CBSE Class–VIII Science

NCERT SOLUTION

Chapter-8

Cell: Structure and Functions

1. Indicate whether the following statement are true (T) or false(F).

(a) Unicellular organisms have one-celled body. (T/F)

(b) Muscle cells are branched. (T/F)

(c) The basic living unit of an organism is an organ. (T/F)

(d) Amoeba has irregular shape. (T/F)

Ans. (a) T

(b) T

(c) F

(d) T

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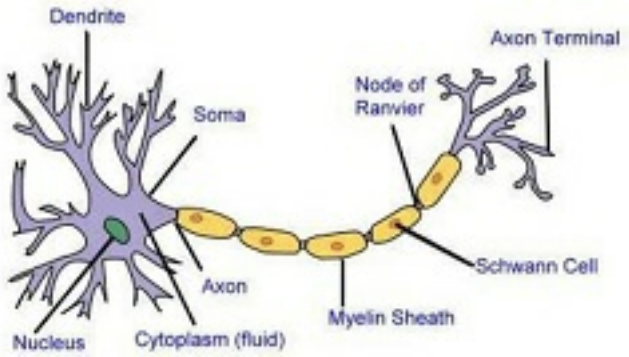
2. Make a sketch of the human nerve cell. What function do nerve cells perform?

Ans. Nerve cell-



Function of Nerve cells: The nerve cell receives and transfers the messages, thereby helping to control and coordinate the working of different parts of the body.

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3. Write short notes on the following.

(a) Cytoplasm

(b) Nucleus of a cell

Ans. (a) Cytoplasm: It is a fluid that fills the cell and occurs between the plasma membrane and the nucleus. Cell organelles such as mitochondria, ribosomes, Golgi bodies, etc. are suspended in the cytoplasm. The cytoplasm helps in the exchange of materials between cell organelles.

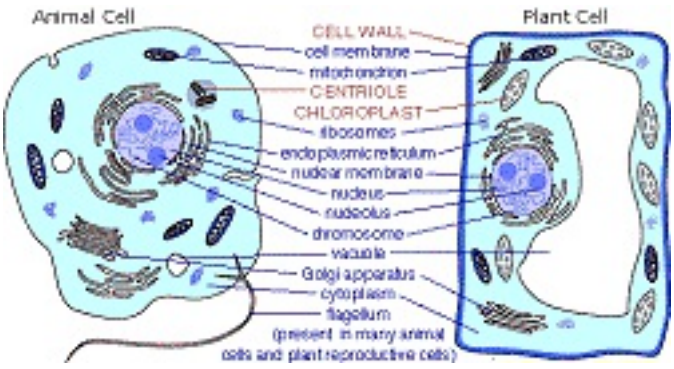
(b) Nucleus of a cell: The nucleus is a spherical structure generally present at the centre of a cell. It is known as brain of the cell as it controls the activities of cells. The nucleus is composed of nuclear membrane, nucleous and chromosomes.

4. Which part of the cell contains organelles?

Ans. Cytoplasm contains organelles of the cell.

5. Make sketches of animal and plant cells. State three differences between them.

Ans.



Difference between plant and animal cell-

Animal cell	Plant cell
Cell wall is absent (Outermost covering is the plasma membrane)	Cell wall is present (Cell wall is made of cellulose)
Plastids are present	Plastids are absent
Large vacuoles are present	No or small vacuoles are present

Nucleus is in the middle of cell	Nucleus is towards periphery

6. State the difference between eukaryotes and prokaryotes.

Ans. (i) Eukaryotes have well-organized nucleus with nuclear membrane while prokaryotes do not have well organized nucleus.

(ii) Prokaryotic cell is generally smaller in size than eukaryotic cells.

7. Where are chromosomes found in a cell? State their function.

Ans. Chromosomes are found in the nucleus of the cell. These are thread-like structures that carry genes. Genes contain information necessary for the transfer of characteristics from the parents to the offspring. Thus, chromosomes play an important role in the inheritance of characteristics.

8. 'Cells are the basic structural units of living organisms'. Explain.

Ans. All organisms are made up of cells. They have different designs, shapes and sizes in the living organism. All the life processes take place inside a cell. Many similar cells aggregate togather to make tissue. So many tissues are organised to form organ and finally many organs are organised to form a system. So we can say that cells are basic units of living organisms.

9. Explain why chloroplasts are found only in plant cells?

Ans. Chloroplasts are found only in plant cells. They contain a green pigment called chlorophyll. This green pigment is important for photosynthesis in green plants. This chlorophyll pigment traps solar energy and utilizes it to manufacture food for the plant.. No photosynthesis occurs in animals. So, they do not contain chloroplast.

10. Complete the crossword with the help of clues given below.

Across

1. This is necessary for photosynthesis.

3. Term for components present in the cytoplasm.

6. The living substance in the cell.

8. Units of inheritance present on the chromosomes.

Down

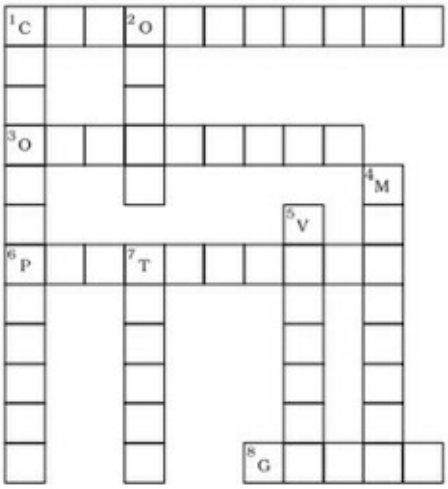
1. Green plastids

2. Formed by collection of tissues

4. It separates the contents of the cell from the surrounding medium.

5. Empty structure in the cytoplasm.

7. A group of cells.



Ans.