

Cell Theory – NEET Biology

Chapter: Cell: The Unit of Life | **Unit:** Cell Biology

What is Cell Theory?

Cell Theory states that all living organisms are composed of cells, the cell is the basic structural and functional unit of life, and new cells arise from pre-existing cells by cell division.

Scientists Involved in Cell Theory

Scientist	Contribution
Robert Hooke (1665)	Observed cells in cork
M.J. Schleiden (1838)	Plants are made of cells
T. Schwann (1839)	Animals are made of cells
Rudolf Virchow (1855)	Cells arise from pre-existing cells

Postulates of Cell Theory

1. All living organisms are composed of one or more cells.
2. The cell is the basic structural and functional unit of life.
3. New cells arise from pre-existing cells by cell division.

Modern Cell Theory (NEET Focus)

- Cells contain genetic material (DNA).
- Metabolic activities occur within cells.
- Cells have similar chemical composition.
- Energy flow occurs within cells.

Exceptions & NEET Traps

- Viruses are acellular and are exceptions to cell theory.
- Cell theory does not explain the origin of the first cell.
- Mammalian RBCs lack nucleus but are still cells.

Quick Revision – Last Minute

- Cell = basic unit of life
- Proposed by Schleiden & Schwann
- Modified by Virchow
- Omnis cellula e cellula
- Viruses are exceptions

NEET Practice MCQs

1. Who proposed that new cells arise from pre-existing cells?
Answer: Rudolf Virchow

2. Cell theory does not apply to which of the following?

Answer: Virus

3. 'Omnis cellula e cellula' means:

Answer: Cells arise from pre-existing cells