

Welland Gouldsmith Schools

Class: IX

Subject: Biology

Chapter: Cell - The Unit of Life

Answer Key

(a) State one function of the following cell organelles:

- 1) **Vacuoles:** Gives turgidity to the cells, storage of water and other substances.
- 2) **Mitochondria:** Release energy in the form of ATP, Synthesis of respiratory Enzymes.
- 3) **Lysosomes:** Intracellular digestion, Destroy foreign substances, Destroy cell organelles when the cell is old or injured.
- 4) **Golgi apparatus:** Helps in synthesis and secretion of enzymes, hormones etc, Formation of acrosomes

(b) Give one point of difference between the following on the basis of words given in the bracket.

1) Chloroplast	Chromoplast
No pigment, colourless	Pigments present. Yellow pigment (Xanthophyll), Orange – red (Carotene), Anthocyanins
2) Plant cell	Animal cell
Usually larger with distinct outlines	Usually smaller with less distinct boundaries.
3) Organ	Organelle
A part of an organism or plant which is typically self- contained and has a specific vital function.	A specialized subunit, usually within a cell, that has a specific function, definite shape and a definite structure.

c) Answer the following questions in brief.

1) What are genes? How many pair of chromosomes are found in human cells?

Ans: Genes are unit of heredity which is transferred from a parent to offspring and is held to determine some characteristic of the offspring.

Number of chromosomes in human = 46 or 23 pairs.

2) Why are lysosomes called intracellular digestive centres?

Ans: Lysosomes are called intracellular digestive centres as they contain hydrolytic enzymes which helps in digestion of food.

3) Plasma membrane is selectively permeable in nature. Explain.

Ans: Plasma membrane is selectively permeable in nature as it allows only certain substance to pass through while it prevents others.

4) Define protoplasm. Why is it impossible to make an accurate analysis of protoplasm?

Ans: Protoplasm is the living matter, the total substance of a living cell, that is, the cytoplasm and the nucleus.

It is impossible to analyse protoplasm chemically because it has complex organic and living cell organelles which can disintegrate if chemicals are added to it.