

The Fundamental Unit of Life

1. NCERT INTEXT QUESTIONS

1. Who discovered cells and how?

Ans :

Robert Hooke discovered cells. He observed the cells in thin slices of cork through microscope. It looked like small compartments.

2. Why is the cell called structural and functional unit of life?

Ans :

Cells are called the structural and functional unit of life because all the living organisms are made up of cells and also all the functions taking place inside the body of organisms are performed by cell.

3. How do substances like CO
- ₂
- and water move in and out of the cell? Discuss.

Ans :

Substances move in and out of the cell by diffusion. Diffusion is the spontaneous movement of particles in order to attain equilibrium in concentration. While the movement of water through a semi-permeable membrane is called osmosis. It is important to note that plasma membrane is a semi-permeable membrane. Water always moves from high water concentration to low water concentration.

4. Why is the plasma membrane called a selectively permeable membrane?

Ans :

Plasma membrane permits passage to some selected substances only, that is why it is called a selectively permeable or semi-permeable membrane.

5. Fill in the gaps in the following table illustrating differences between prokaryotic cell and eukaryotic cell.

	Prokaryotic Cell	Eukaryotic Cell
1.	Size : generally small (1-10 μm) $1 \mu\text{m} = 10^{-6}\text{m}$	Size : generally large (5-100 μm)
2.	Nuclear region : ----- and known as -----	Nuclear region : well defined and surrounded by a nuclear membrane.
3.	Chromosome : single	More than one chromosome.

4.	Membrane bound cell organelles absent.	-----
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Ans :

	Prokaryotic Cell	Eukaryotic Cell
1.	Size : generally small (1-10 μm) $1 \mu\text{m} = 10^{-6}\text{m}$	Size : generally large (5-100 μm)
2.	Nuclear region : not well defined and known as nucleoid .	Nuclear region : well defined and surrounded by a nuclear membrane.
3.	Chromosome : single	More than one chromosome.
4.	Membrane bound cell organelles absent.	Membrane bound cell organelles are present.

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

Ans :

Mitochondria and chloroplast.

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

Ans :

Various function, of a cell is done by various parts of the cell. They work to continue life in the cell. If the organization of a cell is destroyed due to some physical or chemical influence, the cell will die.

8. Why are lysosomes known as suicide bags?

Ans :

Lysosomes contain digestive enzymes. The enzymes are released in the cytoplasm of the cell in case of a rupture in lysosome. This results in cell death. It is why lysosome is also known as suicide bags of cells.

9. Where are proteins synthesized inside the cell?

Ans :

Proteins are synthesized in ribosome.

2. NCERT EXERCISE QUESTIONS

1. Make a comparison between plant cells and animal

cells.

Ans :

	Plant Cell	Animal Cell
1.	A plant cell is usually larger in size.	An animal cell is comparatively smaller in size.
2.	It is enclosed by a rigid cellulose cell wall in addition to plasma membrane.	It is enclosed by a thin, flexible plasma membrane only.
3.	It cannot change its shape.	An animal cell can often change its shape.
4.	Plastids are present.	Plastids are usually absent.
5.	A mature plant cell contains a large central vacuole.	An animal cell often possesses many small vacuoles.
6.	Nucleus lies on one side in the peripheral cytoplasm.	Nucleus usually lies in the centre.
7.	Centrioles are usually absent.	Centrioles are practically present.
8.	Lysosomes are rare.	Lysosome always present in animal cells.
9.	Glyoxysomes may be present.	They are absent.
10.	Plasmodesmata are present.	Plasmodesmata are usually absent.

2. How is a prokaryotic cell different from a eukaryotic cell?

Ans :

	Prokaryotic Cell	Eukaryotic Cell
1.	Generally small in size.	Generally large in size.
2.	Membrane bound cell organelles are absent.	Membrane bound cell organelles are present.
3.	There is a single chromosome present.	There are more than one chromosome present.
4.	Nuclear region is not surrounded by nuclear membrane and well defined.	Nuclear region is surrounded by nuclear membrane and well defined.
5.	Cell division by fission or budding.	Cell division mitotic or meiotic.
6.	Nucleolus is absent.	Nucleolus is present.

3. What would happen if the plasma membrane ruptures or breaks down?

Ans :

Plasma membrane provides space for the cell organelles and cytoplasm. It protects the contents of a cell from external environment. The cell components would be exposed to the external environment in case the plasma membrane breaks down.

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

Ans :

Golgi apparatus plays the important role of packaging various substances for further use. Absence of Golgi apparatus can hinder the formation of new cells during cell division because protein and lipid are important for the formation of Plasma Membrane. If there were no Golgi bodies, packaging and dispatching of materials synthesised by the cell will be stocked.

5. Which organelle is known as the powerhouse of the cell? Why?

Ans :

Mitochondria is the powerhouse of the cell because respiration in cell takes place in mitochondria and the energy is stored in the form of ATP. It releases this energy required for different activities of life.

6. Where do the lipids and proteins constituting the cell membrane get synthesised?

Ans :

Lipids are synthesized in the SER and protein is synthesized in RER.

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7. How does an amoeba obtain its food?

Ans :

Amoeba obtains its food through temporary finger like projections of cell surface called pseudopodia. Amoeba surrounds a food particle by pseudopodia to engulf the food and makes a food vacuole after engulfing the food. This is called phagocytosis.

8. What is osmosis?

Ans :

The movement of water from high concentration to low concentration through a semi-permeable membrane is called osmosis.

9. Carry out the following osmosis experiment :

Take four peeled potato halves and scoop 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,

- keep cup A empty.
- put one teaspoon sugar in cup B.
- put one teaspoon salt in cup C.
- 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 :

- Explain, why water gathers in the hollow portion of B and C?

- (ii) Why is potato A necessary for this experiment?
 (iii) Explain, why water does not gather in the hollow portions of A and D?

Ans :

- (i) Water gathers in the hollow portions of set-up B and C because water enters the potato due to osmosis. Since the Medium surrounding the cell has a higher water concentration than the cell, the water moves inside by osmosis. Thus, water gathers in the hollowed portions of the potato cup.
 (ii) Potato A in the experiment performs as a control set-up. No water collects in the hollowed portions of potato A.
 (iii) Water does not gather in the hollowed portions of potato A because potato cup A is empty. It is a control set-up in the experiment.

Entry of water is not possible in potato D because the potato used here is boiled. Boiling denatures the proteins present in the cell membrane, so disrupts the cell membrane. A permeable membrane is required for osmosis, which is not present in this case. Therefore, osmosis will not occur.

10. Which type of cell division is required for growth and repair of body and which type is involved in the formation of gametes?

Ans :

Mitosis cell division is required for growth and repair and Meiosis cell division is required for the formation of gametes.

Explanation : There are two types of cell divisions Mitosis and Meiosis namely. Mitosis is the simple and mostly occurred types of cell division where a cell is divided into two cells. This type of division plays a major role in growth and repair of the body.

Meiosis is the second type of cell division usually occurred in the reproductive system of the body. In this type of division, sex chromosomes are essentially divided and is involved in gamete formation.

3. NCERT EXEMPLAR

Objective Type Questions

1. Which of the following can be made into crystal?
 (a) A bacterium (b) An amoeba
 (c) A virus (d) A sperm

Ans : (c) A virus

2. A cell will swell up if :
 (a) The concentration of water molecules in the cell is higher than the concentration of water molecules in surrounding medium.
 (b) The concentration of water molecules in surrounding medium is higher than water molecules concentration in the cell.
 (c) The concentration of water molecules is same in the cell and in the surrounding medium.

- (d) Concentration of water molecules does not matter.
Ans : (b) The concentration of water molecules in surrounding medium is higher than water molecules concentration in the cell.

3. Chromosomes are made up of :
 (a) DNA (b) protein
 (c) DNA and protein (d) RNA

Ans : (c) DNA and protein

4. Which of these options are not a function of ribosomes?
 (i) It helps in manufacture of protein molecules
 (ii) It helps in manufacture of enzymes
 (iii) It helps in manufacture of hormones
 (iv) It helps in manufacture of starch molecules
 (a) (i) and (ii) (b) (ii) and (iii)
 (c) (iii) and (iv) (d) (iv) and (i)

Ans : (c) (iii) and (iv)

5. Which of these is not related to endoplasmic reticulum?
 (a) It behaves as transport channel for proteins between nucleus and cytoplasm.
 (b) It transports materials between various regions in cytoplasm.
 (c) It can be the site of energy generation.
 (d) It can be the site for some biochemical activities of the cell.

Ans : (c) It can be the site of energy generation.

6. Following are a few definitions of osmosis, read carefully and select the correct definition :
 (a) Movement of water molecules from a region of higher concentration to a region of lower concentration through a semipermeable membrane.
 (b) Movement of solvent molecules from its higher concentration to lower concentration.
 (c) Movement of solvent molecules from higher concentration to lower concentration of solution through a permeable membrane.
 (d) Movement of solute molecules from lower concentration to higher concentration of solution through a semipermeable membrane.

Ans : (a) Movement of water molecules from a region of higher concentration to a region of lower concentration through a semipermeable membrane.

7. Plasmolysis in a plant cell is defined as :
 (a) Break down (lysis) of plasma membrane in hypotonic medium
 (b) Shrinkage of cytoplasm in hypertonic medium
 (c) Shrinkage of nucleoplasm
 (d) None of the above

Ans : (b) Shrinkage of cytoplasm in hypertonic medium

8. Which of the following are covered by a single membrane?
 (a) Mitochondria (b) Vacuole

(c) Lysosome (d) Plastid

Ans : (b) Vacuole, (c) Lysosome

9. Find out the false sentences :

- (a) Golgi apparatus is involved with the formation of lysosomes.
 (b) Nucleus, mitochondria and plastid have DNA; hence, they are able to make their own structural proteins.
 (c) Mitochondria is said to be the powerhouse of the cell as ATP is generated in them.
 (d) Cytoplasm is called as protoplasm.

Ans : (a) Golgi apparatus is involved with the formation of lysosomes.

10. Find out the correct sentence :

- (a) Enzymes packed in lysosomes are made by RER (rough endoplasmic reticulum).
 (b) Rough endoplasmic reticulum and smooth endoplasmic reticulum produce lipid and protein respectively.
 (c) Endoplasmic reticulum is related with the destruction of plasma membrane.
 (d) Nucleoid is present inside the nucleoplasm of eukaryotic nucleus.

Ans : (a) Enzymes packed in lysosomes are made by RER (rough endoplasmic reticulum).

11. Which cell organelle plays a crucial role in detoxifying many poisons and drugs in a cell?

- (a) Golgi apparatus
 (b) Lysosomes
 (c) Smooth endoplasmic reticulum
 (d) Vacuoles

Ans : (c) Smooth endoplasmic reticulum

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12. The proteins and lipids, essential for building the cell membrane, are manufactured by :

- (a) rough endoplasmic reticulum
 (b) golgi apparatus
 (c) plasma membrane
 (d) mitochondria

Ans : (a) rough endoplasmic reticulum

13. The undefined nuclear region of prokaryotes are also known as :

- (a) nucleus (b) nucleolus
 (c) nucleic acid (d) nucleoid

Ans : (d) nucleoid

14. The cell organelle involved in forming complex sugars from simple sugars are :

- (a) endoplasmic reticulum
 (b) ribosomes
 (c) plastids
 (d) Golgi apparatus

Ans : (d) Golgi apparatus

15. Which out of the following is not a function of vacuole?

- (a) Storage
 (b) Providing turgidity and rigidity to the cell
 (c) Waste excretion
 (d) Locomotion

Ans : (d) Locomotion

16. Amoeba acquires its food through a process, termed :

- (a) exocytosis
 (b) endocytosis
 (c) plasmolysis
 (d) exocytosis and endocytosis both

Ans : (b) endocytosis

17. Cell wall of which one of these is not made up of cellulose?

- (a) Bacteria (b) Hydrilla
 (c) Mango tree (d) Cactus

Ans : (a) Bacteria

18. Silver nitrate solution is used to study :

- (a) endoplasmic reticulum (b) Golgi apparatus
 (c) nucleus (d) mitochondria

Ans : (b) Golgi apparatus

19. Organelle other than nucleus, containing DNA is :

- (a) endoplasmic reticulum (b) Golgi apparatus
 (c) mitochondria (d) lysosome

Ans : (c) mitochondria

20. Kitchen of the cell is :

- (a) mitochondria
 (b) endoplasmic reticulum
 (c) chloroplast
 (d) golgi apparatus

Ans : (c) chloroplast

21. Lipid molecules in the cell are synthesized by :

- (a) smooth endoplasmic reticulum
 (b) rough endoplasmic reticulum
 (c) golgi apparatus
 (d) plastids

Ans : (a) smooth endoplasmic reticulum

22. Cell arises from pre-existing cell was stated by :

- (a) Haeckel (b) Virchow
 (c) Hooke (d) Schleiden

Ans : (b) Virchow

23. Cell theory was given by :

- (a) Schleiden and Schwann (b) Virchow
 (c) Hooke (d) Haeckel

Ans : (a) Schleiden and Schwann

24. The only cell organelle seen in prokaryotic cell is :

- (a) mitochondria (b) ribosomes
(c) plastids (d) lysosomes

Ans : (b) ribosomes

25. Organelle without a cell membrane is :

- (a) ribosome (b) Golgi apparatus
(c) chloroplast (d) nucleus

Ans : (a) ribosome

26. $1\ \mu\text{m}$ is :

- (a) 10^{-6} m (b) 10^{-9} m
(c) 10^{-10} m (d) 10^{-3} m

Ans : (a) 10^{-6} m

27. Lysosome arises from :

- (a) endoplasmic reticulum (b) Golgi apparatus
(c) nucleus (d) mitochondria

Ans : (b) Golgi apparatus

28. Living cells were discovered by :

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

Ans : (c) Leeuwenhoek

29. Select the odd one out

- (a) The movement of water across a semipermeable membrane is affected by the amount of substances dissolved in it.
(b) Membranes are made of organic molecules like proteins and lipids.
(c) Molecules soluble in organic solvents can easily pass through the membrane.
(d) Plasma membranes contain chitin sugar in plants.

Ans : (d) Plasma membranes contain chitin sugar in plants.

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Short Answer Questions

30. Why are lysosomes known as 'suicide-bags' of a cell?

Ans :

Lysosomes are known as suicide bags as they are membrane bound organelles which contains hydrolytic enzymes which have the capability to digest all organic components present and even unwanted cells. Lysosomes may burst and the digestive enzymes thus released digest their own cell.

31. Do you agree that "A cell is a building unit of an organism." If yes, explain why?

Ans :

Yes, cells are the building blocks of life. Every organism is made up of basic unit called cell. The different and special property of a cell helps the cell to form tissues,

which further joins to form organs and transforms into a complete organism finally.

32. Why does the skin of your finger shrink when you wash clothes for a long time?

Ans :

The skin of our finger shrinks when we wash clothes for a long time due to the process of osmosis. In this, the moisture present inside our fingers flows out due to the presence of hypertonic solution of detergent water. This causes our skin to shrink.

33. Why is endocytosis found in animals only?

Ans :

The process where cells have to engulf the food and other substances from external environment is called endocytosis. This is because cell wall is absent in animals.

34. A person takes concentrated solution of salt, after sometime, he starts vomiting. What is the phenomenon responsible for such situation? Explain.

Ans :

Concentrated salt solution causes irritation and excessive dehydration in the wall of alimentary canal due to exosmosis. There is uncomfortable stretching which causes reverse movements and result vomiting.

35. Name any cell organelle which is non-membranous.

Ans :

Ribosome is cell organelle which is non-membranous.

36. We eat food composed of all the nutrients like carbohydrates, proteins, fats, vitamins, minerals and water. After digestion, these are absorbed in the form of glucose, amino acids, fatty acids, glycerol, etc. What mechanisms are involved in absorption of digested food and water?

Ans :

Water is absorbed through the process of osmosis. Fatty acids and glycerol are diffused through submissive transport mechanism. Active transport helps in the absorption of glucose, amino acids and some ions.

37. If you are provided with some vegetables to cook, you generally add salt into the vegetables during cooking process. After adding salt, vegetables release water. What mechanism is responsible for this?

Ans :

Vegetables release water (present in it) when salt is added due to the process of exosmosis.

38. If cells of onion peel and RBC are separately kept in hypotonic solution, what among the following will take place? Explain the reason for your answer.

- (i) Both the cells will swell.
(ii) RBCs will burst easily while cells of onion peel will resist the bursting to some extent.
(iii) (i) and (ii) both are correct.

(iv) RBC and onion peel cells will behave similarly.

Ans :

(ii) RBC cells will burst out due to osmosis in hypertonic solution, as they do not have cell wall. While in the onion peel cell, a counter pressure is opposite inside the cell against the direction of the entry of water after the cells become turgid. Due to this the further entry of water reduces.

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

Ans :

These types of bacteria have photosynthetic pigments inside their vesicles attached to the plasma membrane, which helps in photosynthesis.

40. Match the following A and B :

	A		B
(1)	Smooth endoplasmic reticulum	(a)	Amoeba
(2)	Lysosome	(b)	Nucleus
(3)	Nucleoid	(c)	Bacteria
(4)	Food vacuoles	(d)	Detoxification
(5)	Chromatin material and nucleolus	(e)	Suicidal bags

Ans :

	A		B
(1)	Smooth endoplasmic reticulum	(d)	Detoxification
(2)	Lysosome	(e)	Suicidal bags
(3)	Nucleoid	(c)	Bacteria
(4)	Food vacuoles	(a)	Amoeba
(5)	Chromatin material and nucleolus	(b)	Nucleus

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

Ans :

- (i) Chromoplasts : flowers and fruits
- (ii) Chloroplasts : green parts of plants (stems, leaves, etc.)
- (iii) Leucoplasts : The covered underground parts (roots, stems, etc.)

42. Name the organelles which show the analogy written as under :

- (a) Transporting channels of the cell _____
- (b) Powerhouse of the cell _____
- (c) Packaging and dispatching unit of the cell _____
- (d) Digestive bag of the cell _____
- (e) Storage sacs of the cell _____
- (f) Kitchen of the cell _____

(g) Control room of the cell _____

Ans :

- (a) endoplasmic reticulum
- (b) mitochondria
- (c) golgi body
- (d) lysosome
- (e) vacuole
- (f) chloroplast
- (g) nucleus

43. How is a bacterial cell different from an onion peel cell?

Ans :

The bacterial cells are the type of prokaryotic cells, but the onion peel cells come under plant cells (eukaryotes).

44. How do substances like carbon dioxide (CO₂) and water (H₂O) move in and out of the cell?

Ans :

Diffusion helps in the gaseous exchange and due to the chemical concentration difference and osmosis helps for water movement.

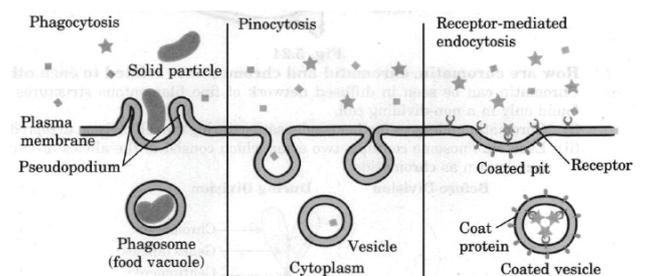
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45. How does amoeba obtain its food?

Ans :

The process through which amoeba takes up food is called as endocytosis. It includes three different types of consumption depending upon the food particle. If solid then through phagocytosis, liquid food particles are taken up by pinocytosis and endocytosis depend on various receptors.

Endocytosis



46. Name the two organelles in a plant cell that contain their own genetic material and ribosomes.

Ans :

Mitochondria and plastids.

47. Why are lysosomes also known as “scavengers of the cells”?

Ans :

Due to the properties of lysosomes like dead cell removals, cleaning the debris and indigestion of the unwanted particles through the digestive enzymes present in it, it is called “scavengers of the cells”.

48. Which cell organelle controls most of the activities of

the cell?

Ans :

Nucleus controls most of the activities of the cell.

49. Which kind of plastid is more common in :

- (i) Roots of the plant?
- (ii) Leaves of the plant?
- (iii) Flowers and fruits of the plant?

Ans :

- (i) Leucoplasts
- (ii) Chloroplasts
- (iii) Chromoplasts

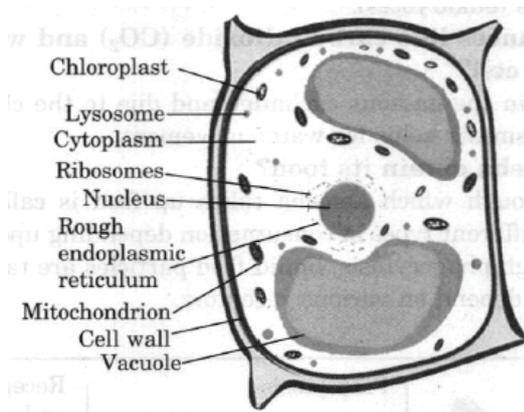
50. Why do plant cells possess large sized vacuole?

Ans :

The membrane bound sacs found in cytoplasm of a plant cell is known as vacuole.

It has many functions :

- (a) Its large size provides structural support.
- (b) It helps in storage, waste disposal as well as protection.
- (c) They also contain cell sap which provides cell turgidity.

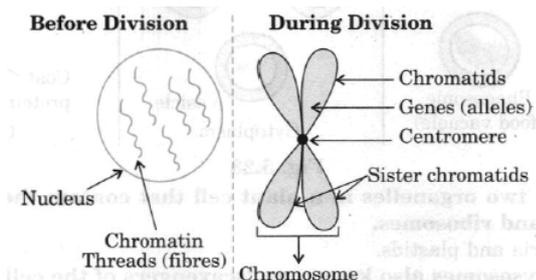


51. How are chromatin, chromatid and chromosomes related to each other?

Ans :

Chromatin can be seen in diffused network of fine filamentous structures and found only in a non-dividing cell.

- (i) Chromatin undergoes further condensation during the cell division to reproduce.
- (ii) Each chromosome contains two arms which consist of the alleles at various loci, known as chromatids.



52. What are the consequences of the following conditions?

- (i) A cell containing higher water concentration than the surrounding medium.

(ii) A cell having low water concentration than the surrounding medium.

(iii) A cell having equal water concentration to its surrounding medium.

Ans :

- (i) Due to exosmosis, water will come out of the cell.
- (ii) Endosmosis will pull water inside the cell.
- (iii) This condition will have no effect on the cell.

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Long Answer Questions

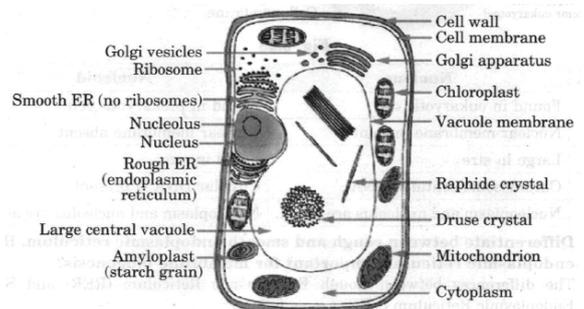
53. Draw a plant cell and label the parts which :

- (a) Determines the function and development of the cell.
- (b) Packages materials coming from the endoplasmic reticulum.
- (c) Provides resistance to microbes to withstand hypotonic external media without bursting.
- (d) Is site for many biochemical reactions necessary to sustain life.
- (e) Is a fluid contained inside the nucleus.

Ans :

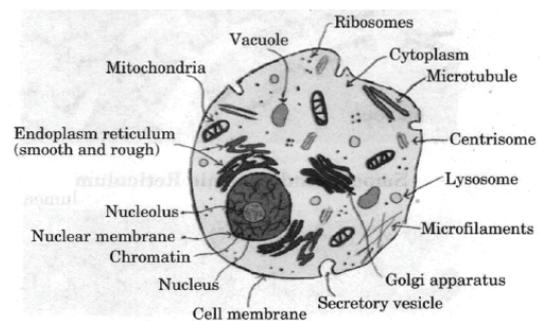
Following is the schematic diagram of plant cell containing the specific cell organelles as asked in the question :

- (a) Nucleus
- (b) Golgi apparatus
- (c) Cell wall
- (d) Cytoplasm
- (e) Nucleoplasm



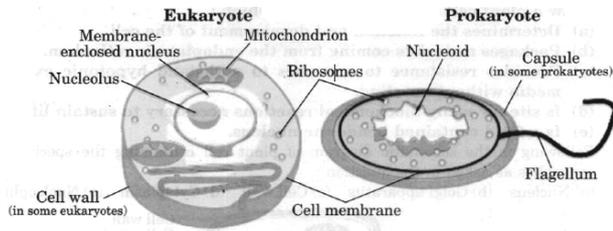
54. Draw a neat labelled diagram of an animal cell.

Ans :



55. Draw a well labelled diagram of a eukaryotic nucleus. How is it different from nucleoid?

Ans :

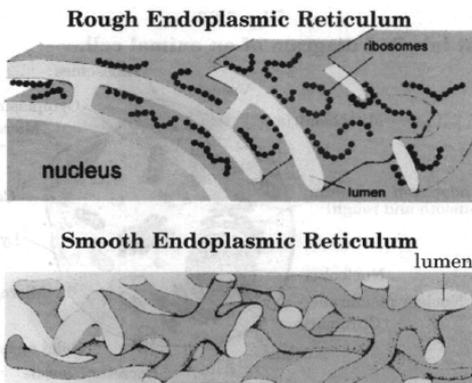


	Nucleus	Nucleoid
1.	Found in eukaryotic cell	Found in prokaryotic cell
2.	Nuclear membrane present	Nuclear membrane absent
3.	Large in size	Small in size
4.	Chromosome contains DNA	Circular DNA is present.
5.	Nucleoplasm and nucleolus are found.	Nucleoplasm and nucleolus are absent.

56. Differentiate between rough and smooth endoplasmic reticulum. How is endoplasmic reticulum important for membrane biogenesis?

Ans :

The differences between Rough Endoplasmic Reticulum (RER) and Smooth Endoplasmic Reticulum (SER) are as follows :



Smooth Endoplasmic Reticulum	Rough Endoplasmic Reticulum
SER has no ribosomal particles on the surface, hence looks smooth. It helps in the manufacture of lipids and fat molecules.	RER has particles of ribosomes on the surface, hence looks rough. Ribosomes, are the site of protein synthesis.

57. In brief state, what happens when :

- Dry apricots are left for sometime in pure water and later transferred to sugar solution?
- A Red Blood Cell is kept in concentrated saline solution?
- The Plasma-membrane of a cell breaks down?
- Rheo leaves are boiled in water first and then a drop of sugar syrup is put on it?
- Golgi apparatus is removed from the cell?

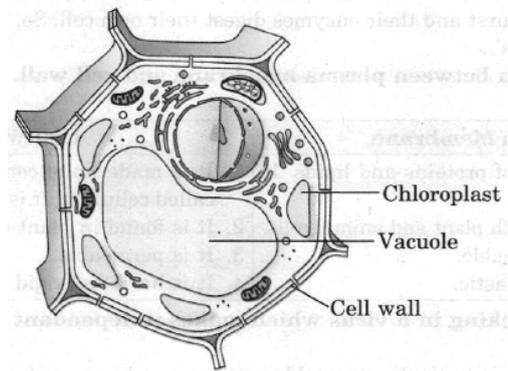
Ans :

- Initially when water solution is kept, endosmosis take place. Later, due to the transfer of sugar solution, exosmosis take place and result is as a shrinkage of apricot.
- Concentrated saline medium will force the RBC to shrink and collapse due to exosmosis.
- The Plasma-membrane of a cell breaks down because of huge damage to the cell's internal environment.
- The cells will be killed by boiling at high temperature and there would be no effect of addition of sugar syrup.
- Separate vesicles are formed with the help of Golgi apparatus. Hence, this will be influenced.

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58. Draw a neat diagram of plant cell and label any three parts which differentiate it from animal cell.

Ans :



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Science IX

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NCERT_Text_5	NCERT_Sol_5	OBJECTIVE_5	QUES_BANK_5
NCERT_Text_6	NCERT_Sol_6	OBJECTIVE_6	QUES_BANK_6
NCERT_Text_7	NCERT_Sol_7	OBJECTIVE_7	QUES_BANK_7
NCERT_Text_8	NCERT_Sol_8	OBJECTIVE_8	QUES_BANK_8
NCERT_Text_9	NCERT_Sol_9	OBJECTIVE_9	QUES_BANK_9
NCERT_Text_10	NCERT_Sol_10	OBJECTIVE_10	QUES_BANK_10
NCERT_Text_11	NCERT_Sol_11	OBJECTIVE_11	QUES_BANK_11
NCERT_Text_12	NCERT_Sol_12	OBJECTIVE_12	QUES_BANK_12
NCERT_Text_13	NCERT_Sol_13	OBJECTIVE_13	QUES_BANK_13
NCERT_Text_14	NCERT_Sol_14	OBJECTIVE_14	QUES_BANK_14
NCERT_Text_15	NCERT_Sol_15	OBJECTIVE_15	QUES_BANK_15