

1. Who discovered cells for the first time?

- A. Anton van Leeuwenhoek B. Robert Hooke
C. Robert Brown D. Purkinje (B)

Explanation: Robert Hooke discovered cells in 1665 while observing a cork slice using a self-designed microscope.

2. Which organelle is known as the powerhouse of the cell?

- A. Golgi apparatus B. Lysosomes
C. Mitochondria D. Nucleus (C)

Explanation: Mitochondria generate energy in the form of ATP and are known as the powerhouse of the cell.

3. What is the function of the cell membrane?

- A. Provides rigidity to the cell
B. Produces food
C. Allows selective entry and exit of substances
D. Stores waste (C)

Explanation: The cell membrane is selectively permeable and regulates the movement of substances in and out of the cell.

4. Which of the following is a unicellular organism?

- A. Human B. Paramecium
C. Mango tree D. Frog (B)

Explanation: Paramecium is a unicellular organism, meaning it is made up of a single cell.

5. What is the main component of the plant cell wall?

- A. Starch B. Protein
C. Cellulose D. Lipid (C)

Explanation: The plant cell wall is mainly composed of cellulose, which provides structural strength.

6. What is the function of ribosomes on the rough endoplasmic reticulum?

- A. Fat synthesis B. Protein synthesis
C. Energy production D. Detoxification (B)

Explanation: Ribosomes are the site of protein synthesis and are attached to the rough ER.

7. Which organelle is responsible for packaging and modifying substances in the cell?

- A. Endoplasmic Reticulum B. Nucleus
C. Golgi Apparatus D. Vacuole (C)

Explanation: The Golgi apparatus stores, modifies, and packages substances made in the cell.

8. What happens to an animal cell in a hypertonic solution?

- A. Swells up B. Remains the same
C. Bursts D. Shrinks (D)

Explanation: In a hypertonic solution, water moves out of the cell, causing it to shrink.

9. What is plasmolysis?

- A. Formation of new cells
B. Rupture of the plasma membrane
C. Shrinkage of cell contents from the cell wall
D. Movement of substances into the cell (C)

Explanation: Plasmolysis is the shrinkage of the cell contents due to water loss by osmosis.

10. Which cell organelle contains its own DNA and ribosomes?

- A. Golgi Apparatus B. Mitochondria
C. Lysosomes D. Vacuole (B)

Explanation: Mitochondria have their own DNA and ribosomes, enabling them to make some proteins independently.