

GURU GOBIND SINGH PUBLIC SCHOOL, CHAS

BIOLOGY ASSIGNMENT WEEK 5

Class IX

The Fundamental Unit of Life, Cell

CELL

It is the structural and functional unit of life.

Cell is termed as the structural unit of life as it provides structure to our body.

Cell is considered as the functional unit of life as all the functions of the body take place at cell level.

Discovery of cell:

Discovered by Robert Hooke in 1665.

Robert Brown in 1831 discovered the nucleus in the cell.

Cell Theory:

Cell theory states that:

All living organisms are composed of cells.

Cell is the fundamental unit of life.

All new cells come from pre-existing cells.

Types of Organisms on the Basis of Number of Cells

There are two kinds of organisms on the basis of cells:

(i) Unicellular Organisms: The organisms that are made up of single cell and may constitute a whole organism, are named as unicellular organisms.

For example: Amoeba, Paramecium, bacteria, etc.

(ii) Multicellular Organisms: The organisms which are composed of a collection of cells that assume function in a coordinated manner, with different cells specialized to perform particular tasks in the body, are named as multicellular organisms.

For example: Plants, human beings, animals, etc.

Shape and Size of Cells

Cells vary in shape and size. They may be oval, spherical, rectangular, spindle shaped, or totally irregular like the nerve cell.

The size of cell also varies in different organisms. Most of the cells are microscopic in size like red blood cells (RBC) while some cells are fairly large like nerve cells.

Types of Cells

The cells can be categorized in two types:

1. Prokaryotic Cell 2. Eukaryotic Cell

1. Prokaryotic cell

Prokaryotic cells are cells in which true nucleus is absent. They are primitive and incomplete cells. Prokaryotes are always unicellular organisms. For example, archaebacteria, bacteria, blue green algae are all prokaryotes.

2. Eukaryotic Cell

Eukaryotic cells are the cells in which true nucleus is present. They are advanced and complete cells. Eukaryotes include all living organisms (both unicellular and multicellular organisms) except bacteria and blue green algae.

Answer the following questions:

1. Define cell.
2. Name the scientists who gave cell theory. Describe cell theory.
3. Describe the structure of cell.
4. Differentiate between unicellular and multicellular organisms.
5. Differentiate between Eukaryotic cell and Prokaryotic Cell.