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**Class 9 Science Assignment 2- Fundamental unit of life**

**Section A**

1. Nucleus in the cell was seen by:
2. Robert brown b) Robert Hooke c) Leuwenhoek d) Purkinje
3. The term protoplasm was coined by
4. Robert brown b) Robert Hooke c) Leuwenhoek d) Purkinje
5. The cell was further explained by:
6. Purkinje b) Virchow c) Leeuwenhoek d) Schleiden and Schwann
7. The unicellular organism is:
8. Amoeba b) bacteria c) paramecium d) all of above
9. Water is absorbed by the process of:
10. Osmosis b) plasmolysis c) diffusion d) all of above
11. The prokaryotic cell differs from an eukaryotic cell in:
12. Presence of cell wall b) presence of mitochondria

c) Absence of nuclear membrane d) none of these

1. Chromosomes are made up of:

a) DNA and protein b) DNA and RNA c) only DNA d) only RNA

1. The synthesis, storage and release of ATP for cellular activities take place in
2. lysosomes b) golgi apparatus c) mitochondria d) chloroplasts
3. The main function of ribosomes is:
4. synthesis of steroids b) synthesis of hormones c) synthesis of proteins d) release of energy
5. The cell organelle that change simple sugars into complex sugars is;
6. SER b) gollgi aparatus c) lysosome d) ribosome

**Section B**

Knowledge

1. What is the significance of cell wall in plant cell?
2. State the functions of each of the following:
3. Chromosome b) mitochondria c) ribosomes d) chloroplasts

e) Mitochondria f) plasma membrane g) plastids h) vacuoles

1. Define the terms: plasmolysis and endocytosis

Understanding

1. Explain the terms: a) hypotonic solution, b) isotonic solution, c) hypertonic solution
2. Name the cell organelle which controls the functions of cell. Explain how it does that.
3. Describe the structure of Golgi apparatus. Mention their functions.
4. What is meant by division of labour in connection with cells? Cite examples to explain the concept.

Application

1. Draw neat diagram of animal cell and label the parts that carry on the function of:

Respiration, secretion, protein synthesis, transport of material.

1. Draw a diagram of plant cell and label the part(s) which:
2. Is fluid contained inside the nucleus
3. Is site for several biochemical processes necessary to sustain life
4. Is responsible for well functioning and development of the cell
5. Provides resistance to microbes and ability to withstand in external hypotonic media without bursting.
6. Packages materials coming from endoplasmic reticulum

Analysis

1. Differentiate between rough endoplasmic reticulum and smooth endoplasmic reticulum.
2. Differentiate between cell wall and cell membrane.

Synthesis /Evaluation

1. Multi-cellular organisms are more efficient than unicellular organism. Justify.
2. How is RER important for membrane biogenesis?

Value based questions

1. Why plasma membrane is called a selectively permeable membrane? What do you learn from the nature of plasma membrane?
2. In a cell all the organelles work in coordination for the proper functioning of the cell. What happens if one of the cell organelle stops functioning? What value do you learn from them?
3. The lysosomes are known as the suicidal bags of a cell. Why? Which value does it teach in pretext of marching ahead in life?

Reflective Thinking:

1. Why are plant cells tougher than animal cells?
2. Multi-cellular organisms have greater capacity for survival than unicellular organism. Comment on this statement.