

CELL THEORY :

→ Schleiden and Schwann proposed cell theory.

MODERN CELL THEORY :

- i. All living organisms are composed of cells.
- ii. Cell is the structural and functional unit of living organisms.
- iii. All cells arise from the pre-existing cells of the similar kind.
- iv. The chemical composition and metabolism of all cells are basically similar.
- v. Each cell contains generally a centrally placed nucleus and many cell organelles.
- vi. Cell is the store house of genetic information and vehicle of its expression.
- vii. Energy flow occurs within cells.

EXCEPTIONS TO CELL THEORY :

- i. Viruses are not cellular. They are acellular life forms.
- ii. Bacteria are without a true nucleus.
- iii. Some algae (e.g. Vaucheria) and fungi (e.g. Mucor) have undivided mass of protoplasm and having many nuclei (coenocytic).
- iv. RBC and sieve tube elements lack nucleus.