Multiple Choice Question 35 x 1 = 35

1) Which of the following scientists coined the term 'cell'?

(a) Leeuwenhock (b) J.E Purkinje (c) Robert Hooke (d) Robert Brown

2) The largest cell in human body is

(a) muscle cell (b) nerve cell (c) Kidney cell (d) liver cell

3) Iodine solution is used to

(a) stain onion peel cells (b) stain human cheek cells (c) mount onion peel cells (d) mount human cheek cells

4) The barrier between the cytoplasm and the outer environment in an animal cell is

(a) tonoplast (b) nuclear membrane (c) cell wall (d) plasma membrane

5) The power house of a cell is

(a) golgi apparatus (b) chloroplast (c) mitochondrion (d) vacuole

6) The process of selective movement of substances through semi-permeable membrane is called

(a) osmosis (b) diffusion (c) plasmolysis (d) imbibation

7) What makes to withstand greater changes in the surrounding medium than an animal cell?

(a) Plasma membrane (b) Cell wall (c) Vacuoles (d) Plastids

8) When an animal cell is placed in hypotonic solution, it

(a) swells up (b) shows plasmolysis (c) bursts due to over swelling (d) shows crenation

9) Which of the following maintains the basic structure (shape) of the plant cell after shrinkage of the cell content during plasmolysis?

(a) Plasma membrane (b) Vacuole (c) Plastids (d) Cell wall

10) Plasmolysis occurs due to

(a) endosmosis (b) exosmosis (c) absorption (d) diffusion

11) Who coined the term protoplasm for the fluid substance of the cell?

(a) J.E. Purkinje (b) Robert Brown (c) W. Flemming (d) Robert Hooke

12) Ribosomes are the centre for

(a) fat synthesis (b) protein synthesis (c) starch synthesis (d) sugar synthesis

13) The complete breakdown of glucose in presence of oxygen in a cell takes place in

(a) mitochondria (b) ribosome (c) chloroplast (d) Golgi apparatus

14) Lysosomes contain

(a) fats (b) secretory glycoproteins (c) hydrolytic enzymes (d) RNA

15) Plant cells have large vacuoles each surrounded by a membrane known as

(a) plasma membrane (b) cell wall (c) leucoplast (d) tonoplast

16) Which of the following cell organelle is called suicide bag of a cell?

(a) Mitochondria (b) Lysosome (c) Plastids (d) Golgi apparatus

17) Which of the following molecules is known as the energy currency of the cell?

(a) RNA (b) DNA (c) ATP (d) Amino acid

18) ATP stands for

(a) adenosine triphosphate (b) amino triphosphate (c) amino tri glycerophosphate
(d) adenine tri glycerophosphate

19) Which cell organelle is involved in the formation of lysosomes?

(a) Mitochondria (b) Golgi apparatus (c) Plastids (d) Endoplasmic reticulum

20) Which cell organelle plays a crucial role in detoxifying many poisons and drugs?

(a) RER (b) SER (c) RNA (d) DNA

21) Which of the following organelle possesses its own DNA and ribosomes?

(a) Mitochondria (b) Lysosomes (c) Golgi apparatus (d) Endoplasmic reticulum

22) The functions of which of the organelle include the storage, modification and packaging of products in vesicles?

(a) Lysosome (b) Vacuoles (c) Endoplasmic reticulum (d) Plastids

23) Mitochondria and plastids are able to synthesise some of their own proteins because they have

(a) DNA and nucleolus (b) RNA and lysosomes (c) DNA and ribosomes
(d) RNA and ribosomes

24) Stroma is present in

(a) mitochondria (b) leucoplast (c) endoplasmic reticulum (d) lysosomes

25) Which organelles, like mitochondria, have their own DNA and ribosomes?

(a) Golgi apparatus (b) Vacuoles (c) Endoplasmic reticulum (d) Plastids

26) The inner membrane of mitochondria is folded because_____

(a) it has no space inside (b) it helps in transportation of material
(c) it increases the surface area (d) it stores more food

27) Proteins are formed in_____

(a) Golgi bodies (b) nucleus (c) plastids (d) ribosomes

28) The organelle that helps in the membrane biogenesis is_____

(a) lysosome (b) Golgi bodies (c) endoplasmic reticulum (d) ribosome

29) The solution in which a cell will gain water by osmosis is termed as_____

(a) isotonic solution (b) hypertonic (c) hypotonic solution (d) both (a) and (b)

30) The root hair absorbs water by the process called_____

(a) diffusion (b) osmosis (c) endocytosis (d) plasmolysis

31) The animal cell which does not possess nucleus is_____

(a) egg of hen (b) white blood cell (c) red blood cell (d) nerve cell

32) The nucleus of the cell was discovered by_____

(a) Robert Hooke (b) Leeuwenhoek (c) Robert Brown (d) Purkinje

33) The plant cells are more rigid than the animal cell due to_____

(a) cell wall (b) vacuoles (c) plastids (d) both (a) and (b)

34) The opening and closing of stomata is due to_____

(a) sunlight (b) osmosis (c) plasmolysis (d) endocytosis

35) The cells with no membrane bound organelles, and the chromosomes are composed of only nucleic acids are_____

(a) plant cells (b) animal cells (c) prokaryotic cells (d) eukaryotic cells

Fill up / 1 Marks 10 x 1 = 10

36) The cell wall is found in the cells of plants, fungi and .....

37) The nucleus in eukaryotes is separated from the cytoplasm by ..... membrane.

38) The ER serves as a passage way for .....transport.

39) Functions of the Golgi apparatus are the ....., modification and ..... of substances manufactured in the cell.

40) The primary function of leucoplasts is .....

41) The large central vacuole of plant cells helps to maintain the .....of the cell.

42) The cells which do not have membrane-bound organelle are called .....cells.

43) The term 'protoplasm' for the fluid substance of the cell was coined by .....

44) CO_2 moves out of the cell, from a region of high concentration to a region of low concentration outside the cell by the process of .....

45) Due to loss of water through osmosis, there is shrinkage of contents of a living plant cell. This phenomenon is known as .....

1 Marks 63 x 1 = 63

46) Why is the cell called structural and functional unit of life?

47) Can you name the two organelles we have studied that contain their own genetic material?

48) Why are lysosomes known as suicide bags?

49) Where are proteins synthesised inside the cell?

50) Where do the lipids and proteins constituting the cell membrane get synthesised?

51) How does an Amoeba obtain its food?

52) What is osmosis?

53) What is endocytosis? Give one example.

54) What are genes?

55) What is the function of ribosomes?

56) What is membrane biogenesis?

57) What is plasmolysis?

58) Name two unicellular organisms.

59) Write an example of diffusion in a plant.

60) During cooking, on adding salt to the vegetables, water is released. Name the mechanism involved.

61) What will happen if the raisin (which is already swollen) is kept in salt solution?

62) Name the process by which unicellular freshwater organisms and most plant cells tend to gain water

63) What is the function of cellulose in plant cell?

64) What does the nucleus contain?

65) Why is nucleus called controller or brain of the cell?

66) State two important functions of the nucleus of the cell.

67) What are chromosomes made up of?

68) What is DNA?Where is it present?

69) Which organelle is called factory of ribosomes?

70) Name two structures, which are found in plant cell, but not in animal cell.

71) Give the name of a structure and its function, which is found only in animal cell, but not in plant cell

72) Which of the following are present in animal cells?
Chloroplast, nucleus, vacuoles, cell wall and mitochondria

73) What are dictyosomes?

74) Is there any animal cell that lacks lysosomes?

75) In which cell organelle, the complete breakdown of glucose in the presence of oxygen takes place?

76) Name the energy currency of cell.

77) Where does the ATP synthesis occur in mitochondria?

78) Which is the most widely occurring plastid and where is it present?

79) Name the type of plastid that helps in the process of photosynthesis

80) Where stroma is present in a cell

81) Which of the organelles are present only in plants and possess their own genome and ribosomes?

82) Plant cells have large vacuoles each surrounded by a membrane. What is the name of this membrane?

83) Who coined the term 'protoplasm' for the fluid substance of the cell?

84) Name the smallest known cell.

85) Name the process in which diffusion takes place through a semipermeable membrane.

86) What are plastids? Name the different types of plastids found in plant cell.

87) What is plasma membrane made up of?

88) What did Robert Hooke observed first in cork cell?

89) Name the autonomous organelles in the cell.

90) What does protoplasm refer to?

91) Name two cells which keep changing their shape.

92) Name the smallest cell and the longest cell in human body.

93) Name 3 features seen/present in almost every cell.

94) What is diffusion?

95) What is the full form of DNA?

96) What is the function of chromosome?

97) Name the organelles present in liver of animals for detoxifying many poisons and drugs.

98) What is the energy currency of the cell?

99) Where are genes located in the cell?

100) Name the cell organelles that helps in packaging?

101) Name the cell organelle which helps in the transportation of material.

102) Name the cell organelle due to which leaves, flowers and fruits get their colour.

103) Name the cell organelle which helps in the formation of lysosome.

104) Name the cleansing organelle in the cell.

105) Name two cells with cell wall.

106) Why does mitochondria have largely folded inner membrane?

107) Which organelle makes the digestive enzyme of lysosome?

108) What are cisterns?

Passage Based Questions 4 x 1 = 4

109) Vasu was helping his mother in laying the table when they had some guest for dinner. Vasu was about to sprinkle salt on salad for dressing. His mother stopped him from doing so and told him that it is too early to sprinkle salt on the salad, he should do so only when they are seated for having the dinner.
(a) What would happen if salt is sprinkled on the salad?
(b) Which property of cells is seen in adding salt to it?
(c) What ualue of Vasu is seen?

110) Anu is a five year old girl who jozned the swimming classes. After the first class she was worried when she saw her wrinkled fingers. She asked her elder sister about the wrinkling and shrinking of her fingers. Her sister explained Anu why It was so.
(a) Why did the fingers wrinkle after swimming?
(b) What caused the shrinking/wrinkling of fingers?
(c) What valu of A u is seen in the above case?

111) Two sailors got marooned on the island, both of them were very thirsty and one of the satlors tried to drink sea water. The other sailor immediately stopped him from drinking the salty water of sea and suggested to wait for some help, stay calm and patient.
(a) What would happen if the sailor drinks salty water?
(b) What is osmosis?
(c) What value of sailors is reflected in the above act?

112) Sachin's mother wanted to use some eggs for incubation. Sachin helped his mother in separating rotten and spoilt eggs from the good ones. He took a bucket of water to separate them.
(a) How can one separate the rotten eggs from the good ones using water?
(b) What is the shell of egg made up of?
(c) What value of Sachin is seen in this act?

2 Marks 55 x 2 = 110

113) Who discovered cells and how?

114) How do substances like CO_2 and water move in and out of the cell? Discuss.

115) Fill in the gaps in the following table illustration differences between prokaryotic and eukaryotic cells.

PROKARYOTIC CELL	**EUKARYOTIC CELL**
Size: generally small (1-10 µm)	Size: generally large (5-100µm)
Nuclear region:.....and known as.....	Nuclear region: well-defined and surrounded by a nuclear membrane.
Chromosome: Single	More than one chromosome.
Membrane-bound cell organelles absent.	.....

116) What would happen to the life of a cell if there was no Golgi apparatus?

117) If the organisation of a cell is destroyed due to some physical or chemical influence, what will happen?

118) Which organelle is known as the powerhouse of the cell? Why?

119) Why is the plasma membrane called a selectively permeable membrane?

120) What will happen if an animal or plant cell is put into a solution of sugar and water?

121) What will happen when
(i) an egg without shell is placed in concentrated salt solution for 5 minutes.
(ii) an egg without shell is placed in pure / distilled water for 5 minutes. Give reason in brief.

122) Difference between diffusion and osmosis. Write any two examples where a living organism uses osmosis to absorb water.

123) Distinguish between hypotonic solution, isotonic solution and hypertonic solution.

124) What is the significance of cell wall in plant cell?

125) Distinguish between plasma membrane and cell wall.

126) Differentiate between prokaryotic cell and eukaryotic cell.

127) What is cytoplasm?

128) Write three main points of cell theory as expressed by Schleiden, Schwann and Virchow.

129) What is the function of an endoplasmic reticulum?

130) What is lacking in a virus which makes it depending on a living cell to multiply?

131) What are the functions of Golgi apparatus?

132) What are lysosomes?

133) What type of enzymes are present in the lysosomes? What is their function? Which organelles membrane manufacture these enzymes?

134) What are Plastids?

135) (a) Name the organelle which provides turgidity and rigidity to the plant cell. Name any two substances which are present in it.
(b) How are they useful in unicellular organisms?

136) What is the difference between a unicellular and multicellular organism? How is multicellularity advantageous over uni cellularity?

137) Write functions of the
(i) Inner membrane of mitochondria.
(ii) Nucleus of the cell.
(iii) Ribosomes present in active cells.

138) Teacher fixed one stained temporary mount of leaf peel cells under one microscope and another slide of cheek cells in the other microscope.He focused both slides under respective microscopes.Then the teacher asked students to observe the slides under microscopes and located the followings in peel cells and cheek cells:
(i) A densely stained body, called nucleus in both the slides.
(ii) A lightly stained substance, called cytoplasm surrounding the nucleus.
After observation the teacher asks the following questions:
(i) What do you infer from the activity?
(ii) What is the key message conveyed about plants and animals?

139) Our body is formed of millions of cells. Now, you can imagine how minute the cells are.We cannot see unicellular bacteria or our cheek cell without the help of microscope.We can see a type of cell with naked eye. These are shelled eggs, for example, egg of a hen. Eggs of a bird after hatching give rise young ones (chick).
With this information, answer the following questions:
(i) Egg of which bird is biggest?
(ii) Why is it said that take one egg daily?
(iii) Why should we not eat more eggs daily for a long period?
(iv) What is your duty after getting this information?

140) The nail lies on a nail bed. The proximal part of the nail lies in the nail groove of the skin and the white part at called the lunula, is the portion from which the nail grows forward. The nail is firmly attached with the nail bed. The distal extremity of the nail is free-the free border. As the nail grows, the free border increases in length. This portion is formed of dead cells, which contain a tough substance called keratin. The dirt, dead cells of skin and other substances, such as bacteria due to itching or handling substances get deposited under the long grown nails.
On the basis of above information answer the following questions:
(i) What harm long nails can do to us?
(ii) What should we do to prevent this?
(iii) How would you use your knowledge regarding nails in the benefit of society?

141) A cell is a.building block of an organism. Explain why.

142) 'All plants and animals are composed of cells'. The above discovery was made by whom? What does it refer to?

143) Illustrate the various functions performed by a cell.

144) What do you mean by plasmolysis?

145) What would happen, if cell wall is not present in plant cell?

146) Differentiate between nucleus and nucleoid.

147) What does a chromosome contain?

148) Name two nucleic acids found in the cell write their functions

149) Categorise the cells on the basis of presence or absence of nuclear membrane.

150) Write two functions indicating that lysosomes are the suicidal bags of the cell

151) Give scientific reasons for the following:
(i) Inner membrane of mitochondria is deeply folded.
(ii) Mitochondria are able to make some of their proteins

152) Bacteria do not have chloroplast, but some bacteria are photoautotrophic in nature and perform photosynthesis. Which part of bacterial cell performs this?

153) Name the two cell organelles, which are bound by a double layered membrane. Give one function of each.

154) Give one word answer to the following:
(i) Organelle containing chlorophyll.
(ii) An organelle with cristae.
(iii) An organelle with ribosomes attached to its surface.
(iv) living matter of the cell.

155) Why do some regions appear darker than other regions on staining the cell with methylene blue? Name the other solutions that can be used for staining.

156) How does a fungal cell differ from bacterial cell?

157) Explain how do cell walls permit the cells of fungi to withstand very dilute external media without bursting.

158) The Golgi apparatus is also called1he secretory organelle of the cell. Why?

159) Why does the skin of your fingers shrink when you wash clothes for a long time?

160) A person takes concentrated solution of salt. After some time he starts vomiting. What is the phenomenon responsible for such a situation? Explain.

161) If you are provided with some vegetables to cook, during cooking process you generally add salt into vegetables. After adding salt, vegetables release water. Which mechanism is responsible for this

162) What happens to an animal cell when it is placed in a very dilute external medium? Explain. Can diffusion lead to same consequences?

163) Why is endocytosis found in animals only?

164) Pick the odd one out from Golgi apparatus, Cytoplasm, Endoplasmic reticulum, Lysosomes. Explain

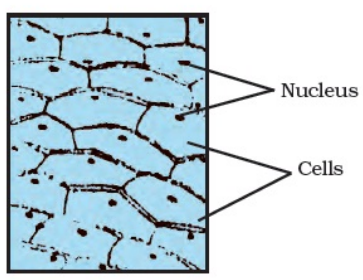
165) Can a single cell live independently on its own? Explain with example.

166) Differentiate between diffusion and Osmosis.

167) State three differences between plasma membrane and cell wall.

Activity Based Questions 7 x 2 = 14

168) i. Let us take a small piece from an onion bulb. With the help of a pair of forceps, we can peel off the skin (called epidermis) from the concave side (inner layer) of the onion. This layer can be put immediately in a watch-glass containing water. This will prevent the peel from getting folded or getting dry. What do we do with this peel?
ii. Let us take a glass slide, put a drop of water on it and transfer a small piece of the peel from the watch glass to the slide. Make sure that the peel is perfectly flat on the slide. A thin camel hair paintbrush might be necessary to help transfer the peel. Now we put a drop of safranin solution on this piece followed by a cover slip. Take care to .
What do we observe as we look through the lens? Can we draw the structures that we are able to see through the microscope, on an observation sheet? Does it look like Fig.?



169) i. We can try preparing temporary mounts of leaf peels, tip of roots of onion or even peels of onions of different sizes.
ii. After performing the above activity, let us see what the answers to the following questions would be:
(a) Do all cells look alike in terms of shape and size?
(b) Do all cells look alike in structure?
(c) Could we find differences among cells from different parts of a plant body?
(d) What similarities could we find?

170) Osmosis with an egg
i. Remove the shell of an egg by dissolving it in dilute hydrochloric acid. The shell is mostly calcium carbonate. A thin outer skin now encloses the egg. Put the egg in pure water and observe after 5 minutes. What do we observe?
The egg swells because water passes into it by osmosis.
ii. Place a similar de-shelled egg in a concentrated salt solution and observe for 5 minutes. The egg shrinks. Why? Water passes out of the egg solution into the salt solution because the salt solution is more concentrated.

171) i. Put dried raisins or apricots in plain water and leave them for some time. Then place them into a concentrated solution of sugar or salt. You will observe the following:
(a) Each gains water and swells when placed in water.
(b) However, when placed in the concentrated solution it loses water, and consequently shrinks.

172) i. Find out about electron microscopes from resources in the school library or through the internet. Discuss it with your teacher.

173) i. Mount the peel of a Rhoeo leaf in water on a slide and examine cells under the high power of a microscope. Note the small green granules, called chloroplasts. They contain a green substance called chlorophyll. Put a strong solution of sugar or salt on the mounted leaf on the slide. Wait for a minute and observe under a microscope. What do we see?
ii. Now place some Rhoeo leaves in boiling water for a few minutes. This kills the cells. Then mount one leaf on a slide and observe it under a microscope. Put a strong solution of sugar or salt on the mounted leaf on the slide. Wait for a minute and observe it again. What do we find? Did plasmolysis occur now?

174) i. Let us take a glass slide with a drop of water on it. Using an ice-cream spoon gently scrape the inside surface of the cheek. Does any material get stuck on the spoon? With the help of a needle we can transfer this material and spread it evenly on the glass slide kept ready for this. To colour the material we can put a drop of methylene blue solution on it. Now the material is ready for observation under microscope. Do not forget to put a cover-slip on it!.
ii. What do we observe? What is the shape of the cells we see? Draw it on the observation sheet.
iii. Was there a darkly coloured, spherical or oval, dot-like structure near the centre of each cell? This structure is called nucleus. Were there similar structures in onion peel cells?

3 Marks 51 x 3 = 153

175) Make a comparison and write down ways in which plant cells are different from animal cells.

176) How is a prokaryotic cell different from a eukaryotic cell?

177) What would happen if the plasma membrane ruptures or breaks down?

178) Which type of cell division is required for growth and repair of body and which type is involved in formation of gametes?

179) Carry out the following osmosis experiment:
Take four peeled potato halves and scoos each one out to make potato cups. One of these potato cups should be made from a boiled potato. Put each potato cup in a trough containing water. Now,
(a) Keep cup A empty
(b) Put one teaspoon sugar in cup B
(c) Put one teaspoon salt in cup C
(d) Put one teaspoon sugar in the boiled potato cup D.
Keep these for two hours. Then observe the four potato cups and answer the following:
(i) Explain why water gathers in the hollowed portion of B and C.
(ii) Why is potato A necessary for this experiment?
(iii) Explain why water does not gather in the hollowed out portions of A and D.

180) Describe the role played by the Lysosomes. Why are these termed as suicidal bags? How do they perform their function?

181) List the contributions of the scientists given below in context of the study of cells
(i) Antony van Leeuwenhoek
(ii) Robert Brown
(iii) Camillo Golgi

182) What are the consequences of the following conditions?
(i) Cell having higher water concentration than surrounding medium.
(ii) A cell having lower water concentration than surrounding medium.
(iii) A cell having equal concentration to its surrounding medium.

183) State in brief, what happens when
(i) Dry apricots are left for some time in pure water and later transferred to sugar solution.
(ii) Rhoe leaves are boiled in water first and then a drop of sugar syrup is put on it.
(iii) Golgi apparatus are removed from the cell.

184) Describe the structural features of cell membrane and cell wall. Why is cell membrane called selectively permeable membrane?

185) Explain in detail what do you know about the structure of nucleus.

186) (a) Where are chromosomes located? What is chromatin material and how does it change just before the cell divides?
(b) The functional segments of DNA are genes.' Give reason.

187) What do you mean by the following terms?
(i) Protoplasm
(ii) Cytoplasm
(iii) Nucleoplasm

188) State some differences between cytoplasm and nucleoplasm.

189) Differentiate between Rough Endoplasmic Reticulum (RER) and Smooth Endoplasmic Reticulum (SER). How endoplasmic reticulum is important for membrane biosynthesis?

190) Describe the phenomenon of membrane biogenesis. Give one function of ER.

191) Name the organelle of the cell, which is involved in the formation of lysosomes. Write its functions in the cell

192) (i) Why lysosomes are known as 'scavengers of the cell'?
(ii) Lysosomes are self-destructive. True/ false. Give reason.

193) How many membranes are present in mitochondria? Give the characteristic features of these membranes. What is the advantage of such features?

194) Name a cell organelle found only in a plant cell and mention its various types.

195) Give the differences between leucoplasts and chromoplasts.

196) Which type of plastid stores starch, oil and proteins?

197) Write the name of different plant parts in which chloroplast, chromoplast and leucoplast are present.

198) Why does plant cell possess large-sized vacuoles?

199) State reason for the following:
(i) Mitochondria known as powerhouse of the cell.
(ii) Plastids are able to make their own protein.
(iii) Plant cell shrinks when kept in hypertonic solution.

200) Name the organelles, which show analogy written as under.
(i) Transporting channels of the cell.
(ii) Powerhouse of the cell.
(iii) Packaging and dispatching unit of the cell.
(iv) Digestive bag of cell.
(v) Storage sac of the cell.
(vi) Control room of the cell

201) Observe the given figure and answer the following questions:
(i) What has happened to cells A and B? Explain.
(ii) Identify the type of solution in which cells A and B are placed.
(iii) Name and explain the process that has taken place in cells A and B

202) We eat food composed of all nutrients such as carbohydrates, proteins, fats, minerals, vitamins and water. After digestion they get absorbed in the form of glucose, amino acids, fatty acids,glycerol etc. Which mechanism is involved in the absorption of digested food and water?

203) In a project work, two Rhoe peels were taken. One peel was put in a petri dish containing cold water and other was put in a petri dish containing hot water. After a while, both were transferred to hypertonic solutions. The peels were observed under a microscope. Aman was the only one who noticed difference in observations of both the peels.
Answer the following questions based on above information:
(i) What will be the difference in observation of both the peels?
(ii) What are the values displayed by Arnan?

204) In a project work, the onion peel slide was prepared by Ajay, which he stained with
(i) iodine solution and then second slide he stained with
(ii) methylene blue.
He observed that different regions got different colours.
Answer the following questions:
(i) Why there was the need to stain the peel?
(ii) Can he use both the stains as a replacement of each other?
(iii) Why do different regions of the slide got coloured differently?
(iv) What values are shown by Ajay?

205) Shilpa told her sister, that cells were discovered by Robert Hooke in 1665. Based on this observation cell theory was developed. As Shilpa does not have microscope, she was not able to show
the structure of cell to her sister. Her sister however insisted to show her a cell.
(i) What can be shown by Shilpa to give her sister an idea of typical cell?
(ii) How can we summarise the life span of a cell?
(iii) What values are shown by Shilpa?

206) State two conditions required for osmosis.

207) How does funqi and bacteria can withstand much greater changes in the surrounding medium than animal cells?

208) Give the function of nuclear membrane.

209) Name the cell-organelles that have their own DNA and ribosomes.

210) State the difference between smooth endoplasmic reticulum and rough endoplasmic reticulum.

211) What is the function of vacuoles?

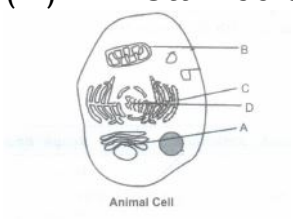
212) When we put raisins in water, why do they swell?

213) Why are lysosomes called suicidal bags?

214) What is nucleoid?

215) What is the role of cell organelles in the cell?

216) Label the figure and answer the questions:
(i) A - It is the packaging organelle
(ii) B - Provides energy
(iii) C - helps in the transport of material
(iv) D - Carries the information.



217) What is the function of nucleus in a cell?

218) What is the function of plastids?

219) Do vacuoles store some material? If yes, name them.

220) Explain the structure and function of Golgi bodies.

221) What are ribosomes? Where are they located in the cell? What is their function?

222) What is the difference in chromatin, chromosomes and gene?

223) Why do plant cells have more in number and big-sized vacuoles as compared to the animal cells?

224) Explain the following terms:
(a) Plasma membrane
(b) Cytoplasm
(c) Nucleus

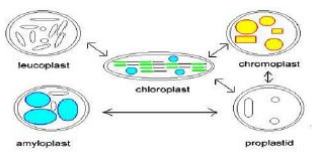
225) Draw various cells of human body.

4 Marks 1 x 4 = 4

226) Water forms two-thirds of the weight of the body. Body cells contain about 60% to 70% of water.All life processes carried out in a cell require water medium.It is essential to well being, deprivation or loss of water, as in case of diaohrrea, dysentry, vomiting etc. is more immediately serious than of any other article in diet.On the basis of above information answer the following questions:
(i) What first aid you will provide to a patient who has lost sufficient water from the body cells due to loose motions?
(ii) How would you prepare the solution to hydrate the body cells of the patient?
(iii) What would you do for the community with this information?

Case Study Questions 2 x 4 = 8

227) Leucoplasts are colourless plastids. They store starch, oil, proteins. Chromoplasts are coloured plastids. They contain pigments. e.g. Chloroplasts contain green pigment present in the plant cell. Chromoplasts provide colour to various flowers and fruits.



(i) What is the function of leucoplasts?

(a) They store starch, oil, proteins.

(b) They provide colour various flowers and fruits.

(c) They help in photosynthesis.

(d) They give support to the plants.

(ii) Which plastids provide colour to fruits and flowers?

(a) Leucoplasts **(b) Chromoplasts** **(c) Chloroplasts** **(d) Proteinoplast**

(iii) Which of the following statement is true?

(a) Plastids are present in both plant and animal cell.

(b) Plastids are absent in plant as well as animal cell.

(c) Plastids are present only in plant cell.

(d) Plastids are present only in animal cell.

(iv) Which plastids contain green pigment?

(a) Leucoplasts contain green pigment.

(b) Chloroplasts contain green pigment.

(c) Chromoplasts mainly contain green pigment.

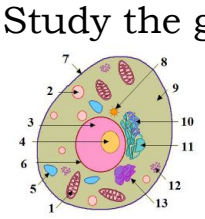
(d) None of the plastids contain green pigment.

(v) Which plastids bring about the process of photosynthesis ?

(a) Leucoplasts **(b) Chromoplasts mainly**

(c) Chloroplasts **(d) None of the plastids bring about photosynthesis.**

228) Study the given diagram and answer the following questions.



(i) Identify the given diagram.

(a) Structure of animal cell **(b) Structure of plant cell**

(c) Bacterial cell **(d) Prokaryotic cell**

(ii) The function of part labelled as 1 is_____

(a) Release of energy **(b) Protein synthesis**

(c) Transmission of heredity characters **(d) Storage**

(iii) Mention any two structures which are not found in above cell.

(a) Cell wall and ribosomes **(b) Cell wall and golgi apparatus**

(c) Cell membrane and Golgi apparatus **(d) Plastids and cell wall**

(iv) Chromosomes are present in_____

(a) Cell membrane **(b) Golgi apparatus**

(c) Endoplasmic reticulum **(d) Nucleus**

(v) Lysosomes are also called_____

(a) suicide bags **(b) digestive bags** **(c) demolition squads** **(d) all the above**

5 Marks 14 x 5 = 70

229) Describe the role played by the lysosomes in the cell. Why are these termed as suicidal bags? How do they perform their function?

230) Describe an activity to demonstrate endosmosis and exosmosis. Draw the diagram also.

231) Explain main functional regions of a cell with the help of a diagram.

232) Mention two ways by which a photo synthesising cell belonging to this group differs from a cell of plant body.

233) Name one organelle that can make some of its own proteins in plant cell and-mention one function of it in a cell.

234) Given below statements have underlined words which may be incorrect. Rewrite these words and state one function for each of them other than those (if) given.
(i) The fundamental organisational unit of life is an organ.
(ii)' The cell wall is an active part of the cell, and is selectively permeable.
(iii) The presence of plasma membrane enables the cells of plants and fungi to exist in hypotonic media without bursting.
(iv) The Golgi body functions both as a passageway for intracellular transport and as a manufacturing surface.
(v) Leucoplasts contain carotenoides and their primary function is storage

235) (i) Draw a neat labelled diagram of animal cell.
(ii) Name the structure, which helps in
(a) energy production
(b) exchange of materials between cytoplasm and nucleoplasm.
(c) lipid synthesis

236) Why are mitochondria called powerhouse of the cell? Give three similarities and one difference between mitochondria and plastid.

237) Write the main functions of atleast ten cell components.

238) What happens to the dry raisins, when placed in plain water for some time? State the reason for whatever is observed. What would happen if these raisins are then placed in concentrated salt solution?

239) Give five points of differences between plant cell and animal cell.

240) Give five points of differences between prokaryotic cell and eukaryotic cell.

241) Draw a neat labelled diagram of plant cell and label its parts.

242) Name the cell organelle for the following:
(a) Present only in plant cell, provides strength and rigidity to the cell.
(b) It is the site for lipids synthesis and helps in detoxification of drugs.
(c) The inner membrane is folded to form cristae, it has its own DNA and proteins.
(d) It helps in the formation of lysosomes.
(e) It imparts colour to the fruit and flowers.

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