WORKSHEET 2

CHAPTER 1 – CELL: THE STRUCTURAL AND FUNCTIONAL UNIT OF LIFE

A. Tick (✓) the correct option.

1. Chlorophyll occurs in _____ of chloroplast.
   a. Inner membrane
   b. Thylakoid membranes
   c. Stroma
   d. Outer membrane
2. Which is common in plant and animal cells?
   a. Centriole
   b. Central vacuole
   c. Mitochondria
   d. Plastids
3. Lysosomes are produced by
   a. mitochondria.
   b. endoplasmic reticulum.
   c. golgi bodies.
   d. leucoplast.
4. Prokaryotic cells lack
   a. nuclear membrane
   b. DNA.
   c. chlorophyll
   d. membranous vesicles.
5. Oxygen moves inside the cell through
   a. plasmolysis.
   b. diffusion.
   c. osmosis.
   d. deplasmolysis.

B. Fill in the blanks.

1. Vacuoles are bound by a membrane known as _____
2. _____ imparts colour to flowers, fruits and vegetables in plants.
3. _____ detoxifies poisons and drugs in liver of vertebrates.
4. _____ discovered Golgi apparatus.
5. Nuclear material in prokaryotic cell is known as _____

C. Answer in one word.

1. Suicidal bag of a cell.
2. Process of cell membrane building.
3. Colourless plastid.
4. Organelle for packaging of products.
5. Powerhouse of the cell.

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D. State whether the given statements are true or false.

1. Golgi bodies contain digestive enzymes.
2. Chromosomes are composed of DNA and protein.
3. Cell wall is permeable in nature.
4. Centrosomes occur in plant cells.
5. Chlorophyll is present in all types of cells.

E. Answer the following questions.

1. What do you understand by the term dictyosomes? Where are they found?
2. Which of the two cells, plant or animal, can withstand greater changes in the surrounding medium? Why?
3. In which way, location of chlorophyll is different in eukaryotes as compared to photosynthetic prokaryotic cell?
4. What is the main function of the following cell components?

   a. Plasma membrane

   b. Leucoplast

   c. Lysosome

   d. Chromosome

   e. Vacuoles
5. a. What are the two main function of vacuoles in unicellular organism?

   b. Name the process by which *Amoeba* acquires food.

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ANSWERS

WORKSHEET 2

A. Tick (✓) the correct option.

1. b 2. c 3. c 4. a 5. b

B. Fill in the blanks.

1. Tonoplast 2. Chromoplast 3. Smooth Endoplasmic Reticulum (SER)
4. Camillo Golgi 5. Nucleoid

C. Answer in one word.

1. Lysosome 2. Membrane biogeneses
3. Leucoplast 4. Golgi apparatus
5. Mitochondria

D. State whether the given statements are true or false.

1. F 2. T 3. T 4. F 5. F

E. Answer the following questions.

1. The components of Golgi bodies are diffused in plant cells and are called as dictyosomes. These are present in plant cells.
2. Plant cells can withstand greater changes in the surrounding medium because they have a rigid outer covering called the cell wall, which helps them to withstand very dilute (hypotonic) external media without bursting. In hypotonic medium, cells take up water due to osmosis. As a result, the cell swells, building up pressure against the cell wall. At the same time, cell wall also exerts equal pressure against the swollen cell contents. Hence, plant cell can withstand greater changes in the surrounding medium.
3. Chlorophyll is present in membranous vesicles in prokaryotic cell. While in eukaryotic cell, it is present in plastids.
4. a. Plasma membrane: It regulates the entry and exit of molecules across it.
   b. Leucoplast: Leucoplast are the colourless plastids present only in plant cells. They store starch, oils and protein granules.
   c. Lysosome: Lysosome are the suicide bags of the cell which contains digestive enzymes. They digest foreign material like bacteria or food entering the cell as well as worn out cell organelles.
   d. Chromosome: Chromosome contain information for inheritance of characters from parents to next generation in the form of gene. It also contains information for constructing and organising cell.
   e. Vacuoles: Vacuoles are storage sacs for liquid or solid contents. It provides rigidity and turgidity to plant cells.
5. a. In single-celled organisms like *Amoeba*, the vacuoles are modified as food vacuoles, which contain the food item that the *Amoeba* has consumed. In some unicellular organisms, like *Paramecium*, vacuoles are specialised to expel excess water and some wastes from the cell.
   b. *Amoeba* acquires food by the process of endocytosis.

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