

Choose the correct answer :

1. Cell secretions are done by :
 a) Golgi apparatus
c) Smooth Endoplasmic Reticulum b) Rough Endoplasmic Reticulum
d) Lysosomes
2. In the cell, complex sugars are made from simple sugars by :
a) Nucleolus b) Mitochondria
 c) Golgi apparatus d) Endoplasmic reticulum
3. The cell organelles having their own DNA and ribosomes are :
a) Endoplasmic Reticulum and Lysosomes b) Mitochondria and Plastids
c) Golgi apparatus and Plastids d) Golgi apparatus and Mitochondria
4. The cell organelle in which materials such as starch, oils and protein granules are stored is :
a) Golgi apparatus b) Chloroplasts c) Chromoplasts d) Leucoplasts
5. Functional segments of DNA are called :
a) RNA b) Ribosomes c) Genes d) Chromosomes
6. The membrane of Endoplasmic Reticulum is similar in structure to that of :
a) nuclear membrane b) plasma membrane
c) mitochondrial membrane d) membranes in plastids
7. The process of selective movement of substances through semipermeable membrane is called :
 a) osmosis b) diffusion c) plasmolysis d) imbibition

8. The plastids which are coloured, green and colourless are known respectively as : []
 a) Chloroplasts, Chromoplasts, Leucoplasts b) Chromoplasts, Leucoplasts, Chloroplasts
 c) Leucoplasts, Chloroplasts, Chromoplasts d) Chromoplasts, Chloroplasts, Leucoplasts []
9. In a non-dividing cell, chromatin material can be seen as : []
 a) entangled mass of thread like structures b) thick rod like structures
 c) fine granules d) crystalline structures []
10. When a normal cell is placed in hypotonic solution, it : []
 a) swells up b) shows plasmolysis
 c) bursts due to over swelling d) shows crenation []
11. Which of the following makes the plant cell to withstand greater changes in the surrounding medium ? []
 a) Plasma membrane b) Cell wall c) Vacuoles d) Plastids []
12. The longest cell in the human body is : []
 a) muscle cell b) nerve cell c) nephron d) liver cell []
13. The compounds synthesised near the ER are packaged and dispatched to various sites inside and outside the cell through : []
 a) Rough Endoplasmic Reticulum b) Smooth Endoplasmic Reticulum
 c) Plasma membrane d) Golgi apparatus []
14. Iodine solution is used to : []
 a) stain onion peel cells b) stain human cheek cells
 c) mount onion peel cells d) mount human cheek cells []
15. A prokaryotic cell does not possess : []
 a) Cell membrane b) Cell wall c) Nuclear membrane d) Both a and c []
16. Chromosomes are made up of : []
 a) DNA b) Protein c) DNA and protein d) RNA []
17. The inner membrane of mitochondria is folded because it : []
 a) has no space inside b) helps in transportation of material
 c) increases the surface area d) stores more food []
18. Plasmolysis in plant cell is defined as : []
 a) breakdown (lysis) of plasma membrane in hypotonic medium
 b) shrinkage of cytoplasm in hypertonic medium c) shrinkage of nucleoplasm
 d) none of these []
19. Which of the following cell organelle plays a crucial role in detoxifying many poisons and drugs? []
 a) Golgi apparatus b) Smooth ER c) Rough ER d) Plasma membrane []
20. Golgi carried out a revolutionary method of staining individual nerve and cell structures. This method is referred to : []
 a) White reaction b) Black reaction c) Pink reaction d) Green reaction []

Date of Completion :

Signature of the Teacher

ANALYSE & APPLY - 2

Assertion - Reasoning based questions.

These consist of two statements - Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

- a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)
 - b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A)
 - c) Assertion (A) is true but Reason (R) is false
 - d) Assertion (A) is false but Reason (R) is true
1. **Assertion (A) :** Cell is the fundamental structural and functional unit of all living organisms.
Reason (R) : Cell is capable of independent existence and carryout all the vital functions for living. [C]
 2. **Assertion (A) :** All living organisms are composed of cells and products of cells.
Reason (R) : All cells arise from pre-existing cells. [C]
 3. **Assertion (A) :** Chloroplasts are important for photosynthesis in plants.
Reason (R) : Chloroplasts contain various yellow or orange pigments in addition to chlorophyll. [b]
 4. **Assertion (A) :** Mitochondria are known as the powerhouses of the cell.
Reason (R) : The energy required for various chemical activities needed for life is released by mitochondria in the form of ATP. [A]
 5. **Assertion (A) :** The endoplasmic Reticulum which lacks ribosomes is called Smooth Endoplasmic Reticulum (SER).
Reason (R) : SER is mainly involved in lipid synthesis. [C]
 6. **Assertion (A) :** The shape and size of cells are related to the specific function they perform.
Reason (R) : Some cells like *Amoeba* have changing shapes. [b]
 7. **Assertion (A) :** In plant cells, vacuoles provide turgidity and rigidity to the cell.
Reason (R) : In plant cells, vacuoles are fully filled with cell sap and store solid and liquid contents. [C]
 8. **Assertion (A) :** Rough Endoplasmic reticulum is the protein synthesizing site of the cell.
Reason (R) : Ribosomes are small granules that are attached to the surface the Rough Endoplasmic Reticulum. [C]
 9. **Assertion (A) :** Plasma membrane is called a selectively permeable membrane.
Reason (R) : Plasma membrane allows the movement of only some of the substances to pass through it. [C]
 10. **Assertion (A) :** Lysosomes are known as suicidal bags of the cell.
Reason (R) : If the cell gets damaged, then lysosomes bursts and release digestive enzymes which digest their own cell and ultimately the cell dies. [C]
 11. **Assertion (A) :** The cell organelles together constitute the basic unit called the cell.
Reason (R) : A cell is able to live and perform all its functions because of the cell organelles. [C]

12. Assertion (A) : DNA molecules contain the information necessary for constructing and organising cells. [A]
Reason (R) : In a cell which is not dividing, DNA is present as a part of chromatin material.
13. Assertion (A) : The cell will shrink if placed in a sugar or salt solution.
Reason (R) : The cell loses its water by exosmosis. [B]
14. Assertion (A) : Unicellular fresh water organisms and most plants tend to gain water through osmosis.
Reason (R) : Absorption of water by plant roots is an example for osmosis. [B]
15. Assertion (A) : The ER membrane is similar in structure to the plasma membrane.
Reason (R) : Endoplasmic Reticulum always forms a network system. [B]

Date of Completion :

Signature of the Teacher

CASE STUDY BASED QUESTIONS

Source - based / Case - based / Passage - based / Integrated questions :

Answer the questions on the basis of your understanding of the following paragraph and related to studied concepts.

New cells are formed in organisms in order to grow, to replace old, dead and injured cells, and to form gametes required for reproduction. The process by which new cells are made is called cell division. There are two main types of cell division: mitosis and meiosis.

The process of cell division by which most of the cells divide for growth is called mitosis. In this process, each cell called mother cell divides to form two identical daughter cells. The daughter cells have the same number of chromosomes as mother cell. It helps in growth and repair of tissues in organisms.

i. What is meant by cell division ?

Cell division is the process by which new cells are formed in organism to grow, replace old dead, or injured cell, and form gametes for reproduction

ii. Mention the types of cell division.

1. Mitosis

2. Meiosis

iii. What is mitosis ?

Mitosis is the process of cell division in which a cell divides to form two identical daughter cell

iv. Write the importance of mitosis.

- Mitosis helps in the growth of an organism
- It replaces old, dead, and damaged cells.
- It helps in tissue repair and healing of wounds.

v. Write the uses of meiosis.

- Meiosis helps in the formation of gametes
- It is essential for sexual reproduction
- It introduces variation in the offspring due to crossing over