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Cell
Worksheet

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1) Why cell is called freely permeable?

Ans- The cell wall is called freely permeable because it allows all the substances in solution enter and leave the cell without any hindrance.

2) Differentiate between Chloroplast and Chromoplast.

Ans→ Chloroplast → They are green plastids, that trap sunlight and solar energy for the process of photosynthesis. They do so because they contain a green substance called chlorophyll.

Chromoplast → They contain yellow and

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red pigements. They impart varied colours to flowers and fruits. In petals of flowers, they attract insects for pollination.

3) What are the functions of a cell wall?

Ans → Only the plant cell has the cell wall. No, animal cell have the cell walls. It lies outside the cell membrame. The cell wall is the first layer. The functions of a cell wall are:

* It is made up of cellulose.
* It gives shape and rigidity to the plant cell.
* It is a non-living structure.
* It protects the cell from the entry of harmful diseases-causing agents, as well as the underlying plasma membrame and

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protoplasm against mechanical injuries that affect the inside cell.

* It is freely permeable, it allows the substances in solutions to enter and leave the cell without any hindrance.

4) Define cell. When a cell is called a living thing.

Ans→ A cell can be defined as the basic structural and functional unit of all living things. The word cell has come or deprived from the latin word cella (compartment). A cell is said to be living when it moves from place to

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place. And contain a jelly-like substance called Protoplasm.

5) Define protoplasm.

Ans→ Protoplasm is the living substance of the cell. It is made up of the nucleus and cytoplasm.

6) Define unicellular organisms with example.

Ans→ The body of many microscoptic plants and animals are formed by just a single cell. Those are called as unicellular organisms. Therefore, all the living things those are made up of only one cell is called as unicellular organisms. Exc→ Bacteria, Yeast, etc

7) Define multicellular organisms with example.

Ans→ The body of many plants and animals, which we see around are made up of

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millions and billions of cells. Those are called as multicellular organisms. Therefore, all the living things those are made up of many kinds of cells are called as multicellular organisms. Some of the examples are Rose, peepal, neem, Hydra, lion, tiger, frog, elephant, eagle, vulture, etc. all of them are called as multicellular organisms.

8) Why cell division is so important?

Ans:- All the new cells need to be produced for replacement, repair, reproduction,

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and growth. Thus, cell division is the necessity for the existence of all living organisms, including plants.

9) Define vacuole.

Ans) Vacuoles are the non-living inclusions in the cytoplasm bound by a membrane. These are filled with water and various substances in solution form called cell sap. They are present in both plant cell and animal cell. In the plant cells, the vacuoles are fewer but very large in size. In animal cell the vacuoles are very large in number or quantity and they are smaller in size.

10) Answer the following.

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i) Define the cell theory. Name the scientists who formulated it.

ii) Classify and define the different cells according to their size.

iii) Define the different cells present in animals.

iv) What are plastids? State its different types.

Ans-i) The cell theory has four parts —

1) Every living organism is made up of one or many cells.

2) The cell is the functional unit of all living organisms.

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3) The cell is the structural unit of all living organism.

4) All cells arise from the pre-existing cells.

Three scientists have formulated the cell theory. The name of those three scientists are:

* Schleiden
* Schwann
* Virchow

ii) According to the size of the cell, they are of three types:

i) The largest cells are the ostrich eggs.

ii) The longest cells are the nerve cells those are upto 3 metres.

iii) The smallest cells are found among

bacteria those are 02-05 micrometre.

iii) The different types of cells present in animals are.

* Muscle Cells: Movement of body parts. It is the ability of the muscle cells to contract and relax.
* Nerve cells: Conduction of messages in the form of impulses.
* Gland cells: It is the cells of various glands which secrete enzymes that digest the food.
* Skin cells: The skin being the outermost covering of the body protects

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our body from various external factors such as germs and ultraviolet rays. It also helps in regulating the body temperature.

iv) Plastids are double-membrane organelles which are found in the cells of plants and algae. Plastids are responsible for manufacturing and storing of food. These often contain pigements that are used in photosynthesis and different types of pigements that can change the colour of the cell. They are of three types:

* Chloroplasts
* Chromoplasts
* Leukoplasts