



BIOLOGY

BOOKS - BHARATI BHAWAN BIOLOGY (HINGLISH)

CELL

Pick The Correct Option

1. The outer memberane found in an animal cell is

A. cell wall

B. cell memberane

C. nuclear membrane

D. cytoplasm

Answer: B



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2. Organisms lacking a nucleaus and membrane-bound organelles are called

A. diploid

B. haploid

C. prokaryotes

D. eukaryotes

Answer: C



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3. Relatively large vacuoles are present in

A. all prokaryotes

B. all eukaryotes

C. plant cells

D. animal cells

Answer: C



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4. the growth of cells is regulated by

A. mitochondrion

B. vacuole

C. nucleus

D. Golgi complex

Answer: C



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5. The centriole is associated with

A. DNA synthesis

B. spindle formation

C. reproduction

D. respiration

Answer: B



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6. Proteins are formed in the

A. Golgi complex

B. mitochondria

C. plastids

D. ribosomes

Answer: D



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7. The name suicide bag has been given to

- A. centrioles
- B. ribosome
- C. mitochondrion
- D. lysosome

Answer: D



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8. Genes are located on the

A. nuclear membrane

B. chromosomes

C. lysosomes

D. cell membrane

Answer: B



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9. Biological membrane includes

A. only nuclear membrane

B. only membranes of golgi complex

C. only mitochondrial membrane

D. all the intracellular membranes along
with plasma membrane

Answer: D



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10. Which of the following is the main difference between onion peel cells and human cheek cells?

A. Presence of mitochondria in onion peel cells only

B. Presence of cell wall in onion peel cells only

C. absence of plasma membrane in cheek cells

D. absence of endoplasmic reticulum in
cheek cells

Answer: B



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11. centrioles are found in

A. onion peel cells

B. human cheek cells

C. all plant cells

D. none of these

Answer: B



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12. cell wall is

A. semipermeable

B. permeable

C. differentially permeable

D. none of these

Answer: B



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13. The network of tube-like structures running through the cytoplasm is called

- A. golgi complex
- B. mitochondria
- C. endoplasmicreticulum
- D. ribosomes

Answer: C



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14. the inner membrane of mitochondria forms crests called

A. matrix

B. cristae

C. vesicles

D. cisternae

Answer: B



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15. Variously coloured plastids are called

- A. leucoplasts
- B. chloroplasts
- C. chromoplasts
- D. all of these

Answer: C



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16. The colourless dense sap present inside the nuclear membrane is called

A. cytoplasm

B. stroma

C. matrix

D. nucleoplasm

Answer: D



17. The stretches of DNA which carry information for protein synthesis are called

A. nucleolus

B. genome

C. centrioles

D. centromere

Answer: B



18. The tips of chromosomes are known as

- A. centromere
- B. chromosomes
- C. telomere
- D. none of these

Answer: C



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19. A haploid set of chromosomes is called

A. gene

B. genome

C. grana

D. nucleoplasm

Answer: B



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20. A semipermeable membrane allows the diffusion of

A. Solute molecules

B. solvent molecules

C. solute and solvent molecules

D. none of these

Answer: B



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21. Entry of water into root hairs is an example of

A. diffusion

B. imbibition

C. osmosis

D. plasmolysis

Answer: C



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22. Gaseous exchange in plants takes place through

A. epidermal cells

B. stomata

C. stem

D. vascular tissue

Answer: B



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23. A cell placed in a strong salt solution, will shrink because

A. salt solution enters the cell

B. cytoplasm of the cell begins to decompose

C. water comes out of the cell to develop equilibrium

D. all of these

Answer: C



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Fill In The Blanks

1. Cell wall is found only in _____ cells.



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2. Ribosomes are located on the surface of _____.



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3. All the components of a cell including the cell membrane is called _____.



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4. Cristae are modification s of the inner membrane of _____.



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5. A plastid shows two distinct regions ___ and ___.



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6. A true nucleus is absent in bacteria and _____.



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7. chromosomes are made up of ___ and ___.



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8. All organisms are placed in ___ except bacteria and cyanobacteria.



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9. Two types of nucleic acids are ___ and ____



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Mark The Statement True T Or False F

1. The oxidation of food in a cell takes place in mitochondria.



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2. the cell wall is made up of cellulose.



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3. All living organisms consist of cells.





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4. The main function of ribosomes is to synthesize proteins.



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5. The Golgi complex is not called dictyosome in plants.



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6. Plastids are the sites of photosynthesis.



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7. Chloroplasts are colourless plastids.



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8. Prokaryotic cells lack nuclear envelope.



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9. Cell wall is a nonliving layer.



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10. Endoplasmic reticulum may be smooth or rough.



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Very Short Answer Questions

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



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2. What is the protoplasm surrounding the nucleus called?



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3. What are the functions of ribosomes?



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4. what is the function of mitochondria?



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5. Do plant cells contain centrioles?



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6. Name the nucleic acid found in chromosomes.



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7. What is the role of the Golgi complex?



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8. Name the following: a. structural and functional unit of life b. powerhouse of the cell

c. kitchen of a cell



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9. why does they plant cell remain more rigid than the animal cell?



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10. When do chromatin threads appear as chromosomes?



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11. What are genes?



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12. Where is nucleolus located in a cell?



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13. Name the structure which provides rigidity in an animal cell.



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14. Name the components which constitute ribosomes.



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15. Name an animal cell which does not possess a nucleus.



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16. Where is DNA located in the prokaryotic cells?



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17. what is endocytosis?



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Short Answer Questions

1. Differentiate between a. metacentric and telocentric b. Nucleus and nucleolus



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2. prokaryotes lack a true nucleus. Explain.



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3. Point out four differences between plant and animal cells.



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4. Write the main function of the following organelles: a. plasma membrane b. cell wall c. chloroplast d. chromosomes e. nucleolus



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5. Differentiate between various types of plastids.



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6. What is the composition of plasma membrane?



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7. What are granules? What role do they play?



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8. Why are pores necessary in the nuclear envelope?



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9. Why are genes called hereditary units?



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10. Differentiate between prokaryotic and eukaryotic chromosome.



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11. What role does endoplasmic reticulum play in the synthesis of cell membrane?



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12. Why is transport of materials essential in living organisms?



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13. What is the difference between diffusion and osmosis?



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14. What would happen if the plasma membrane gets ruptured?



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15. What is osmosis?





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Long Answer Questions

1. Describe the ultrastructure of a typical animal cell.



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2. Prokaryotic and Eukaryotic Cell



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3. describe the basic structure of chromosomes.



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4. Describe the structure and functions of nucleus.



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Diagrammatic Questions

1. Draw a diagram of an animal cell and label the various parts.



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Question Bank Objective Questions

1. Which of the following structures can be converted into crystal ?

A. A nerve cell

B. A virus

C. A bacterium

D. A cheek cell

Answer: B



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2. Which of the following structures is surrounded by a single membrane /

A. Lysosome

B. Chloroplast

C. Ribosome

D. Mitochondrion

Answer: A



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3. The constituents of chromosomes are

A. RNA and protein

B. DNA and protein

C. DNA and RNA

D. DNA , RNA and protein

Answer: B



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4. Which of the following are the functions of mitochondria ?

A. They help in starch synthesis

B. They manufacture hormones

C. They provide energy

D. They can synthesize their own proteins

Answer: C::D



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5. Lysosomes are formed by the

A. nuclues

B. mitochondria

C. Golgi apparatus

D. centriole

Answer: C



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6. Cells were first discovered by

A. Robert brown

B. Robert hooke

C. Purkinji

D. Schleiden and Schwann

Answer: B



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7. Which of the following organelles is/are without membrane ?

A. Golgi complex

B. Plastid

C. Nucleolus

D. Ribosome

Answer: C::D



8. Cell theory was proposed by

A. Robertt Hooke

B. Schlieden and Schwann

C. Haeckel

D. Virchow

Answer: B



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9. Prokaryotic cells contain

A. ribosomes

B. nucleoid

C. mitochondria

D. Golgi apparatus

Answer: A::B



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10. Kitchen of the cell is

A. Endoplasmic reticulum

B. Chloroplast

C. Mitochondria

D. Golgi complex

Answer: B



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11. The idea 'All cells arise from pre-existing cells' was proposed by

A. Virchow

B. De-Bary and Schultze

C. Schleiden and Schwann

D. Robertt Hooke

Answer: A



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12. Smooth endoplasmic reticulum plays a crucial role in

A. synthesizing lipids

B. starch synthesis

C. detoxifying poisons and drugs

D. ATP synthesis

Answer: A::C



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13. In the cell , lipid molecules are synthesized by

A. plastids

B. rough endoplasmic reticulum

C. Golgi complex

D. smooth endoplasmic reticulum

Answer: D



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14. DNA is found in

A. nucleus only

B. mitochondria only

C. plastids only

D. all the above organelles

Answer: D



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15. A cell will swell if it is placed in

A. hypotonic solution

B. hypertonic solution

C. isotonic solution

D. strong sugar solution

Answer: A



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16. Which of the following is not associated with endoplasmic reticulum ?

A. Biochemical activities of the cell

B. Energy generation

C. Transportation of materials in the cytoplasm

D. Transportation of proteins between nucleus and cytoplasm

Answer: B



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17. Cellulose is not the constituent of the cell wall in

A. maize plant

B. mango tree

C. bacteria

D. blue-green algae

Answer: C::D



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18. The essential components of cell membrane (proteins and lipids) are synthesized by

A. Golgi complex

B. mitochondria

C. endoplasmic reticulum

D. osmosis

Answer: C



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19. Food is engulfed by Amoeba by a process called

A. endocytosis

B. exocytosis

C. plasmolysis

D. osmosis

Answer: A



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20. The term nucleoid is used for underfined nuclear region of

- A. Amoeba
- B. Prokaryotes
- C. eukaryotes
- D. yeast

Answer: B



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21. Which of the following is not a function of vacuole ?

A. Maintenance of water balance

B. Storage of waste products

C. Providing rigidity to the cell

D. Formation of spindle fibres

Answer: D



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22. Select the correct answers .

A. Golgi body synthesizes proteins.

B. At the time of cell division , centrioles
move to the poles and form spindle
fibres.

C. The cell membrane is made of proteins
and lipids

D. Lysosomes work in defence against
bacteria and viruses

Answer: B::C::D



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23. Which one of the following is the correct definition of osmosis ?

A. Movement of solute molecules from lower concentration to higher concentration through a semipermeable membrane

B. Movement of water molecules from a region of its higher concentration to a region of lower concentration through a semipermeable membrane

C. Movement of solvent molecules through a permeable membrane

D. Movement of solutions through a semipermeable membrane

Answer: B



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24. If exosmosis continues in a plant cell, the cytoplasm would appear shrunken . This is called

A. active transport

B. passive transport

C. plasmolysis

D. endocytosis

Answer: C



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25. Which one of the following statements is not correct ?

A. Protoplasm includes cell membrane, cytoplasm and nucleus .

B. Smooth endoplasmic reticulum and rough endoplasmic reticulum synthesize proteins and lipids respectively.

C. Lysosomes are called suicide bages.

D. Chromoplasts are coloured plastides present in flowers and fruits

Answer: B



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26. Find out the correct statements among the following

A. Prokaryotic chromosomes are linear

B. The tips of chromosomes are called telomeres.

C. Protoplasm does not include cell membrane .

D. The main function of Golgi body is to synthesize proteins.

Answer: A::C::D



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27. What will be the result if the cells of onion peel and RBC are kept in hypotonic solution separately ?

A. The cells of onion peel will shrink while RBC will swell.

B. Both the cells will shrink.

C. RBC will burst after swelling easily while cells of onion peel will resist the bursting .

D. Both the cells will plasmolyze.

Answer: C



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28. The cell wall lies

A. outside plasma membrane

B. inside plasma membrane

C. outside cytoplasm

D. inside cytoplasm

Answer: A



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ii Fill In The Blanks

1. Powerhouse of the cell is



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2. Is the control room of the cell.



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3. Packaging unit of the cell is



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4. Is called the kitchen of the cell.



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5. Powerhouse of the cell is



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6. Who is the controller of cell:-



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7. Packaging unit of the cell is



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8. Kitchen of the cell is



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9. Powerhouse of the cell is



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10. Is the control room of the cell.



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11. Smooth endoplasmic reticulum help in the formation of cell membrane by a process called



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iii Write Yes No

1. Are prokaryotic chromosomes devoid of DNA ?



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2. Do all individuals of a particular species have constant chromosome number ?





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3. Are cisternae the main constituent of Golgi body ?



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4. Are ribosomes surrounded by a membrane ?



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5. It is true that plant cells do not have plasma membrane ?



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6. Is plasma membrane a selectively permeable membrane ?



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7. Do centrioles form spindle fibres ?



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8. Is the central region of the chromosome called telomere ?



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9. It is true that mitochondria do not have DNA ?



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10. Are digestive enzymes found in lysosomes ?



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iv Mark The Statement True T Or False F

1. The genetic material present in prokaryotes is called nucleoid .



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2. Cell membrane is not a living layer.



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3. Cell may be defined as a mass of protoplasm bounded by a plasma membrane .



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4. The region between the nucleus and the cell membrane is occupied by cytoplasm.



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5. Viruses do not have any membranes.



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6. Mucopeptide is not found in bacterial cell wall.



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7. The structure of a cell as seen under an electron microscope is called ultrastructure.



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8. All the components of a cell excluding the cell membrane is called protoplasm.



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9. Smooth endoplasmic reticulum synthesizes lipids.



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10. Mitochondria are autonomous organelles.



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11. Centrosome are not found in plant cells.



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12. Chromoplasts are not found in flowers.



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V Match The Columns

1. Match the columns .



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2. Match the columns .



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B Very Short Answer Questions

1. Name the plastids commonly found in roots leaves, flowers and fruit of the plant.

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2. Which organelle is considered as the scavenger of the cell.



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3. Name the organelle which controls most of the activities of the cell.



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4. Name an organelle of the cell which is not membrane-bound.



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5. Name is the main difference between a bacterial cell and an onion peel cell ?



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6. Which organelles in a plant cell contain both DNA and ribosomes?



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7. Name the mechanisms involved in absorption of water and digested food.



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8. Which structure in a bacterial cell is involved in photosynthesis ?



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9. Vegetables release water during cooking when salt is added . Name the mechanism involved in this .



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10. What will happen if a cell is placed in a medium having lesser water concentration than that of the cell?



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C Short Answer Questions

1. How do water molecules (H_2O) and carbon dioxide (CO_2) move in and out of the cell ?



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2. Explain the statement ' A cell is a building unit of an organism'.



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3. How does Amoeba obtain food and other molecules ?



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4. What is the relationship between chromosomes , chromatids and chromatin ?



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5. What will happen if dry raisins are kept in pure water for some time and later

transferred to concentrated sugar solution ?



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6. What will happen if Golgi bodies are removed from the cell ?



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7. What will happen if a Rhoeo leaf is boiled in water first and then a drop of concentrated sugar solution is put on it ?



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8. What will happen if a red blood cell is kept in concentrated salt solution ?



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9. What will happen if lysosomes are removed from the cell ?



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10. How does smooth endoplasmic reticulum differ from rough endoplasmic reticular ?



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11. When we was clothes for a long time our fingers shrink. Explain.



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12. Why does endocytosis occur in animal cells only ?



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13. Plant cells have large-sized vacuoles. Why ?



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14. Why are lysosomes called 'suicide bags' of the cell ?



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D Long Answer Questions

1. Differentiate between plant and animal cells.



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2. Describe the structure , types and functions of plastids.



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3. Describe the ultrastructure of a plant cell.



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E Crossword Puzzle

1. 

Down

1. Powerhouse of the cell

2. Hereditary unit

5. Kitchen of the cell

Across

2. Eukaryotic chromosome constituent
4. Eukaryotic nuclear organelle
6. Protein factory of the cell.



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F Diagrammatic Questions

1. Draw a well labelled diagram of typical prokaryotic cell ?



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



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3. 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 any biochemical reaction necessary to sustain life.

(e) is a fluid contained inside the nucleus.



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