



# BIOLOGY

## NCERT - NCERT Biology(Telugu)

### CELL ITS STRUCTURE AND FUNCTION

#### Exercise

1. Differentiate between Plant cell and animal cell



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2. Differentiate between Prokaryotic and eukaryotic cells.



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3. What would happen to the cell if nucleus is removed? Give two reasons to support your answer.



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4. Lysosomes are known as suicidal bags of the cells. Why?



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5. Why does plant cell possess large sized vacuole?



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





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7. Who and when “The cell theory” proposed?  
When did they prepare it? What are its salient features?



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8. What happens if plasma membrane ruptures or breaks?



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9. What would happen to the life of cell if there was no golgi complex?



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10. When you are observing the nucleus of cheek cell in laboratory, what precautions do you take?



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**11.** Prepare a model of plant cell or animal cell with locally available materials.



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**12.** Prepare a temporary mount of any leaf peel, observe the stomata and draw their picture. Write a short note on the same.



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**13.** Draw the Typical Animal Cell and label its parts.



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**14.** How do you appreciate about the organization of cell in the living body.



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**15.** If the organization of cell is destroyed due to physical and chemical influence, what will happen?



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**16.** How could you appreciate the function of tiny cell in a large body of an organism?



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**17.** explain what are non biodegradable wastes  
?



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**18.** Describe cell membrane.



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**19.** Describe cell membrane.



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**20.** Describe nucleus with a well labeled diagram.



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**21.** Describe endoplasmic reticulum.



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**22.** What procedure do you follow to observe mitochondria under microscope?



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**23.** Draw a neat labelled diagram of chloroplast.



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**24.** Draw a well labeled diagram of mitochondria.



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**25.** Explain the inner structure of nucleus with the help of a diagram.



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**26.** What is the role of cell wall in plant cells?



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**27. What are the important cell organelles?**



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**28. Explain the principles of cell theory.**



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**29.** Why are lysosomes called 'suicidal bags of a cell'?



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**30.** Describe the structure and function of Mitochondria



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**31.** Which cell consists of chloroplasts?



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**32.** What is the extra covering present in plant cell apart from cell membrane?



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**33.** Why is salt solution added to the slide while observing cell membrane?



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**34.** What is the major difference between plant and animal cell?



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**35.** What is cell membrane made up of?



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**36.** Which organelle gives shape and protection to plant cell?







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**37.** Give examples of cells that do not have a nucleus/



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**38.** What does the term 'protoplasm' mean?



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**39.** What is cytoplasm?



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**40.** What are cell organelles important for a cell?



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**41.** What is the size of mitochondria?



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**42.** What is the function of Golgi apparatus?



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**43.** The green substance present in leaves and other parts of plant is called



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**44.** How many types of plastids are there?

What are they?



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**45.** What is the function of chloroplasts?



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**46.** Who proposed the cell theory?



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**47.** If the organization of cell is destroyed due to physical and chemical influence, what will happen?



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**48.** Cell wall in cells can be observed under-

A. a. simple microscope

B. b. compound microscope

C. c. optical microscope

D. d. OMR

**Answer:**



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**49.** Layer present above the cell membrane in plant cells is-

A. Cell wall

B. Cell layer

C. Cytoplasm

D. Plasma membrane

**Answer:**



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**50.** Why should we put salt solution over the peeled rheo leaf?

A. A. Salt goes inside the cells

B. B. Water comes out of the cells

C. C. Water in the cells comes out

D. D. Salt in cells comes out

**Answer:**



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**51.** Structure of cell membrane can be observed through-

A. Optical microscope

B. Electron microscope



C. Compound microscope

D. Simple microscope

**Answer:**



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**52. Cell membrane is-**

A. Flexible

B. Rigid

C. Plastic

D. Glass

**Answer:**



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**53.** Cell membrane is made up of-

A. Lipids

B. Proteins

C. Gases

D. Both A and B

**Answer:**



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**54.** The \_\_\_\_\_ separates cytoplasm from external environment-

- A. Cell wall
- B. Cell membrane
- C. Both
- D. None

**Answer:**



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**55.** Cell membrane is also called-

- A. Cell wall
- B. Plasma membrane
- C. Cytoplasm
- D. Protoplasm

**Answer:**



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56. Which of the following is the function of cell membrane?

- A. Defines shape of cell
- B. Maintains balance in cell
- C. Protects the cell
- D. All the above

**Answer:**



57. Which of the following is unique to plant cells?

- A. Cell membrane
- B. Plasma membrane
- C. Cell wall
- D. Cytoplasm

**Answer:**



**58.** Plasma membrane is –

- A. Permeable
- B. Impermeable
- C. Selectively permeable
- D. Impervious

**Answer:**



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59. Main component of cell wall is-

A. Cellulose

B. Sucrose

C. Glucose

D. Dextrose

**Answer:**



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60. Control room of a cell is-



A. Cell wall

B. Mitochondria

C. Ribosome

D. Nucleus

**Answer:**



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**61.** Which of the following cells do not have nucleus?

- A. RBC in some mammals
- B. Sieve tube cells
- C. WBC in some mammals
- D. Both A and B

**Answer:**



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**62.** Nucleus was called \_\_\_\_\_ by Schleiden

- A. Cytoblast

B. Cytotomb

C. Cytoplasm

D. Blastocyte

**Answer:**



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**63.** Nucleus was discovered by

A. Schleiden

B. Schwann

C. Robert Brown

D. Robert Hooke

**Answer:**



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**64.** Which of the following is the function of nucleus?

A. Regulates and controls functions of cell

B. Determines the characteristics of the cells

C. Involved in cell division

D. All the above

**Answer:**



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**65.** The prokaryotic cell has-

A. Organised nucleus

B. No organised nucleus

C. Cell bound organelles

D. Both A and B

**Answer:**



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**66.** Cyanobacteria is a-

A. Eukaryote

B. Prokaryote

C. Both

D. None

**Answer:**



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**67.** The fluid inside the plasma membrane is-

A. Nucleoplasm

B. Matrix

C. Cytoplasm

D. No fluid at all

**Answer:**



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**68.** Protoplasm is renamed as-

A. Cytoplasm

B. Nucleoplasm

C. Fluid water

D. both A and B



**Answer:**



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**69.** Function of Endoplasmic reticulum is-

- A. Respiration
- B. Transport of substances
- C. Cell division
- D. Protein manufacture

**Answer:**



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70. RER has \_\_\_\_\_ on its surface-

- A. Ribosomes
- B. Golgi complex
- C. Nucleolus
- D. Mitochondria

**Answer:**



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71. SER helps in manufacture of-

- A. Proteins
- B. Fats and lipids
- C. Carbohydrates
- D. Water

**Answer:**



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72. In vertebrate liver cells \_\_\_\_\_ plays a crucial role in detoxifying poison and drugs-

A. RER

B. SER

C. Golgi complex

D. Mitochondria

**Answer:**



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**73.** What is the function of Golgi bodies?

- A. Package proteins
- B. Production of ribosomes
- C. both A and D
- D. Transports proteins

**Answer:**



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74. Which of the following are called suicidal bags of cell?

A. Golgi complex

B. ER

C. Lysosomes

D. Mitochondria

**Answer:**



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75. A mitochondrion is \_\_\_\_\_ micron long and \_\_\_\_\_ micron wide-

A. Option1 2-8, 0.5

B. Option2 0.5, 2-8

C. Option3 0.5, 1-2

D. Option4 1-2, 0.5

**Answer:**



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76. Inner membrane folds of mitochondria is called-

A. Inner membrane

B. Janus green

C. Cristae

D. Vesicle

**Answer:**



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77. Space between the inner membrane in mitochondria is-

- A. Cytoplasm
- B. Mitochondrial space
- C. Protoplasm
- D. Matrix

**Answer:**



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**78.** Power houses of the cell is

A. Mitochondria

B. Ribosomes

C. Golgi complex

D. ER

**Answer:**



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79. Function of ribosomes is \_\_\_\_\_  
synthesis-

A. Fat

B. Protein

C. Lipid

D. Carbohydrate

**Answer:**



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**80.** Leucoplasts are

- A. Colourless
- B. Red in colour
- C. Green in colour
- D. Blue in colour

**Answer:**



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**81.** Chloroplasts contain green substance called-

A. Xanthophylls

B. Carotene

C. Chlorophyll

D. Leucophyll

**Answer:**



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**82.** Type of plastid among the following is-

A. Chloroplast

B. Mitochondria

C. Ribosomes

D. Nucleus

**Answer:**



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**83.** Diameter of chloroplasts is \_\_\_\_\_ microns-

A. 4-5

B. 44

C. 42

D. 4-10

**Answer:**



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**84.** Trapping solar energy is the primary function of-

A. Mitochondria

B. Chloroplasts

C. Ribosomes

D. Nucleus

**Answer:**



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**85.** Large empty spaces present in a cell are-

A. Vacuoles



B. Nucleolus

C. Lysosomes

D. Golgi apparatus

**Answer:**



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**86.** Vacuoles may occupy the entire cell in-

A. Animals

B. Bacteria

C. Fungi

D. Plants

**Answer:**



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**87.** The scientists who formulated the cell theory are-

A. Schwann

B. Schleiden

C. Robert Brown

D. Both A and B

**Answer:**



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**88.** The scientist who explained that cells divide to form new cells is-

A. Schwann

B. Schleiden

C. Rudolf Virchow

D. Robert Brown

**Answer:**



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**89.** Cell theory states that-

A. All cells are formed from pre existing cells

B. All living organisms are made up of cells

C. Cells divide to form new cells

D. All the above

**Answer:**



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**90.** Why does plant cell possess large sized vacuole?



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**91.** Cell is the basic unit of life. Discuss in brief.



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**92.** If the organization of cell is destroyed due to physical and chemical influence, what will happen?



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**93.** What happens to the dry raisins when we put them in plain water for sometime ? What happens if these raisins are now placed in, concentrated solution?



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**94.** How could you appreciate the function of tiny cell in a large body of an organism?



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**95.** Which organelle is known as the power house of the cell? Why?



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**96.** Proteins are formed in

A. Golgi bodies

B. Nucleus

C. Plastids

D. Ribosomes



**Answer:**



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**97.** The root hair absorbs water by the process called

- A. Osmosis
- B. Diffusion
- C. Plasmolysis
- D. None

**Answer:**



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**98.** The nucleus of the cell discovered by

A. Robert Brown

B. Leewenhoek

C. Robert Hook

D. None

**Answer:**



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**99.** The opening and closing of stomata is due to -

A. Sunlight

B. Plasmolysis

C. Osmosis

D. Diffusion

**Answer:**



**100.** Functional segments of DNA are called.

A. RNA

B. Ribosomes

C. Chromosomes

D. Genes

**Answer:**



**101.** The plastids which are coloured, green and colourless are known respectively as

- A. Chromoplasts, Chloroplasts, Leucoplasts
- B. Leucoplasts, Chromoplasts, Chloroplasts
- C. Chromoplasts, Leucoplasts, Chloroplasts
- D. None

**Answer:**



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**102.** Energy currency of the cell is called \_\_\_\_



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**103.** Fill in the blanks:

.....are a kind of wastage disposal systems of the cell.



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**104.** Fill in the blanks:

In a cell network of transport is.....



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**105.** Fill in the blanks:

.....acts as a power house of the cell.



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**106.** Fill in the blanks:

Plastids are present only.....cells.



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**107.** Fill in the blanks:

Vacuole is.....in plant cell and.....in animal cell.



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**108.** Write True/False:

The nucleus plays a central role in cellular reproduction.



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**109.** Write True/False:

Plastids are present both in plant and animal cells.



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**110.** Write True/False:

Leucoplasts are the coloured plastids.



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**111.** Write True/False:

Vacuoles are storage sacs for solid or liquid contents.



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**112.** Write True/False:

The cell wall of a plant cell is made up of cellulose.



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**113.** Write True/False:

The living material of the cell is called protoplasm.



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## Example

1. What is Protoplasm? Who coined this term and when?



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2. What would happen to the life of cell if there was no golgi complex?



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3. Read the chapter carefully, collect the information about the functions of different organelles and make a table which contains serial number, cell organelle, function. Don't forget write your specific findings below the table.





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4. Prepare a temporary mount of any leaf peel, observe the stomata and draw their picture.

Write a short note on the same.



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5. What will happen to the size of the cell if it is placed in such solutions which vary in their concentrations When placed in Hypotonic solution?



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6. What will happen to the size of the cell if it is placed in such solutions which vary in their concentrations. When placed in Isotonic solution?



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7. What will happen to the size of the cell if it is placed in hypertonic solution ?





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8. Draw a well labeled diagram of mitochondria.



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9. Draw a neat labelled diagram of chloroplast.



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**10.** Draw a neat labelled diagram of SER & RER.



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**11.** Draw a neat labelled diagram of nucleus.



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**12.** How could you appreciate the function of tiny cell in a large body of an organism?



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**13.** How do you appreciate about the organization of cell in the living body.



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



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**15.** Name two unicellular (single cell) animals.



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**16.** Name two unicellular plants.



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**17.** Name two multicellular (many cells) animals?



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**18.** Why plastids are called the kitchens of the cell?



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**19.** Which type of animal cells lack both mitochondria and endoplasmic reticulum?



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**20.** “A cell is a building unit of an organism.”

Do you agree with this statement? If yes, explain why?



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**21.** Where are proteins synthesised inside the cell?



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22. What is osmosis?



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23. Which organelle is known as the power house of the cell? Why?



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24. Write some examples for prokaryotic cells.



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25. What are genes? What is their function?



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**Improve Your Learning**

1. Differentiate between Plant cell and animal cell



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2. Differentiate between Prokaryotic and eukaryotic cells.



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3. What happens if plasma membrane ruptures or breaks?



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5. What would happen to the life of cell if there was no golgi complex?



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6. What will happen in cell if nucleus is removed? Give reasons to support your answer.



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**8.** Why does plant cell posses large sized vacuole?



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**9.** Prepare a temporary mount of any leaf peel, observe the stomata and draw their picture. Write a short note on the same.



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**10.** “Cell is the basic unit of life”, explain the statement.



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**11.** How do you appreciate about the organization of cell in the living body.



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**12.** If the organization of cell is destroyed due to physical and chemical influence, what will happen?



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**13.** Read the chapter carefully, collect the information about the functions of different organelles and make a table which contains serial number, cell organelle, function. Don't

forget write your specific findings below the table.



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**14.** How could you appreciate the function of tiny cell in a large body of an organism?



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**15.** Look at the following cartoon of a cell. Find out the functions of cell organelles



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**16.** Who and when proposed cell theory. What are salient features of it?

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