

SENIOR SECTION
DEPARTMENT OF BIOLOGY
CLASS IX
CH-5 THE FUNDAMENTAL UNIT OF LIFE
WORKSHEET

ONE MARK QUESTIONS

1. Name the cell without membrane bound nucleus.
2. What are membrane bound structures in a cell called?
3. Name the functional segment of DNA that carries genetic information.
4. Where are proteins synthesized inside the cell?
5. Mitochondria is called the power house of the cell. Give reason.

TWO MARKS QUESTIONS

6. What is Chromatin material and how does it change just before the cell division?
7. Nucleus is called the director of the cell. Justify the statement giving reasons.
8. Give four differences between prokaryotic and eukaryotic cells.
9. State the types and functions of endoplasmic reticulum.
10. What would happen to the life of a cell in the absence of golgi apparatus?

THREE MARKS QUESTIONS

11. Why is plasma membrane called selectively permeable membrane? How do substances like CO₂ and water move in and out of the cell?
12. Explain hypotonic, isotonic and hypertonic solution.
13. Photoautotrophic bacteria lack chloroplast. Name the part of the bacterial cell which performs photosynthesis? Plants have large sized vacuole. Why?
14. Why are lysosomes known as scavengers of the cells? Give two functions of centrosome.
15. Give three similarities and one difference between mitochondria and plastid. Expand ATP.

FIVE MARKS QUESTIONS

16. You took a fresh tomato and put it in a highly concentrated salt solution for 2 hrs. Your little brother looked at it and stated "The fat tomato is so thin now" What a magic?
 - a) Define the phenomenon which has taken place.
 - b) How does a cell wall help a plant to withstand hypotonic external media without bursting?
 17. Draw the diagram of an animal cell as seen through an electron microscope. Label the parts that carry out the functions: -Respiration, Secretion, Protein synthesis, Transport of material. Write the contribution of **a) Robert Hooke**, **b) Leeuwenhoek** **c) Robert Brown**.
 18. A cell is called the structural and functional unit of life. Explain.
What is the meaning of division of labour? Is it different from cell to cell?
 19. Draw the nucleus of a cell and label the:
 - a) Double layered structure which encloses the nucleus.
 - b) Visible entangled mass of thread like structures.
 - c) A darkly stained round structure inside the nucleus.
 - ii) Name the two components of Chromosomes. Mention the role of nuclear pore.
 - iii) What does DNA molecule contain?
 - iv) Give one difference between cytoplasm and nucleoplasm.
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ENRICHMENT WORK SHEET

1. List two statements by which lysosomes are aptly called the suicide bags of the cell. What kind of enzymes are present in lysosomes?

2. In what two ways osmosis is different from diffusion.

3. List the constituents of plasma membrane.

4. What is the advantage of having deeply folded membrane in mitochondria?

5. a) Write two differences between nuclear region of a bacterial cell and nuclear region of an animal cell.
b) Which structure present in the nuclear region of a living cell bear genes?

6. a) Differentiate between chromoplasts and leucoplasts.

b) Which kind of plastid is more common in: i) Roots of the plants

ii) Leaves of the plants

iii) Flowers and fruits

7. What will happen when:

a) Dry apricots are left for sometime in pure water and later transferred to sugar solution?

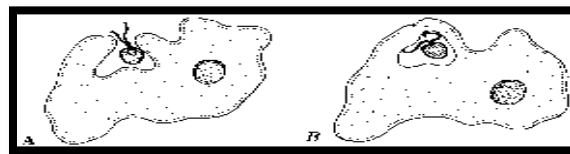
b) A red blood cell is kept in concentrated saline solution.

c) Rheo leaves are boiled in water first and then is placed in the sugar syrup.

8. Look at the figure:

a) Name the process. _____

b) Identify the organism shown in the figure.



c) It shows the nature of cell membrane as : (rigid/flexible). Explain the role of cell membrane undergoing this process.

9. Define membrane biogenesis. State the function of SER in liver cells of vertebrates. Relate the role of GB and RER with Lysosomes.
