BIOLOGY

BOOKS - MBD

The Cell: The Basic Unit of Life

Example

1. Who coined the term cell ?

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2. What was the most generalisation of cell biological of 19^{th} century?

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3. Who proposed the cell theory ?

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4. Who stated 'Omnis cellula-e-cellula'?

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5. Who coined the terms cytoplasm and nucleoplasm?

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6. What is the structural and functional unit of life ?

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7. Name the largest animal cell and plant cell.

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8. Name two types of cells.

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9. How does the nucleous of a prokaryotic and a eukaryotic cell differ from each other?

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10. Give nature of ribosomes in two types of cells.

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11. Name the organelle without membrane present in prokaryotic cell.

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12. What are components of prokaryotic cell?

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13. Is cell wall living or dead?

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14. Name the chemicals present in middle lamella.

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15. What is cell coat?

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16. What is the function of microvilli?

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17. Where are aleurone cells?

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18. Give the occurrence of cell wall.

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19. List one major difference between primary cell wall and secondary cell wall.

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20. What is middle lamella?

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21. Give the period of formation of new cell wall.

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22. Name the major chemical compounds present in the cell wall.

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23. Write use of diffusion.

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24. How do biomembrances help in cellular movements?

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25. Define glycocalyx.

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26. Name two components of endoplasmic reticulum.

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27. Name the ribosomes found in eukaryotic cell.

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28. What is sarcoplasmic reticulum?

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29. Name the ribonucleoprotein particles of cell.

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30. Who first noted the ribosomes in plant and animal cells?

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31. Which organelle is called as protein factory of the cell ?

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32. What happens if the Mg^{++} concertration increases beyond 0.001 M in the cytoplasmic matrix?

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33. What holds the ribosomes together in a polyribosome?

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34. Who discovered ER?

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35. Kinds of ER.

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36. What is the main function of ribosomes?

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37. What is the main site of synthesis of ribosomal RNA?

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38. Name a eukaryotic cell which lacks ER.

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39. What is the site of larger and smaller subunit of 70 S ribosomes?

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40. One word answer

Group of ribosomes joined along a mRNA.

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41. Write one function of SER.

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42. Name the scientist who discovered the Golgi complex.

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43. How many Golgi bodies are present in the animal cells?

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44. Name the cell in which Golgi apparatus is absent.

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45. Which part of spermatozoan is formed of Golgi apparatus?

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46. Name the technique used by Golgi for discovering the presence of Golgi apparatus arise?

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47. From which the vesicles of Golgi apparatus arise?

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48. Which organelles has a key role in the transformation and turnover of membranes within a cell?

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49. Give the term for the pile of thylakoids.

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50. What is carbon fixation? Where does it occurs?

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51. Name the lamellae that connect stroma and grana.

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52. Name the plastids that store proteins and fat.

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53. Name any three plastids which do not synthesize food.

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54. Name the following

Enzymes present in nucleus.

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55. Name the following

Stain which is used for staining chormatin matter.

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56. Name the following

The proteins associated with DNA to form chromosome.

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57. Name the following

Large-sized chromosome found in salivary glands of larvae of Drosophila.

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58. Name the basic dyes which can stain the interphase nucleus.

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59. List two types of chromatin.

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60. What is the principal site of synthesis of the ribosomal RNA?

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61. What is nucleoid?

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62. How many DNA double helical fibres are present in a chromosome?

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63. What is nucleation centre?

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64. Define basic protein.

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65. Is cell wall living or dead?

Watch Video Solution

66. Name the chemicals present in middle lamella.

Watch Video Solution

67. What is cell coat?

Watch Video Solution

68. Define coenocytic cell.

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69. What is karyoplasm?

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70. Why is heterchromatin transcriptionally inactive?

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71. Name four components of the nucleus.

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72. Differentiate between Euchromatin and Heterochromatin.

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73. Fill in the blanks with suitable word(s):

Lysosomes contain ..... enzymes.

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74. Fill in the blanks with suitable word(s):

Oxysomes are found in .....

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75. Fill in the blanks with suitable word(s):

Plastid DNA resembles the .....DNA.

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76. Fill in the blanks with suitable word(s):

Cilia and flagella arise from the .....

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77. Fill in the blanks with suitable word(s):

Microtubules are formed of the protein .....

Watch Video Solution

78. Fill in the blanks with suitable word(s):

Vacuoles are bounded by .....

Watch Video Solution

79. Fill in the blanks with suitable word(s):

In the bacterial cell wall .....are elongated tubular structures made of a special protein.

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80. True or False

Glycocalyx is same in composition and thickness among different bacteria

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81. True or False

Cell wall determines shape of cell and provide a strong structural support.

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82. True or False

The ribsomes of a polysome transscribe the mRNA into proteins.

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83. True or False

The ciistae of mitochondria increase surface area.

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84. True or False

Every chromosome essentially has a primary constriction called centromere.

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85. One word answer

Small bristle -like structures sprouting out of cell in some bacteria.

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86. One word answer

Group of ribosomes joined along a mRNA.

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87. One word answer

Starch storing leucoplasts.

Watch Video Solution

88. One word answer

Basic proteins joined with DNA in eukaryotic cell.

Watch Video Solution

89. One word answer

Special membranous structures in bacteria forms by folding of plasma membrane.

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90. Which of the following is not correct?

Robert Brown discovered the cell.

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91. Which of the following is not correct?

Schleiden and Schwann formulated the cell theory.

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92. Which of the following is not correct?

Virchow explained that cells are formed from pre-existing cells.

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93. Which of the following is not correct?

A unicellular organism carries out its life activities within a single cell.

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94. New cells generate from:

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95. New cells generate from:

Watch Video Solution

96. New cells generate from:

Watch Video Solution

97. New cells generate from:

Watch Video Solution

98. Match the following

(1)	Cristae	(*i*)	Flat membranous sacs in stroma
(2)	Cisternae	(*ii*)	Infoldings in mitochondria
(3)	Thylakoids	(*iii*)	Disc-shaped sacs in Golgi apparatus

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99. Which of the following is correct:

Cells of all living organisms have a nucleus.

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100. Which of the following is correct:

Both animal and plant cells have a well defined cell wall.

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101. Which of the following is correct:

IN prokaryotes, ther are no membrane bound organelles.

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102. Which of the following is correct:

Cells are formed de novo from abiotic materials.

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103. What is a mesosome in a prokaryotic cell? Mention the functions it performs.

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104. How do neutral solutes move across the plasma membrane? Can the polar molecules also move across it in the same way? If not, then how are these transported across the membrane?

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105. Name two cell-organelles that are double membrane bound. What are the characteristics of these two organelles? State their functions and draw labelled diagrams of both.

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106. What are the characteristics of prokaryotic cells?

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107. Multicellular organisms have division of labour. Explain.

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108. Cell is the basic unit of life. Discuss in brief.

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109. What are nuclear pores? State their function.

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110. Both lysosomes and vacuoles are endomembrane structures, yet they differ in terms of their functions. Comment.

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111. Describe the structure of the following with the help of labelled diagrams: Nucleus

Watch Video Solution

112. Describe the structure of trhe following with the help of labelled diagrams

Centrosome

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113. What is a centromere? How does the position of centromere form the basis of classification of chromosomes. Support your answer with a diagram showing the position of centromere on different types of chromosomes.

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114. What is the significance of vacuole in a plant cell?

Watch Video Solution

115. What does 'S' refer in a 70S & 80S ribosome?

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116. Mention a single membrane bound organelle which is rich in hydrolytic enzymes.

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117. What are gas vacuoles? State their functions?

Watch Video Solution

118. What is the functions of a polysome?

Watch Video Solution

119. What is the feature of a metacentric choromosome?

Watch Video Solution

120. What is referred to as satellite chromosome?

Watch Video Solution

121. Discuss briefly the role of nucleolus in the cells actively involved in protein synthesis.

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122. Explain the association of carbohydrates to the plasma membrane and its significance.

Watch Video Solution

123. Comment on the cartwhell structure of centriole .

Watch Video Solution

124. Briefly describe the cell theory.

Watch Video Solution

125. Differentiate between Rough Endoplasmic Reticulum (RER) and Smooth Endoplasmic Reticulum (SER).

Watch Video Solution

126. Give a brief account of chemical composition of cell membrane.

Watch Video Solution

127. What are histones? What are their functions?

Watch Video Solution

128. What are structural and dfunctiuonal attributes must a cell have to be called a living cell?

Watch Video Solution

129. Briefly give the contributions of the following scientists in formulating the cells tneory

Rudolph Virchow

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130. Briefly give the contributions of the following scientists in formulating the cells tneory

Schielden and Schwann.

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131. Is extra genomic DNA present in prokaryotes and eukaryotes? If yes, indicate their location in both the types of organisms.

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132. Structure and function are correlatable in living organisms. Can you justify this by taking plasma membrane as an example?

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133. Eukaryotic cells have organelles which may:

bound by a double membrane

Group the various sub-cellular organelles into these three categories

 Watch Video Solution

134. Eukaryotic cells have organelles which may:

bound by a double membrane

Group the various sub-cellular organelles into these three categories

Watch Video Solution

135. Eukaryotic cells have organelles which may:

bound by a double membrane

Group the various sub-cellular organelles into these three categories

Watch Video Solution

136. Justify the statement, "Mitochondria are power houses of the cell".

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137. Write the functions of the following :

centromre

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138. Write the functions of the following :

cell wall

Watch Video Solution

139. Write the functions of the following :

Smooth ER

Watch Video Solution

140. Write the functions of the following :

Golgi Apparatus

Watch Video Solution

141. Write the functions of the following :

Centrioles

Watch Video Solution

142. What is cell ?

Watch Video Solution

143. What is the basic unit of life?

Watch Video Solution

144. Give a few examples of enicellular organisms.

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145. What is the contribution of Leeuwenhoek in the field of biology?

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146. Name the substance present within the cell.

Watch Video Solution

147. Who coined the terms cytoplasm and nucleoplasm?

Watch Video Solution

148. Name the smallest measuring unit of cytology.

Watch Video Solution

149. Name the main parts of a cell.

Watch Video Solution

150. Is there any exception of cell theory?

Watch Video Solution

151. What is totopotency?

Watch Video Solution

152. What is nucleiod?

Watch Video Solution

153. What is the centrosphere?

Watch Video Solution

154. Name the plant where do we find centriole.

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155. What is ciliogenesis?

Watch Video Solution

156. Name any structure which is membraneless.

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157. Define doublet.

Watch Video Solution

158. Why centrioles are called basal bodies?

Watch Video Solution

159. Where is tubulin found?

Watch Video Solution

160. What is axoneme?

Watch Video Solution

161. What are kinetosomes?

Watch Video Solution

162. Where is smooth muscle present?

Watch Video Solution

163. Who discovered microtubules? Which are thicker-microtubules or micro-filaments?

Watch Video Solution

164. Microfilaments are soild fibres. Is it so?

Watch Video Solution

165. Name a protein found in microtubules of cilia and flagella.

Watch Video Solution

166. What are vacuoles?

Watch Video Solution

167. What are the main types of vacuoles?

Watch Video Solution

168. List two functions of nucleolus.

Watch Video Solution

169. What are polycentic chromosomes?

Watch Video Solution

170. What are SAT-chromosomes?

Watch Video Solution

171. Define Nucleosome.

Watch Video Solution

172. give two difference between cell inclusion and cell organelles.

Watch Video Solution

173. What is common to all cells?

Watch Video Solution

174. There is basic unity among living organisms, still they show diverse forms and

functions.

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175. Which of the following statements justifies that " the cell is a self-contained unit" ?

A. It independently carries out all fundamental biological processes

B. Reproduces with similar herediatary properties

C. It oxidises food molecules to produce energy and utilises this energy to synthesise complex molecule

D. All of the above

Answer:

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176. Is there any exception of cell theory?

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177. Assign the specific reason for the following.

A more active cell is generally small-sized.

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178. which one have simpler cellular organization eukaryotes or prokaryotes

Watch Video Solution

179. What are the disadvantags of multicellularity?

Watch Video Solution

180. Write a brief note on bacterial cell wall.

Watch Video Solution

181. Write a note on glycocalyx.

Watch Video Solution

182. Give brief account of cyanobacteria.

Watch Video Solution

183. Explain mycoplasma.

Watch Video Solution

184. Briefly describe the gas vacuoles present in cyanobacteria.

Watch Video Solution

185. Describe non-living inclusion present in bacterial cell.

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186. What are plasmids?

Watch Video Solution

187. Explain the structure of plasma membrane.

Watch Video Solution

188. Give the functions of plasma membrane.

Watch Video Solution

189. What do you understand by fluid mosaic model?

Watch Video Solution

190. Write the significance of Fluid Mosaic model of plasma membrane.

Watch Video Solution

191. List the factors which govern the movement of substances across membrane.

Watch Video Solution

192. Write in brief

Diffusion

Watch Video Solution

193. Write in brief

Exosmosis

Watch Video Solution

194. What is Osmotic pressure?

Watch Video Solution

195. Write in brief

Pinocytosis

Watch Video Solution

196. Write in brief

Phagocytosis

Watch Video Solution

197. Write in brief

Exocytosis

198. Write in brief

Membrane enzyme.

199. Write at least three example of the diffusion in daily life

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200. Differentiate between diffusion and osmosis.

Watch Video Solution

201. List characteristics of active transport.

Watch Video Solution

202. Draw diagram to show the osmosis

Watch Video Solution

203. What is sodium/ potassium exchange pump? Give specific example.

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204. Write significance of active transport.

Watch Video Solution

205. Differentiate passive transport and active transport.

Watch Video Solution

206. Differentiate endocytosis and Phagocytosis.

Watch Video Solution

207. Briefly describe the structure of cell wall.

Watch Video Solution

208. List one major difference between primary cell wall and secondary cell wall.

Watch Video Solution

209. "The composition of cell wall varies in the different kingdoms." explain.

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210. Write the chemical composition of cell wall.

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211. Distinguish between cell wall and cell membrane.

Watch Video Solution

212. What is the utility of cyclosis?

Watch Video Solution

213. List the functions which determine the rate of cyclosis.

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214. Write a note on ribosomes.

Watch Video Solution

215. Differentiate 80S and 70S Ribosomes.

Watch Video Solution

216. Define the following

Ribosomes

Watch Video Solution

217. Define the following

Dimer

 Watch Video Solution

218. Define the following

Polyribosomes

 Watch Video Solution

219. Define the following

Sved -berg unit.

Watch Video Solution

220. Comment "Mitochondria are semiautonomous bodies."

Watch Video Solution

221. List the differences between outer and inner mitochondrial Membranes.

Watch Video Solution

222. Give the structural detail of $F_0 - F_1$ particles (Oxysome).

Watch Video Solution

223. What are the similarities between mitochondria and chloroplasts

Watch Video Solution

224. Differentiate grana and stroma.

Watch Video Solution

225. Which are structural differences between mitochondria and chloroplasts?

Watch Video Solution

226. Differentiate between Euchromatin and Heterochromatin.

Watch Video Solution

227. How does Golgi complex participate in the recycling of plasma membrane?

Watch Video Solution

228. Bring out the similarity between lysosomes and zymogen granules.

Watch Video Solution

229. What structural, functional characteristics do cilia, Flagella and ventriole have in common?

Watch Video Solution

230. State the differences between cilia and flagella.

Watch Video Solution

231. Differentiate ribsome and centrosome.

Watch Video Solution

232. Write a note on cell inclusions.

Watch Video Solution

233. Differentiate cytoplasm and nucleoplasm.

Watch Video Solution

234. Distinguish between

chormatin and chromosome

Watch Video Solution

235. Distinguish between

microtubules and microfilaments

Watch Video Solution

236. Distinguish between

leucoplasts and Chromoplast

Watch Video Solution

237. What are the differences between pilus and fimbriae?

Watch Video Solution

238. Write short note on lampbrush chromosomes.

Watch Video Solution

239. Briefly explain the structure of polytene chromosomes.

Watch Video Solution

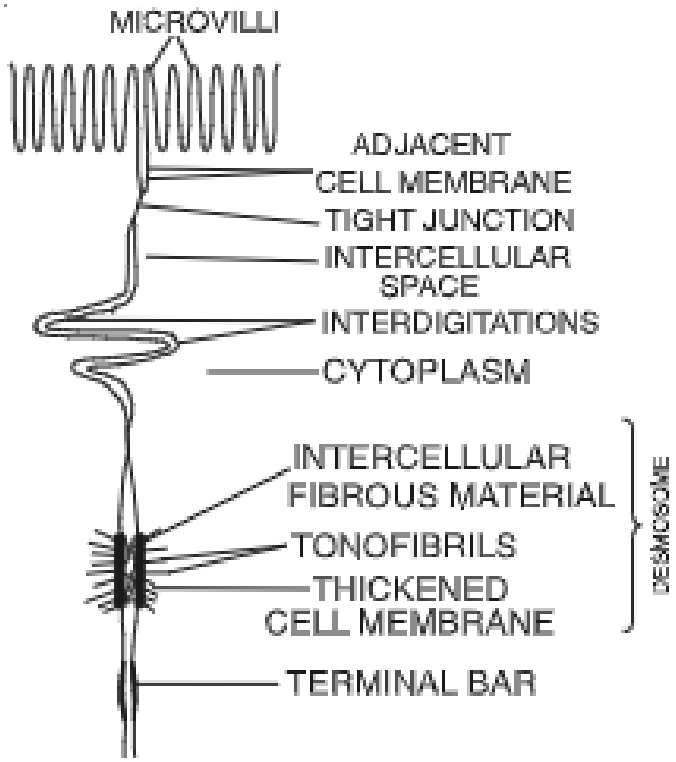
240. List the main organelles of cell giving one function of each.

Watch Video Solution

241. Differentiate between prokaryotic and eukarytic cells.

Watch Video Solution

242. Show the various modifications of plasma membrane with the help of sketch.



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243. Differentiate Pinocytosis and phagocytosis.

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244. List the functions of rough and smooth endoplasmic reticulum.

Watch Video Solution

245. Describe the structure of Golgi complex.

Watch Video Solution

246. Show polymorphism in lysosome with the help of sketch only (no description)

Watch Video Solution

247. Write functions of lysosome. Comment lysosome as suicidal bag.

Watch Video Solution

248. Describe the structure of chromosome.

Watch Video Solution

249. The cells are very small and microscopic. All primitive organisms are unicellular. Later they develop into multicellular organisms.

Name the cells which are large .

Watch Video Solution

250. The cells are very small and microscopic. All primitive organisms are unicellular. Later

they develop into multicellular organisms.

List any to primitive single cell organisms.

Watch Video Solution

251. The cells are very small and microscopic. All primitive organisms are unicellular. Later they develop into multicellular organisms.

Why did evolution results in multicellurity?

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252. Give scientific reasons for the following statements:

plant Cell is totipotent.

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253. Give scientific reasons for the following statements:

The prokaryotic cells are more versatile than the eukaryotic cells in some respect.

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254. Give scientific reasons for the following statements:

Cell principle is better than cell theory.

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255. Give scientific reasons for the following statements:

After attaining specific size, the cells divide.

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256. Why are membranes described as "proteins in a sea of lipids?" Explain this statement with an example.

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257. Recall that 0.9% NaCl and 5% glucose solution are isotonic to human erthrocytes. Considered each of the following solution. Indicate whether it is hypertonic, hypotonic or isotonic? What sort of change will occur when

erthrocytes are placed in it?

5% NaCl

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258. Recall that 0.9% NaCl and 5% glucose solution are isotonic to human erthrocytes. Considered each of the following solution. Indicate whether it is hypertonic, hypotonic or isotonic? What sort of change will occur when erthrocytes are placed in it?

5% glucose

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259. Recall that 0.9% NaCl and 5% glucose solution are isotonic to human erthrocytes. Considered each of the following solution. Indicate whether it is hypertonic, hypotonic or isotonic? What sort of change will occur when erthrocytes are placed in 0.89% NaCl?

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260. Recall that 0.9% NaCl and 5% glucose solution are isotonic to human erthrocytes. Considered each of the following solution. Indicate whether it is hypertonic, hypotonic or isotonic? What sort of change will occur when erthrocytes are placed in it?

0.2% glucose

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261. Recall that 0.9% NaCl and 5% glucose solution are isotonic to human erthrocytes. Considered each of the following solution. Indicate whether it is hypertonic, hypotonic or isotonic? What sort of change will occur when erthrocytes are placed in it?

10% glucose

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262. Recall that 0.9% NaCl and 5% glucose solution are isotonic to human erthrocytes. Considered each of the following solution. Indicate whether it is hypertonic, hypotonic or isotonic? What sort of change will occur when erthrocytes are placed in it?

0.2% NaCl.

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Exercise

1. What are nuclear pores? State their function.

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2. Who proposed fluid mosiaic model of plasma membrane?

Watch Video Solution

3. What is tonoplast? What is the significance of vacuole in a plant cell?

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4. What does 'S' refer in a 70S & 80S ribosome?

Watch Video Solution

5. What is referred to as satellite chromosome?

Watch Video Solution

6. Differentiate SER and RER.

Watch Video Solution

7. Comment on the cartwhell structure of centriole .

Watch Video Solution

8. Explain cell as a self-contained unit.

Watch Video Solution

9. Draw a labelled diagram of mitochondrion. Write its function.

Watch Video Solution

10. Briefly describe the cell theory.

Watch Video Solution

11. Give a brief account of chemical composition of cell membrane.

Watch Video Solution

12. Draw and explain the structure of nucleus.

Watch Video Solution

13. What are structural and dfunctiuonal attributes must a cell have to be called a living

cell?

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14. Draw well labelled diagram of ultra structure of animal cell. Write one function each of any six parts labellel in the diagram.

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