

CLASS - VI

CELL THE STRUCTURE AND FUNCTIONS

Multiple Choice Questions :

1.

- i b. ii a. iii c. iv b.

Short Answer Questions -

1. Antonie Van Leeuwenhoek.

2. Robert Hooke.

3. The three essential parts of a cell are :-

- i. The outmost cell membrane.
- ii The Cytoplasm.
- iii The nucleus.

4. The cell membrane has fine pores, through which only certain substances can pass in and out, while others cannot. So, cell membrane is called selectively permeable.

5.

i.	NUCLEUS 1. It is a large spherical organelle 2. It is bound by nuclear membrane.	NUCLEOLUS 1. It is a sub organelle in the nucleus. 2. It is not bound by any membrane.
ii	PROTOPLASM It is the content of the cell including cell membrane, cytoplasm and nucleus	CYTOPLASM It is a semi-liquid colourless and translucent substance.
iii	CELL WALL 1. It is a rigid structure. 2. It is freely permeable.	CELL MEMBRANE 1. It is a flexible structure. 2. It is selectively permeable.

6. Book, Page no. 35.

7. Chromosomes contain units called genes. These genes are responsible for transmitting characters from parents to offspring.

8. i cell ii Preexisting iii Wall iv. Pigments
v. Vacuoles

LONG ANSWER QUESTIONS

1. Nucleus is a small spherical mass mostly located towards the centre of the cytoplasm. It is the most important part of the cell.
- A delicate porous nuclear membrane which encloses a relatively dense nucleoplasm.
 - Inside the nucleoplasm is a small dark body called nucleolus. The nucleoplasm also contains chromosomes. Chromosomes contain genes which are responsible for transmission of hereditary characters.

Function of nucleus.

- i. It regulates and co-ordinates various life processes of the cell.
 - ii. It plays an important part during cell division.
2. Robert Hooke coined the term 'cell'.
He used two lenses in his microscope.
He examined a very thin slice of cork and observed a cluster of box-like cubicles piled up together.
3. The three essential parts of a cell are -
- i. Cell membrane
 - ii. Cytoplasm.
 - iii. Nucleus.

Each cell is surrounded by a cell membrane. It has the following characteristics

- i. It is very thin, delicate and flexible.
- ii. It is selectively permeable.
- iii. It is present in both plant and animal cell.

INSIDE QUESTIONS.

1. Define -

cell - A cell can be defined as the basic structural and functional unit of all living things.

Cytology - The study of cell is called cytology.

Protoplasm - The living substance of cell is called protoplasm.

Vacuoles - The nonliving inclusions in cytoplasm bound by a membranes are called vacuoles.

cell organelles - The tiny structures that remain suspended in the cytoplasm are called cell organelles.

2.

UNICELLULAR ORGANISM	MULTICELLULAR ORGANISM
<p>1. Its body is made up of only one cell.</p> <p>2. Its life span is short due to heavy work load.</p> <p>e.g. Amoeba, Paramecium etc.</p>	<p>1. Its body is made up of many cells.</p> <p>2. Its life span is long due to limited work load.</p> <p>e.g. Human being, rose plant etc.</p>

3. Give an example of.

1. spherical shaped cell → RBC

2. Oval shaped cell → Chlamydomonas.

3. Cylindrical shaped cell → Spirogyra.

4. Amoeboid cell → WBC

5. Cubical/rectangular cell → Cells of leaf.

6. Slipper shaped cell → Paramecium.

7. Smallest cell → PPLO

8. Longest cell → Nerve Cell.

9. Largest cell

→ The Ostrich egg.

Q. What is cell theory?

Ans. Three Scientists Schleiden, Schwann and Virchow formulated the cell theory as -

- i. Every living organism is made up of one or many cells.
- ii. The cell is the structural unit of all living organisms.
- iii. The cell is the functional unit of all living organisms.
- iv. All cells arise from pre-existing cells.

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