



# BIOLOGY

## BOOKS - PEARSON IIT JEE

### FOUNDATION

# CELL-STRUCTURE AND FUNCTIONS

## Solved Example

1. Who discovered cell?

A. Robert Brown

B. Robert Hooke

C. J.J. Thomson

D. Camillo Golgi

**Answer: B**



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2. Name the longest cell in the human body and also state its function



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3. Do you think that the size of the cell of an organism is in no way related to the size of the body of an organism ?



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4. What are pseudopods ? What advantage does amoeba derive by changing shape ?



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5. Are the cells in an elephant bigger than that of a man ? What do you think given reason ?



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6. Give one example each of unicellular and multicellular organism.



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7. What do you think - are all bacterial cells multicellular in nature ?



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8. What is the shape of muscle and skin cells in the human body?



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9. Enlist the main postulates of cell theory.

Who proposed the cell theory?



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10. Why does electron microscope considered superior than light microscope?



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**11.** Explain why chloroplasts are found only in plant cells?



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**12.** What do you understand by protoplasm ?



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**13.** Why is the plasma membrane called a selectively permeable membrane?



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**14.** Why do plant cells need cell walls ?



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**15.** What would happen to a plant cell without chloroplast ?



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**16.** Explain the main function of cell wall in plant and animal cells



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**17.** The structure of the nucleus is the same in cells of plant, animals and bacteria. Comment



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**18.** What is the function of nuclear pores ?



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**19.** Explain the structure and function of nucleolus



**Watch Video Solution**

**20.** State two functions of cytoplasm.



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**21.** Why mitochondria is known as the powerhouse of a cell ?



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**22.** Why ribosomes are often referred to as the protein factories of cell ?



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**23.** Name any three cell organelles .





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24. Name any two types of plastids present in plant cells.



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25. Which cell organelle is called protein factory?



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26. Where are lysosomes present in the cell ?



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27. What is the name the organelle that helps in cell division ?



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28. Write the functions of mitochondria, golgi body and ribosomes



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**29.** What is the name of the organelle which has its own genetic material (DNA)



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**30.** Explain the main function of chromoplasts



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**31.** Mention three functions of plastids ?



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**32.** What is the structure and function of plastids ?



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**33.** State few characteristics differences between plant and animal cell.



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**34.** The cell wall is thin and elastin in nature.

True or false.

A. True

B.

C.

D.

**Answer: True**



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**35.** Prokaryotic cells have a well-defined nucleus bound by a nuclear membrane.

True or False.

A. True

B. False

C.

D.

**Answer: B**



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**36.** The ribosomes can be scattered in the cytoplasm or present on the surface of the endoplasmic reticulum \_\_\_\_\_



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**37.** Lysosomes are harmful for cells \_\_\_\_\_



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**38.** Plant cells do not contain plastids, but they do have centrioles \_\_\_\_\_



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**39.** Match the following

- |                 |                                 |
|-----------------|---------------------------------|
| 1. Mitochondria | (a) Protein factories of a cell |
| 2. Ribosomes    | (b) Present only in plant cell  |
| 3. Lysosomes    | (c) Power houses of a cell      |
| 4. Chloroplasts | (d) Suicide bags of a cell      |
| 5. Cell wall    | (e) Kitchen of a cell           |



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1. The \_\_\_\_\_ is the fundamental structural and functional unit of all living beings

A. cell

B. centrome

C. nucleus

D. nucleolus

**Answer: A**



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2. The cell was first discovered by a scientist named \_\_\_\_\_

A. Matthias Schleiden

B. Rudolf Virchow

C. Theodor Schwann

D. Robert Hooke

**Answer: D**



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3. An Amoeba changes its shape through projections on its body, called \_\_\_\_\_

A. pseudopodia

B. flagella

C. cilia

D. neuron

**Answer: A**



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4. The largest single cell in the world is the egg of a/an \_\_\_\_\_

A. Ostrich

B. Amoeba

C. Paramecium

D. Fish

**Answer: A**



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5. The cytoplasm of a cell contains a number of cell \_\_\_\_\_ that perform specific functions within the cell

A. organelles

B. organ

C. organism

D. cilia

**Answer: A**



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6. The lowest level of organization of life is called \_\_\_\_\_

- A. cellular level
- B. tissue level
- C. organism level
- D. organelle level

**Answer: A**



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7. All functions of the body are carried out by a single cell in

A. Multicellular organism

B. Hen

C. Virus

D. Unicellular organism

**Answer: D**



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8. What is the part of cell that provides shape?

A. Cell wall

B. Cell membrane

C. Nucleus

D. Mitochondria

**Answer: B**



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9. \_\_\_\_\_ is the largest single cell present in nature ?

A. An egg of the ostrich

B. Ovum

C. *Caulerpa taxifolia*

D. Sperms

**Answer: A**



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10. An organ system is made up of a number \_\_\_\_\_ which are made of \_\_\_\_\_

- A. organs, tissue
- B. organelle, tissue
- C. organism, tissue
- D. tissue, organ

**Answer: A**



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1. The thin, porous membrane present on the outer surface of a cell is called the

A. plasma membrane

B. nuclear membrane

C. cytoplasm

D. protoplasm

**Answer: A**



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2. Cell wall is present only in animal cells.

True or False.

A. True

B. False

C.

D.

**Answer: B**



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3. The nucleus and cytoplasm are together called the protoplasm



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4. Prokaryotic cells do not have a nuclear membrane bound around the nucleus



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5. \_\_\_\_\_ Surrounds the cell membrane and is an important part of plant cells as plants do not have skeleton for protection and support

A. Chitin

B. Cellulose

C. Cytoplasm

D. protoplasm

**Answer: B**



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6. The \_\_\_\_\_ is a jelly-like substance that make up the major part of the inside of a cell

A. protoplasm

B. Cellulose

C. cytoplasm

D. nucleoplasm

**Answer: C**



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7. The \_\_\_\_\_ is a smaller spherical structure present inside the nucleus that plays a significant role in the synthesis of proteins

A. nucleolus

B. cytoplasm

C. nucleoplasm

D. protoplasm

**Answer: A**



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8. \_\_\_\_\_ are small units that contain information about the traits of a person

A. DNA

B. Genes

C. Antibody

D. Antigen

**Answer: B**



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## Track Your Learning Iii

1. It is the \_\_\_\_\_ of a person that is responsible for individual characteristics such as height, skin colour, eye colour and hair type

A. DNA

B. gene

C. genetics

D. immunity

**Answer: A**



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2. \_\_\_\_\_ is rigid layer which is not present in animal cells, but is found in plant cells.

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

**Answer: A**



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3. Which cell organelle store food and water in a plant ?

A. Mitochondria

B. Ribosomes

C. Vacuole

D. Endoplasmic reticulum

**Answer: C**



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4. Animal cells only have a cell membrane, whereas plant cells have both a cell membrane and a \_\_\_\_\_

- A. cell mambrane
- B. cell wall
- C. nuclear membrane
- D. cellulose

**Answer: B**



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5. The central \_\_\_\_\_ is the largest organelle in a plant cell

A. vacuole

B. Ribosomes

C. mitochondria

D. golgi body

**Answer: A**



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6. Chromosomes in the nucleus of a cell contain thread-like structures called \_\_\_\_\_ which contain genes

A. DNA

B. nucleolus

C. centrosome

D. chromosomes

**Answer: A**



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7. Centrioles and \_\_\_\_\_ are organelles that play a significant role in the process of cell division

A. centrosomes

B. chromosomes

C. nucleus

D. chloroplast

**Answer: A**



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8. \_\_\_\_\_ are plastids that help a plant store the food that it has produced

A. Leucoplast

B. Centrosomes

C. Nucleus

D. Chloroplast

**Answer: A**



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9. \_\_\_\_\_ are double membrane -bound, specialized cell organelles that are found only in plant cells

A. Centrosomes

B. Plastids

C. Chromoplast

D. Leucoplast

**Answer: B**



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10. \_\_\_\_\_ are found in both prokaryotic and eukaryotic cells as they produce proteins

A. Mitochondria

B. Ribosomes

C. Golgi Body

D. Plastids

**Answer: B**



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11. \_\_\_\_\_ contains ribosomes on its surface that help in the synthesis of proteins

A. Mitochondria

B. Ribosomes

C. Golgi Body

D. Endoplasmic reticulum

**Answer: D**



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12. Centrioles, centrosomes and lysosomes are absent in \_\_\_\_\_ and present in \_\_\_\_\_ cells

- A. plant cells, animal
- B. prokaryotic
- C. prokaryotic and eukaryotic
- D. bacteria and algal

**Answer: A**



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## Hot Higher Order Thinking Skills

1. Do you think the different organelles present in a cell show division of labour ? Explain your answer with example.



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2. Non-living things are made up of atoms, whereas living things are made up of cells, living things do not contain any atoms. Do you

agree with this statement ? Given reason to support your answer.



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3. We get our physical traits from both our parents such as eye colour, hair and some habits. Yet, we do not look completely like them. Sometimes, we even end up looking like our grandparents. Explain why does this happen ?



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Classroom Corner Very Short Answer Type  
Questions M C Q

1. The cells of which of these organisms do not have a nucleolus ?

- A. Amoeba
- B. Blue-green algae
- C. Plants
- D. Paramecium

**Answer: B**



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2. The cells of which of these living organisms have a large central vacuole

- A. Rose plant
- B. Human beings
- C. Amoeba
- D. Bacteria

**Answer: A**



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3. Which of these organelles help in the production of proteins in a cell

A. Vacuoles

B. Mitochondria

C. Centrosomes

D. Ribosomes

**Answer: D**



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**4.** Which of these things is not part of the nucleus of cell?

A. Endoplasmic reticulum

B. Chromosomes

C. Nucleolus

D. nucleoplasm

**Answer: A**



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5. Which of these is not a cell organelle ?

A. Mitochondrion

B. Lysosome

C. Cell membrane

D. Golgi body

**Answer: C**



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6. Which is the longest single cell in the human body

A. White blood cell

B. Muscle cell

C. Neurons

D. Red blood cell

**Answer: C**



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7. The protoplasm is \_\_\_\_\_

- A. another name for the nucleoplasm
- B. the cytoplasm and the nucleoplasm
- C. another name for the cytoplasm
- D. the cytoplasm and the nucleus

**Answer: D**



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8. The power house of cell is called \_\_\_\_\_

A. Cell wall

B. Mitochondria

C. Ribosomes

D. Nucleus

**Answer: B**



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9. The kitchen of the cells is called \_\_\_\_\_

A. cell wall

B. nucleus

C. vacuoles

D. plastids

**Answer: D**



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**10.** The functional unit of life is called \_\_\_\_\_

A. cell

B. egg

C. nucleus

D. none of these

**Answer: A**



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**11. Chloroplast is found in \_\_\_\_\_**

A. Plant cell only

B. Animal cell only

C. Both of these

D. None of these

**Answer: A**



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**12.** The control unit of cell is

A. nucleus

B. cell wall

C. cytoplasm

D. all of these

**Answer: A**



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**13.** Single celled organisms are called \_\_\_\_\_

A. unicellular

B. multicellular

C. both of these

D. none of these

**Answer: A**



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**14.** Tissue is a \_\_\_\_\_

- A. group of organs
- B. group of cells
- C. group of itssues
- D. group of organisms

**Answer: B**



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15. Cells was discovered by

A. Robert Brown

B. Robert Hooke

C. John Mendal

D. Charse Darwin

**Answer: B**



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16. The cells capable of changing shape is/are

-----

- A. amoeba cell
- B. WBC
- C. both of these
- D. none of these

**Answer: C**



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17. Hen's egg is a \_\_\_\_\_

A. tissue

B. organ

C. organ system

D. cell

**Answer: D**



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18. \_\_\_\_\_ is a spherical body present inside

A. Nucleolus

B. Nucleus

C. nucleoplasm

D. Nuclear membrane

**Answer: A**



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**19.** The function of receiving and transferring messages is carried out by \_\_\_\_\_ cells

A. nerve

B. muscular

C. neuronal

D. skeletal

**Answer: A**



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20. \_\_\_\_\_ of a non-dividing nucleus, condenses in a dividing nucleus to form chromosomes

A. Centrosomes

B. Chromatin

C. Chromosomes

D. DNA

**Answer: B**



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21. \_\_\_\_\_ are parts of DNA that are passed from parents to their offsprings

A. Genes

B. DNA

C. Chromosomes

D. Centrosomes

**Answer: B**



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22. \_\_\_\_\_ is the dense fluid like granular substance of a nucleus

A. Nucleoplasm

B. Nucleus

C. Nucleolus

D. Centrosomes

**Answer: A**



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**23.** The process of colouring different parts of a cell is called \_\_\_\_\_

A. Colouring

B. Staining

C. Gram staining

D. None of the above

**Answer: B**



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**24.** What is the name of a group of similar cells performing a specific function ?



A. Cell

B. Tissue

C. Organ

D. Organism

**Answer: B**



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25. \_\_\_\_\_ is the cell organelle which produces energy by the oxidation of food

A. Mitochondria

B. Chlorophyll

C. Nucleus

D. Vacuole

**Answer: A**



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**26.** The function of receiving and transferring messages is carried out by \_\_\_\_\_ cells

A. Nerve cell

B. Muscle cell

C. Skeletal cell

D. Red blood cell

**Answer: A**



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27. The main function of \_\_\_\_\_ is to hold the intermanual components of cells in place and protect them from damage

A. Cytoplasm

B. Mitochondria

C. Endoplasmic reticulum

D. Ribosomes

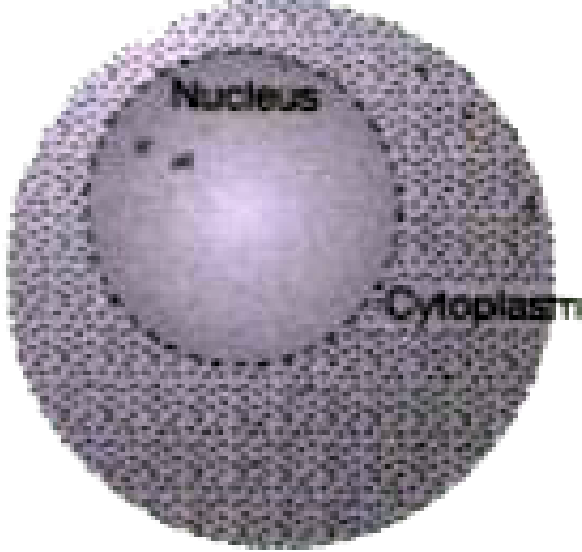
**Answer: A**



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**Classroom Corner Very Short Answer Type  
Questions Paragraph**

1. Cytoplasm is the region of the cell located between the plasma membrane and nuclear envelope. Cytoplasm is a living , colourless, semi-liquid and homogenous substance. It occupies a major part of the cell and it is constantly moving. The cytoplasm is a jelly - like substance that makes up the major part of the inside of a cell. Look at the figure below and try to answer the following questions



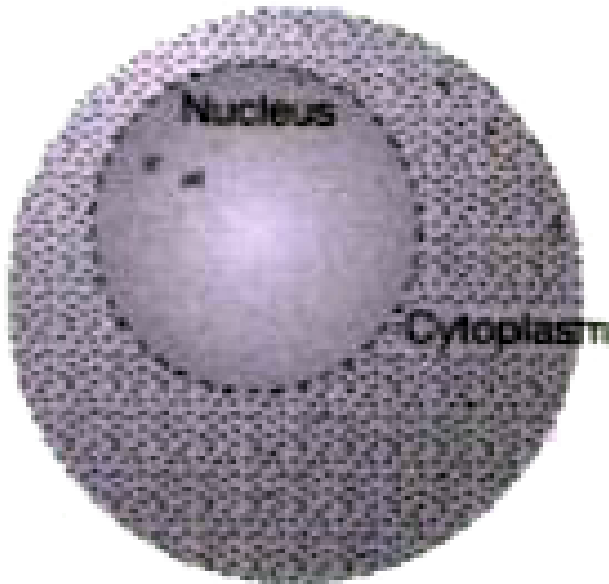
Where does the cytoplasm present in a cell ?



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2. Cytoplasm is the region of the cell located between the plasma membrane and nuclear envelope. Cytoplasm is a living , colourless,

semi-liquid and homogenous substance. It occupies a major part of the cell and it is constantly moving. The cytoplasm is a jelly - like substance that makes up the major part of the inside of a cell. Look at the figure below and try to answer the following questions



Give the name of two cellular components that are present in the cytoplasm of the cell

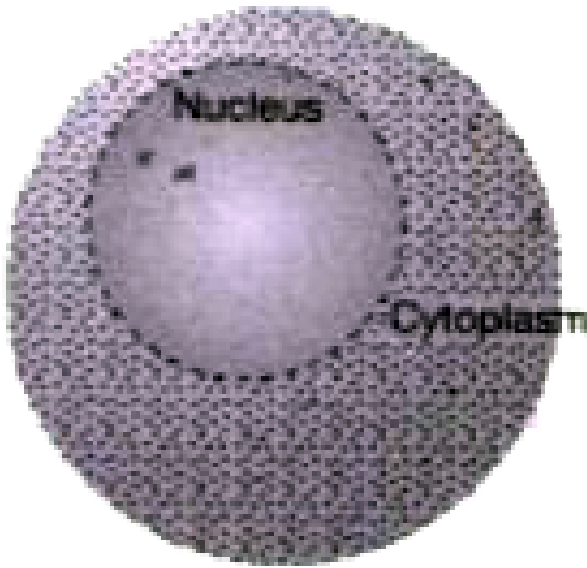


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**3.** Cytoplasm is the region of the cell located between the plasma membrane and nuclear envelope. Cytoplasm is a living , colourless, semi-liquid and homogenous substance. It occupies a major part of the cell and it is constantly moving. The cytoplasm is a jelly - like substance that makes up the major part of the



inside of a cell. Look at the figure below and try to answer the following questions

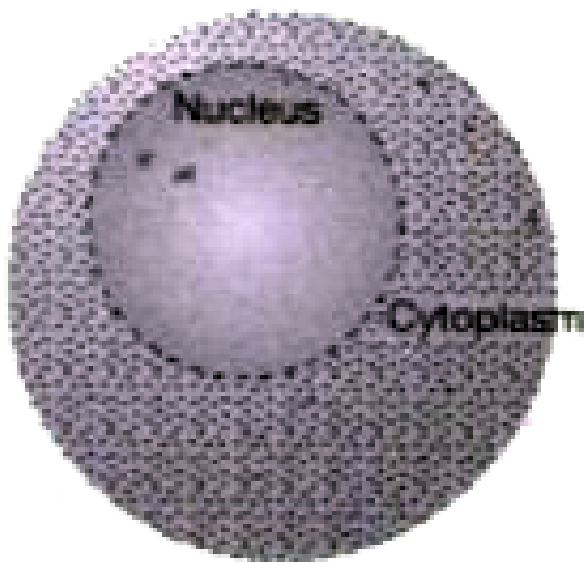


Explain the main function of the cytoplasm



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4. Cytoplasm is the region of the cell located between the plasma membrane and nuclear envelope. Cytoplasm is a living , colourless, semi-liquid and homogenous substance. It occupies a major part of the cell and it is constantly moving. The cytoplasm is a jelly - like substance that makes up the major part of the inside of a cell. Look at the figure below and try to answer the following questions



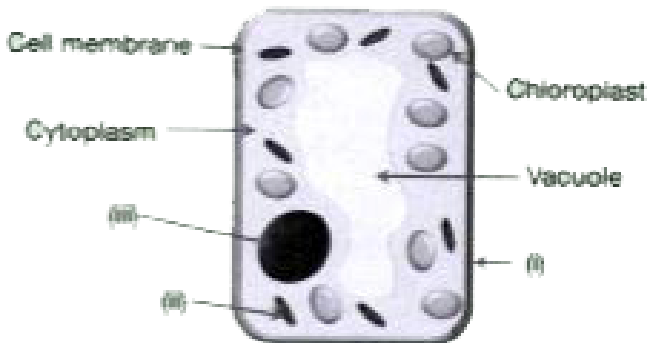
Where does nucleus present in the cell ?



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5. The plant cell has different organ which perform various functions. In addition to the cell membrane, plant cells also have another

layer around them called the cell wall. This rigid layer is not present in animal cells. It is made up of a non-living material called cellulose. Check the below figure and try to answer the following questions

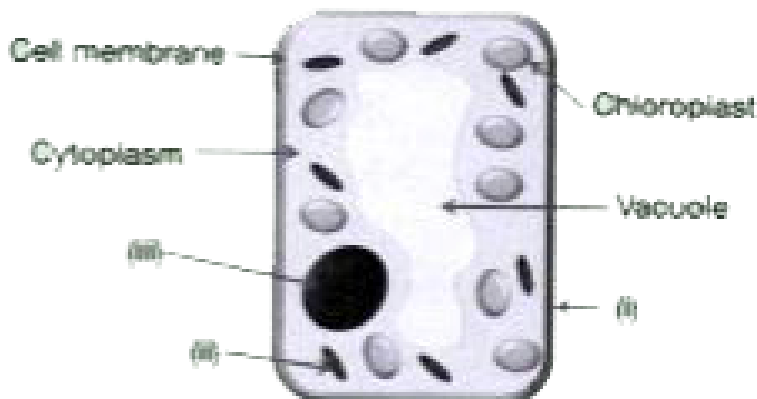


Identify the label (i), (ii) and (iii)



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6. The plant cell has different organ which perform various functions. In addition to the cell membrane, plant cells also have another layer around them called the cell wall. This rigid layer is not present in animal cells. It is made up of a non-living material called cellulose Check the below figure and try to answer the following questions



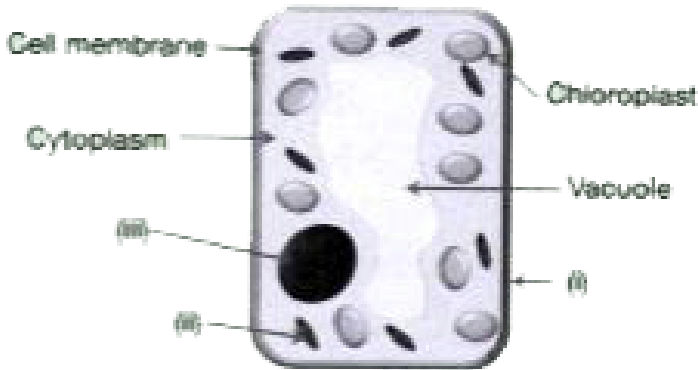
Explain the main function of cell wall in plant cell



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7. The plant cell has different organ which perform various functions. In addition to the cell membrane, plant cells also have another layer around them called the cell wall. This rigid layer is not present in animal cells. It is made up of a non-living material called cellulose Check the below figure and try to

answer the following questions



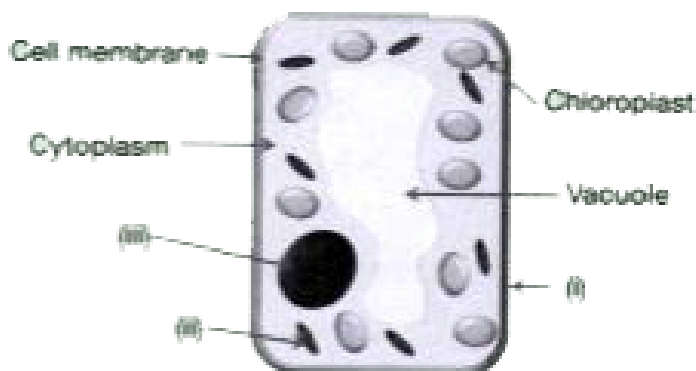
Is cell wall a living or non-living entity in plant cell ?



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**8.** The plant cell has different organ which perform various functions. In addition to the cell membrane, plant cells also have another

layer around them called the cell wall. This rigid layer is not present in animal cells. It is made up of a non-living material called cellulose. Check the below figure and try to answer the following questions



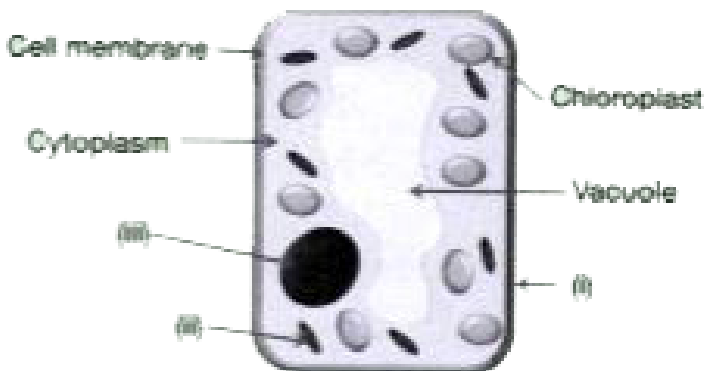
Cell wall in plant cell is made up of which component ?



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9. The plant cell has different organ which perform various functions. In addition to the cell membrane, plant cells also have another layer around them called the cell wall. This rigid layer is not present in animal cells. It is made up of a non-living material called cellulose. Check the below figure and try to answer the following questions



Plant cell is surrounded by outer layer called cell wall. Explain why cell wall is this important ?



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**10.** It is a double-membrane structure in which the outer membrane is more permeable than inner membrane. The inner membrane possesses more proteins. The outer membrane may be attached to ER. They are present in the cytoplasm of green algae and higher plants.

Based on the given information, answer the given questions

Name the given structure



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**11.** It is a double-membrane structure in which the outer membrane is more permeable than inner membrane. The inner membrane possesses more proteins. The outer membrane may be attached to ER. They are present in the cytoplasm of green algae and higher plants.

Based on the given information, answer the given questions

Mention its three parts



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**12.** It is a double-membrane structure in which the outer membrane is more permeable than inner membrane. The inner membrane possesses more proteins. The outer membrane may be attached to ER. They are present in the cytoplasm of green algae and higher plants.

Based on the given information, answer the given questions

Given the structure and location of the identified structure



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**13.** It is a double-membrane structure in which the outer membrane is more permeable than inner membrane. The inner membrane possesses more proteins. The outer membrane may be attached to ER. They are present in the

cytoplasm of green algae and higher plants.

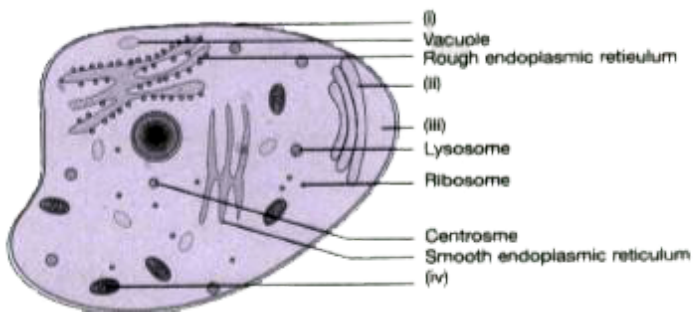
Based on the given information, answer the given questions

Mention one function of this structure



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**14.** Direction for questions: Answer questions based on your understanding of the following diagram given below :

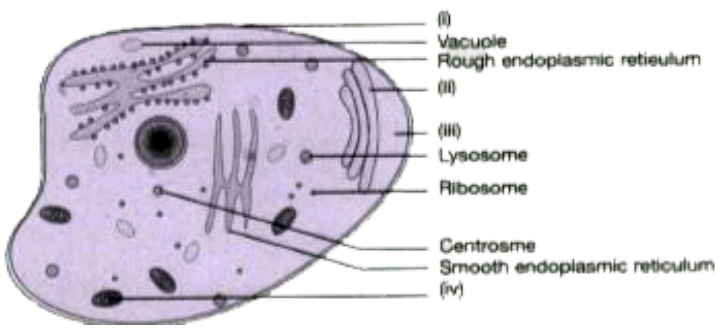


Label the figure (i), (ii), (iii) and (iv)



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**15.** Direction for questions: Answer questions based on your understanding of the following diagram given below :



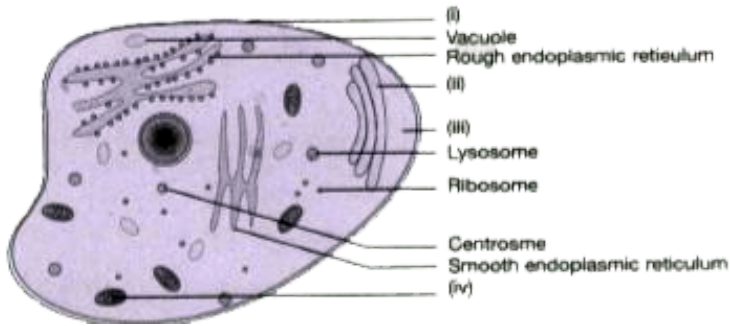
Discuss few striking features between plant and animal cells



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**16.** Direction for questions: Answer questions based on your understanding of the following diagram given below :



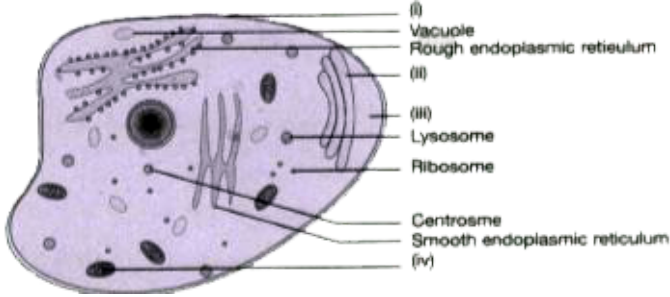


State function of lysosomes



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17. Direction for questions: Answer questions based on your understanding of the following diagram given below :



Where does ribosomes present in the cell ?



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**Classroom Corner Very Short Answer Type  
Questions Subjective Type Questions**

1. Can viruses be multicellular ? Comment



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2. Where are proteins synthesized inside the cell ?



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3. What is the smallest cell in the female body ?



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4. What do you think would have happened if animal cells also had a cell wall around them ?

## Comment



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



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6. Name the two organelles which possess their own genetic material

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7. The green colour in mangoes are due to which cell organelles ? Justify your answer

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8. Explain why an offspring looks similar to their parents ?

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9. What do you mean by protoplasm ?



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**Classroom Corner Very Short Answer Type  
Questions Assertion Reason**

1. Assertion : Genes are responsible for transfer of characters from the parents to the offspring

Reason : Genes are present in the nucleus .

- A. If both assertion and reason are true and reason is the correct explanation of assertion
- B. If both assertion and reason are true but reason is not the correct explanation of assertion
- C. If assertion is true but reason is false
- D. If both assertion and reason are false

**Answer: B**



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2. Assertion : Chromosomes are thread-like structures present in the nucleus

Reason : In bacteria, chromosomes is not found as there is no nucleus

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of



assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

**Answer: C**



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**3. Assertion :** A bigger organism has a large number of cells than a smaller one

**Reason :** The size of cell is related to the size of the organisms

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

**Answer: C**



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4. Assertion : The nucleoli help in protein synthesis

Reason : Ribosome formation takes place in nucleoli

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of

assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

**Answer: A**



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**5. Assertion :** The plasma membrane is porous and allows the movement of substances outward only

Reason : Plasma membrane is made up of lipids and sugars only

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion

C. If assertion is true but reason is false

D. If both assertion and reason are false

**Answer: D**



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## **Classroom Corner Short Answer Type Questions**

**1. Explain the different levels of organization in the body of a living organism**



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2. Who put forward the cell theory ? State the key postulates of the cell theory . Discuss in brief .



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3. How are the different life processes carried out in unicellular and multicellular organisms ?



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4. Write any three differences between plant cells and animal cells

Plant cells	Animal cells



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



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6. Name the organelle that is called kitchen of the cell . Comment



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7. What are genes ? How are they important to organism ? What is its function ?



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**8.** What are the different functions performed by cell membrane ? Justify your answer



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**9.** What is cytoplasm ?



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**10.** Name the largest cell present in the human body.



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**11.** How are multicellular and unicellular organisms the same ? Justify your answer



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**12.** What do all unicellular organisms have in common ?



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**13.** Do bigger animals have more cells ? Justify your answer



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**14.** Explain why do cells have different shapes ?  
Comment ?



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**15.** Discuss do all the plant cells have chloroplasts ?



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**16.** Lysosomes are called suicidal bags because they have



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**17.** Explain the importance of nucleus?



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**18.** What do chloroplasts contain? Explain the structure of chloroplast in brief.



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**19.** Nucleus is known as brain of the cell. Give reason for your answer.



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**20.** Explain the structure of a bacterial cell in brief.



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**21.** There is no relation between the size of an animal and the size of cell. Justify your answer



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**22.** With the help of diagram draw the parts of cells that are present both in animal and plant cells.



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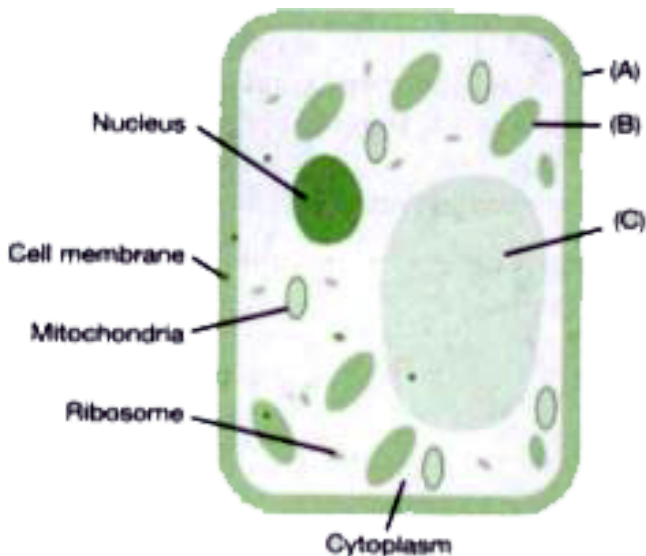
**23.** Explain the function of nucleus, cytoplasm and cell membrane in animal cell with the help of an diagram.



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24. In a plant cell, cells are made up of different components enclosed in a membrane provide shape to plants and animals. Cell wall is the outer covering in the plant cell which provide shape and rigidity to the cell. Label the parts (A), (B), (C).



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**25.** Discuss the structure and function of Golgi bodies.



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**26.** State three characteristics differences between prokaryotic and eukaryotic cells.



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**27.** Discuss why Amoeba has no fixed shape ?



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**28.** Discuss about white blood cells



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**29.** Explain below points :

State the function of cell wall in plant cells



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## Classroom Corner Long Answer Type Questions

1. Complete the table with information about different cell organelles listed below.

Cell organelle	Present in prokaryotes/ eukaryotes/ both	Present in plants/ animals/ both	Structure and function
Nucleus			
Mitochondria			
Robosomes			
Vacuole			
Chloroplasts			
Lysosomes			
Endoplasmic reticulum			



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2. The chromosomes present in our cells determine our gender. Explain how does this happen? Comment.



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3. Red blood cells are different from other animal cells in many ways. Find out how they are different from other cells in our body and discuss the functions they serve. Comment.



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4. Viruses are said to possess characteristics of both living and non-living organisms

Find out the diseases caused by uiruses, their prevention and cure



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5. Viruses are said to possess characteristics of both living and non-living organisms

Find out the diseases caused by uiruses, their prevention and cure



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6. Differentiate between prokaryotic and eukaryotic cells.

 [Watch Video Solution](#)

7. What are the functions of nucleus? Discuss in details.

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**8.** Discuss the structure and function of plasma membrane.



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**9.** State few differences between cell wall and plasma membrane.



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**10.** State the differences between mitochondria and chloroplast.



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**11.** Plants and animals consist of different parts. Each part of an organism performs a specific function that is helpful for it in some way. In the table below, list any three parts of plant and animal.

Describe their functions and complete the table. (For example, in animals, the lungs help

in respiration )

Part of plants/animals		Functions
Plants		
Animals		



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12. What does a gene contain?



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**13.** Discuss the essential features of an animal cell with the help of an example.



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**14.** What are the plastids? Discuss three types of plastids with their functions.



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**Competition Corner M C Q**

1. Which of these is not a cell organelle ?

A. Mitochondrion

B. Lysosome

C. Cell membrane

D. Golgi body

**Answer: C**



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2. The protoplasm is \_\_\_\_\_

- A. another name for the nucleoplasm
- B. the cytoplasm and the nucleoplasm
- C. another name for the cytoplasm
- D. the cytoplasm and the nucleus

**Answer: D**



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**3. Which type of plastid contains chlorophyll ?**

- A. Thromboplasts

B. Leucoplasts

C. Chromoplasts

D. Chloroplasts

**Answer: D**



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4. which cell organelle is known as the power house of the cell ?

A. Mitochondria

B. Cytoplasm

C. Cell wall

D. Nucleus

**Answer: A**



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**5. Where are chromosomes situated in a cell ?**

A. Cytoplasm

B. Nucleus

C. vacuole

D. Cell membrane

**Answer: B**



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**6.** Which cell structure is present in plant cells but not in animal cells ?

A. Cell membrane

B. Cell wall



C. Cytoplasm

D. Mitochondria

**Answer: B**



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7. Which organism is spindle -shaped ?

A. Paramecium

B. Bacteria

C. Ameoba

D. Yeast

**Answer: A**



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**8.** What is the smallest cell in the human body

?

A. White blood cell

B. Neuron

C. Nephron

D. Red blood cell

**Answer: D**



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**9. Which organism uses pseudopodia to capture food ?**

A. Honeybee

B. Amoeba

C. Paramecium

D. Bacteria

**Answer: B**



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**10. Which organism can change its shape ?**

A. Amoeba

B. Paramecium

C. Vibrio

D. Euglena

**Answer: A**



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**11. Which of the following is a multicellular organism ?**

A. Ameoba

B. Paramecium

C. Bacteria

D. Cockroach

**Answer: D**



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**12. Which of the following is a unicellular organism?**

A. Insect

B. Bird

C. Plant

D. Bacteria

**Answer: D**



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**13.** What is the basic difference between an unicellular organism and a multicellular organism ?

- A. Shape of cells
- B. Size of cell
- C. Functions of cells
- D. Number of cells

**Answer: D**



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**14.** How many cells are present in a unicellular organism ?

A. One

B. Two

C. Three

D. Four



**Answer: A**



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15. Cell theory is proposed by Schleiden, Virchow, and \_\_\_\_\_

A. Watson

B. Flemming

C. Schwann

D. Crick

**Answer: C**



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**16.** Which of the following is the structural and functional unit of all living organism?

A. Chloroplast

B. Matter

C. Water

D. Cell

**Answer: D**



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17. What is one of the main postulates of the cell theory ?

- A. New cells arise from the old cells.
- B. Old cells can convert into new cells.
- C. All living things are composed of one cell.
- D. Only one cell functions at a time.

**Answer: A**



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**18.** In which year was the cell theory proposed ?

A. 1938

B. 1930

C. 1838

D. 1830

**Answer: C**



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**19.** In which substance cells were first observed ?

A. Cork

B. Skin

C. Onion

D. Leaf

**Answer: A**



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20. In which year were the cells discovered first ?

A. 1660

B. 1665

C. 1880

D. 1885

**Answer: B**



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**21. What is the smallest unit of life ?**

A. Cells

B. Organs

C. Matter

D. Air

**Answer: A**



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22. Who discovered cell?

A. Robert Hooke

B. Robert Koch

C. Mattias Schleiden

D. Rudolf Virchow

**Answer: A**



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**23.** Which cell organelle store food and water in a plant ?

A. Mitochondira

B. Vacuole

C. Ribosomes

D. Endoplasmic reticulum

**Answer:**



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24. The thin, porous membrane present on the outer surface of a cell is called the

A. plasma membrane

B. nuclear membrane

C. Cytoplasm

D. protoplasm

**Answer: A**



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25. Which is the longest single cell in the human body

A. White blood cell

B. Muscle cell

C. Neurons

D. Red blood cell

**Answer: C**



**Watch Video Solution**

**26.** Which of these is not a cell organelle ?

A. Mitochondrion

B. Lysosome

C. Cell membrane

D. Golgi body

**Answer: C**



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27. Which one of the following term is not a part of the nucleus?

A. Endoplasmic reticulum

B. Chromosomes

C. Nucleolus

D. nucleoplasm

**Answer: A**



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28. Which of these organelles help in the production of proteins in a cell

A. Vacuoles

B. Mitochondria

C. Centrosomes

D. Ribosomes

**Answer: D**



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**29.** Which of these organism's cells do not have a nucleolus ?

A. Amoeba

B. Blue-green algae

C. Plants

D. Paramecium

**Answer: B**



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**30.** Identify the cell organelles present only in animals cells

A. Nucleus

B. Centrosomes

C. Plastids

D. Lysosomes

**Answer: B**



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**31.** Which of these cell organelles helps in the transport of proteins and other substances to different parts of the cell

A. Mitochondria

B. Centrioles

C. Lysosomes

D. Endoplasmic reticulum

**Answer: D**



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**32.** Which of these cell organelles exists in the form of a hollow sac, inside which substances such as food and water are stored ?

A. Chloroplast

B. Nucleus

C. Vacuole

D. Mitochondria

**Answer: C**



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**33.** Which of these cell organelles is capable of digesting substances ?

A. Mitochondria

B. Ribosomes

C. Lysosomes

D. Vacuoles

**Answer: C**



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**34.** Which of these cell organelles provide support and given shape to plant cells ?

A. Cell wall and vacuole

B. Cell wall and plasma membrane

C. Plasma membrane and nucleus

D. Nucleus and vacuole

**Answer: A**



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**35.** Carrot plants store the food that they produce in their roots. Which of these specialized cell organelles must be present in the roots of carrot plants ?

A. Centrioles

B. Chloroplasts

C. Chromoplasts

D. Leucoplasts

**Answer: D**



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**36.** Identify the organism that can prepare its own food through the process of photosynthesis

A. Euglena

B. Paramecium

C. Amoeba

D. Vibrio

**Answer: A**



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**37.** You are observing a plant cell under a powerful microscope. Which of these organelles present within the cell would be the largest of all?

A. Nucleus

B. Chloroplast

C. Vacuole

D. Mitochondria

**Answer: C**



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**38.** Choose the incorrect sentence .

A. Prokaryotic cells do not have a nuclear  
membrane

B. Eukaryotic cells have well-defined cell  
organelles



C. Prokaryotic cells can be both microscopic and macroscopic

D. Both prokaryotic cells and eukaryotic cells have cytoplasm

**Answer: C**



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**39.** While observing slides of which of these cells would you not be able to see a well-defined nucleus ?

A. Onion peel cells

B. Human cheek cells

C. Amoeba cells

D. Blue - green algae cells

**Answer: D**



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**40.** Which of these parts of a cell is called the protoplasm ?

A. Cytoplasm and nucleolus

B. Cytoplasm and nucleus

C. Nucleoplasm and nucleolus

D. Nuclear membrane and nucleoplasm

**Answer: B**



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**41.** Which of these parts of a cell allows the transfer of substances between the cytoplasm and the nucleus ?

A. Nuclear pores

B. Nucleolus

C. Ribosomes

D. chromosomes

**Answer: A**



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**42. Which of these is not a cell organelle ?**

A. Nucleus

B. Ribosomes

C. Mitochondrion

D. Cell membrane

**Answer: D**



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**43.** One of the main constituents of paper is a substance called 'cellulose' obtained from plant cells

based on the above statement, which of these

parts of a plant cell would you say contributes towards the production of paper ?

A. Cell membrane

B. Cell wall

C. Cytoplasm

D. Nucleus

**Answer: B**



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**44.** Which of these would you use to stain the cells red color ?

- A. Safranin solution
- B. Methylene blue solution
- C. Glycerine solution
- D. Iodine solution

**Answer: A**



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45. Which of these arrangements correctly depicts the comparative sizes of different cells ?

A. Bacteria > red blood cells > ostrich eggs

B. Red blood cells > ostrich eggs > bacteria

C. Ostrich eggs > red blood cells > bacteria



D. Ostrich eggs > bacteria > red blood  
cells

**Answer: C**



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**46.** Which of these cells present in the human  
body can change their shape ?

A. Skin cells

B. Nerve cells

C. Red blood cells

D. White blood cells

**Answer: D**



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**47. Which of these is a unicellular organism ?**

A. Paramecium

B. Spider

C. Mosquito

D. Seaweed

**Answer: A**



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**48.** Which of these is not a postulate of the cell theory ?

A. All organisms are made up of one or more cells .

B. The cell is the basic structural and functional unit of all organisms

C. Cells once formed, never die or get depleted

D. New cells arise from old cells

**Answer: C**



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**49.** Which instrument did Robert Hooke use to observe cork in the experiment that led to the discovery of cells ?

A. Telescope

B. Kaleidoscope

C. Microscope

D. Periscope

**Answer: C**



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