catabolic process

- C. Fermentation process
- D. None



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141. In which animals we can observe tracheal respiratory system ?

- A. Aves
- B. insects

- C. Reptiles
- D. Mammals



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142. What are the components present in exhaled air?

A. CO_2

B. Water vapour

- C. Nitrogen
- D. All the above



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143. The mechanism of breakdown of food materials within the cells to release energy is called

A. Expiration

- B. Inspiratoin
- C. Cellular respiratory
- D. Anaerobic respiration



- **144.** Double membrane pleura protects
 - A. Lungs
 - B. Heart

- C. Kidney
- D. Stomach



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145. What is the total lung capacity of human being?

- A. 4,600ml
- B. 5,800ml

C. 500ml

D. 1200 ml

Answer:



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146. Observe following table and answer the questions given below.

Gas	% in inhaled air	% in exhaled air		
()xygen	21	16		
Carbon dioxide	0.03	4.4		
Nitrogen	78	78		

Why there is no change in Nitrogen percentage in exhaled and inhaled air?

- A. 0.21
- B. 0.16
- C. 0.15
- D. 0.18

Answer:



147. What are the elements present in haemoglobin and chlorophyll?

- A. Magnesium
- B. Chloride
- C. Iron
- D. Molybdenum

Answer:



148. In eukaryotic cells cellular repiration occurs in

- A. Mitochondria
- B. Cytoplasm
- C. Chloroplast
- D. Cytoplasm and Mitochondria

Answer:



149. What is anaerobic respiration?

- A. Kreb's cycle
- B. Dark reaction
- C. Fermentation
- D. Light reaction

Answer:



150. Which gas according to Lavoisier is respirable air ?

A. Resirable air

B. chalky air

C. inhaled air

D. atmospheric air

Answer:



151. In which organisms does exchange of gases take place through diffusion ?

- A. Amoeba
- B. Hydra
- C. Planaeia
- D. All the above

Answer:



152. All moveme	ents of breatl	hing are co	ntrolled
bv			

- A. Muscles
- B. nerves
- C. Diaphragm
- D. Ribs



153. Human	haemog	lobin	is	made up	of
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- A. Globin
- B. Iron
- C. Poryhperin
- D. All the above



154. How anabolic process is different from catabolic process?



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155. Write the differences between respiration and photosynthesis



156. Write about the fermentation process by yeast



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157. Describe the structure and function of Mitochondria

