



**GRADE 9 BIOLOGY**

**CHAPTER 5: THE FUNDAMENTAL UNIT OF LIFE**

**WORKSHEET (OBJECTIVE QUESTIONS)**

1. Cell wall is present in
  - a. fungal cell
  - b. bacterial cell
  - c. animal cell
  - d. both (a) and (b).
2. Carbon dioxide moves out of the cell by the process of
  - a. diffusion
  - b. osmosis
  - c. active transport
  - d. all of these.
3. Nucleus is absent in
  - a. Amoeba
  - b. Paramecium
  - c. blue green algae
  - d. Euglena.
4. Plasma membrane is composed of
  - a. DNA and protein
  - b. chitin and lipid
  - c. protein and lipid
  - d. protein and chitin.
5. Cell wall is
  - a. impermeable
  - b. semipermeable
  - c. permeable
  - d. none of these.
6. Plasmolysis occurs when
  - a. plant cell is kept in hypertonic solution
  - b. plant cell is kept in isotonic solution
  - c. plant cell is kept in hypotonic solution
  - d. animal cell is kept in pure water.
7. Cell wall in plant cell is composed of
  - a. chitin
  - b. cellulose
  - c. peptidoglycan
  - d. hemicelluloses.
8. Which of the following is not a function of the vacuole in plants?
  - a. They store toxic metabolic wastes
  - b. They help to maintain turgidity
  - c. They help in the process of cell division
  - d. They provide rigidity and mechanical support
9. The cell organelle which helps in membrane biogenesis is
  - a. lysosome
  - b. centrosome
  - c. ribosome
  - d. endoplasmic reticulum.
10. Which among the following is a unicellular organism?
  - a. Hydra
  - b. Planaria
  - c. Chlamydomonas
  - d. Earthworm
11. Viruses lack
  - a. nucleic acid
  - b. protein coat
  - c. membrane
  - d. all of these.
12. Chromosomes are composed of
  - a. DNA
  - b. protein
  - c. RNA
  - d. both (a) and (b).
13. Which of the following cell organelle is covered by single membrane?
  - a. Lysosome
  - b. Mitochondria
  - c. Chloroplast
  - d. Endoplasmic reticulum
14. Which of the following statements are not true regarding cell division?
  - I. During mitosis, number of chromosomes are reduced to half
  - II. During meiosis, number of chromosomes are reduced to half
  - III. During mitosis, number of chromosomes remain the same
  - IV. During meiosis, number of chromosomes remain the same
  - a) i and iv.
  - b) ii. and iv.
  - c) i and ii.
  - d) iii. and iv.
15. The cell organelle which helps in detoxification of drugs and poison is
  - a. Golgi body
  - b. smooth Endoplasmic reticulum
  - c. lysosome
  - d. vacuole.
16. Choose the incorrect statement
  - a. All living organisms are composed of cells
  - b. All cells arise from preexisting cells
  - c. Cell is the basic structural and functional unit of all living organisms

- d. Bacteria are an exception to cell theory
17. The type of cell division which is involved in gamete formation is  
 a. Mitosis      b. Meiosis      c. Amitosis      d. Cytokinesis
18. Which one of the following statements about osmosis is correct?  
 a) The movement of solvent molecule from a less concentrated solution to a more concentrated solution through a semipermeable membrane  
 b) The movement of solute molecule from a less concentrated solution to a more concentrated solution through a semipermeable membrane  
 c) The movement of solvent molecule from a more concentrated solution to a less concentrated solution through a semipermeable membrane  
 d) The movement of solute molecule from a more concentrated solution to a less concentrated solution through a semipermeable membrane
19. The cell organelle which is involved in the formation of lysosome is  
 a. endoplasmic reticulum      b. vacuole      c. Golgi body      d. mitochondria
20. The only cell organelle seen in prokaryotic cell is  
 a. mitochondria      b. chloroplast      c. lysosome      d. ribosome.
21. In which of the following organism, the cell wall is not made up of cellulose?  
 a. Bacteria      b. Fern      c. Pea plant      d. Pine
22. Which of the following statements are not true about amoeba?  
 i. Food is engulfed by the process of endocytosis  
 ii. Excess of water is removed through food vacuole  
 iii. Food is digested in the food vacuole  
 iv. Food is digested with the help of enzymes in the lysosome  
 a) i and ii.      c) ii. and iv.  
 b) ii. and iii.      d) Only ii.
23. Which cell will burst when placed in hypotonic solution?  
 a. Cheek cell      b. Bacterial cell      c. Yeast cell      d. Onion peel cell
24. The fluid in the vacuole of plant cell is known as  
 a. tonoplast      b. cell sap      c. matrix      d. stroma.
25. Plasmolysis in plant cell is defined as  
 a. lysis of plasma membrane      c. shrinkage of protoplasm  
 b. shrinkage of nucleoplasm      d. none of these.
26. The cell organelle which stores starch, oil and protein are  
 a. smooth endoplasmic reticulum      c. rough endoplasmic reticulum  
 b. leucoplast      d. none of these.
27. Digestive enzymes packed in lysosome are synthesized by  
 a. smooth endoplasmic reticulum      c. Golgi body  
 b. rough endoplasmic reticulum      d. lysosome.
28. The cell organelle involved in formation of complex sugars from simple sugars is  
 a. Golgi body      c. smooth endoplasmic reticulum  
 b. rough endoplasmic reticulum      d. lysosome.
29. Choose the semiautonomous organelles out of the following  
 a. mitochondria      b. plastids      c. nucleus      d. both (a) and (b).
30. Chlorophyll is present in part of chloroplast.  
 a. stroma      b. inner membrane      c. grana      d. outer membrane

### Answer key

1. d. 2. a. 3. c. 4. c. 5. c. 6. a. 7. b. 8. b. 9. d. 10. c. 11. c. 12. d. 13. a. 14. a. 15. c. 16. d. 17. b. 18. a. 19. c. 20. d. 21. a. 22. d. 23. a. 24. b. 25. b. 26. c. 27. c. 28. a. 29. d. 30. c.