



KALPAVRUKSHA MODEL SCHOOL

Answers Assignments-1

Class: VIII

Sub: Biology

Date: 26.08.2021

Topic: Cell: Structure and function

I. Answer the following questions:

1. What is cell? What variations do the cells of the organisms show?

Ans: The smallest structural and functional unit of a living organism is called a cell.

The cells show the following variation in

- a) shape b) number c) size

2. Differentiate between unicellular and multi-cellular organisms. Give some examples of each one of them.

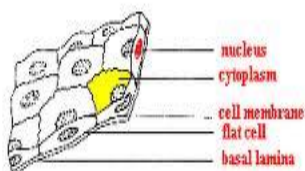
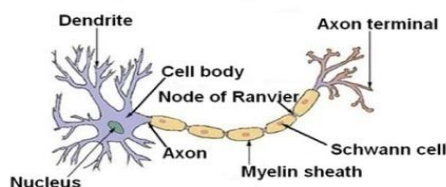
Unicellular organisms	Multi-cellular organisms
Organisms whose body consists of a single cell are called unicellular organisms.	Organisms whose body consists of many cells are called multi-cellular organisms.
Ex: euglena, amoeba, bacteria, paramecium.	Ex: human being, plants, animals.

3. With the help of examples show how the shape of the cell depends on the function it performs.

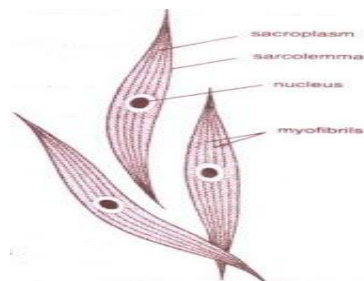
Ans: Cells exist in different shapes. They can be disc-shaped, polygonal, rectangular, branched or even irregular. The shape of a cell depends on the specific function it performs.

For example, nerve cells carry messages between different parts of the body. Hence they are elongated in shape. Muscle cells help in movement through contraction and expansion. Hence they are thin and long. Skin cells are flat so that they can cover the muscle cell of the body.

Structure of a Typical Neuron



Skin cell



Muscle cell

4. With the help of examples describe how cells vary in terms of shape, size and number.

Ans: The cells show the following variation as follows:

- 1. Variation in shape:** Cells exist in different shapes. They can be disc-shaped, polygonal, rectangular, branched or even irregular. The shape of a cell depends on the specific function it performs. For example, nerve cells carry messages between different parts of the body. Hence they are elongated in shape. Muscle cells help in movement through contraction and expansion. Hence they are thin and long.
- 2. Variation in number:** Bodies of organisms may consist of one or many cells. Organisms whose body consists of a single cell are called unicellular organisms. Examples of unicellular are amoeba, paramoecium, euglena, and bacteria. Thus in a unicellular organism a single cell performs all vital activities like feeding, movement, respiration, and reproduction. Organisms whose body consists of many cells are called multi-cellular organisms. Most plants and animals (including human beings) are multi-cellular organisms.
- 3. Variation in size:** Most cells are microscopic and cannot be seen with the naked eye. Cell size may vary from a micrometer to a few centimeters. The smallest cells are bacteria which generally range in size from 0.1 to 0.5 micrometer. The largest cell is egg of an ostrich which is 170 millimeter in diameter. Human nerve cells are believed to be the longest cells.

5. Who discovered the cell?

Ans: Robert Hooke discovered the cell in 1665.

6. Name the largest cell and smallest cell known to you.

Ans: The largest cell is ostrich egg that measures up to 170mm in diameter and smallest cell are bacteria cell that ranges from 0.1 to 0.5 micron in diameter.

7. Why are nerve cells long? Why do these cells have projection?

Ans: Nerve cells are long and have projections because they need more surface area to pass the signals to cell by cell. Their branches help in receiving and transferring messages and enable to control and coordinate the working of the parts of the body.