CBSE NCERT Solutions for Class 8 Science Chapter 8

Back of Chapter Questions

1. Indicate whether the following statements 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)

Solution:

(a) Unicellular organisms have a one-celled body - True

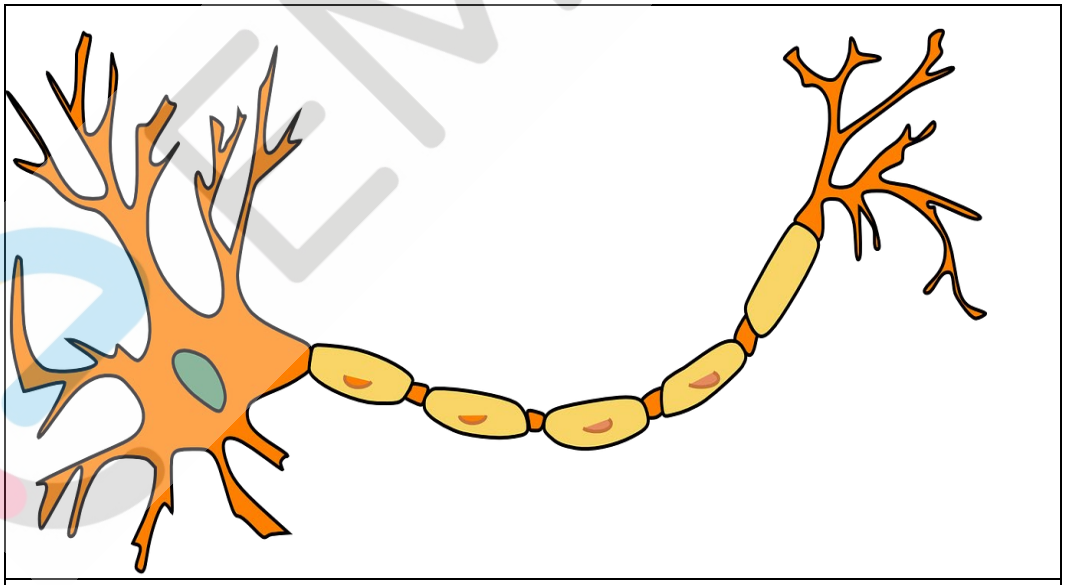
(b) Muscle cells are branched - True

(c) The basic living unit of an organism is an organ - False

(d) Amoeba has an irregular shape – True

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

Solution:



Nerve cell

The nerve cells perform the following functions:

i. They receive messages from sense organ and send it to the brain.

ii. They receive messages from the brain and send it back to sense organs.

iii. This way the brain controls all the body parts.

3. Write short notes on the following:

a) Cytoplasm

b) The nucleus of a cell

Solution:

a) Cytoplasm

The cytoplasm is a gel-like substance that fills the cell and is found between the plasma membrane and nucleus. Mitochondria, ribosomes, Golgi bodies, and other cell organelles are found free suspended in the cytoplasm. The cytoplasm is found to exchange materials between different cell organelles.

b) The nucleus of a cell

The nucleus of a cell is an important component of the cell. It has a spherical structure and mostly found at the center of the cell. The nucleus is separated from the cytoplasm by a membrane called the nuclear membrane. There is a movement of materials between the nucleus and cytoplasm through the pores called nuclear pores present in the nuclear membrane. The nuclear membrane is double layered. There is a tiny ball-like structure called nucleolus. There are tiny thread-like structures called chromosomes which carry genes and help in the transfer of characters from parents to their offspring and they are visible during cell division.

4. Which part of the cell contains organelles?

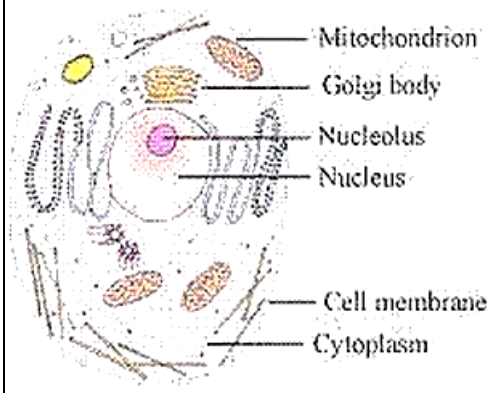
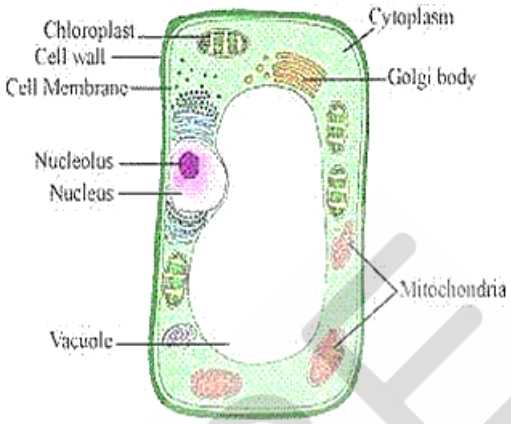
Solution:

The cytoplasm of the cell which is present between nucleus and plasma membrane. The cytoplasm contains cell organelles such as mitochondria, nucleus, golgi bodies, ribosomes, lysosomes, etc.

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

Solution:

Animal cell	Plant cell

 Animal cell	 Plant cell
i. The cells are small	i. The cells are larger than the animal cell.
ii. The cell wall is absent	ii. The cell wall is present
iii. Plastids are not present except in Euglena	iii. Plastids are present.
iv. The vacuoles are small.	iv. The vacuoles are large.

6. State the difference between eukaryotes and prokaryotes.

Solution:

Eukaryotes	Prokaryotes
(i) Most of the eukaryotes are multicellular.	(i) Most of the prokaryotes are unicellular
(ii) The nucleolus is present.	(ii) The nucleolus is absent.
(iii) The nucleus of the cell is well defined and is surrounded by a nuclear membrane.	(iii) The nucleus is poorly defined and doesn't have a nuclear membrane.
(iv) Cell organelles are present. Some of them are ribosomes, plastids, mitochondria, Golgi bodies, etc.	(iv) Cell organelles are absent except ribosomes.
(v) Eukaryotic cells include fungi, plant and animal cells.	(v) Prokaryotic cells include bacteria and blue-green algae.

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

Solution:

The chromosomes are thread-like structures present within the nucleus. Chromosomes play a significant role in the inheritance or transfer of characters from parents to offspring.

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

Solution:

A cell is defined as the smallest unit of life which is capable of all life functions.

Cells are also the building blocks of life which is why the cells are regarded as " the basic structural and functional unit of life". Every cell varies in their shapes, size, and activity they perform. The function of the cell is linked with the shape and size of the cell.

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

Solution:

Chloroplast is a type of plastid that contains chlorophyll and trap sunlight for the process of photosynthesis. Since plants are involved in photosynthesis, chloroplasts are present only in plant cells.

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

Across

1. This is necessary for photosynthesis.

3. Term for component present in the cytoplasm.

6. The living substance in the cell.

8. Units of inheritance present on the chromosomes.

Down

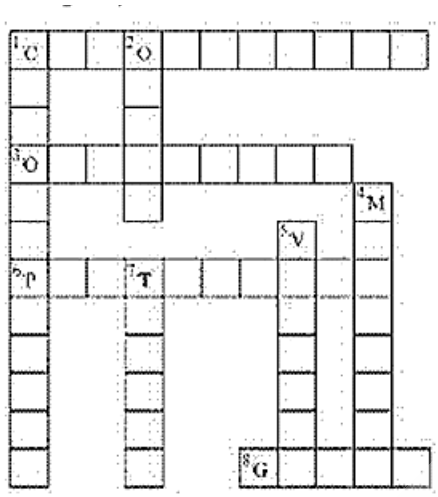
1. Green plastids.

2. Formed by a 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.



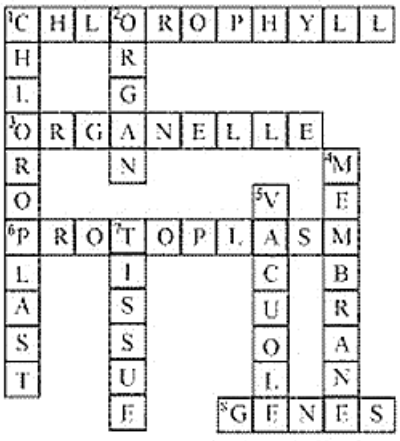
Solution:

Across

1. CHLOROPHYLL
3. ORGANELLE
6. PROTOPLASM
8. GENES

Down

1. CHLOROPLASTS
2. ORGAN
4. MEMBRANE
5. VACUOLE
7. TISSUE



♦ ♦ ♦