

# Topic: Tissue Culture

B.Sc. Botany Hons. II

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## Tissue Culture and its Types

### 5. Protoplast Culture

- **Protoplast** -cells without cell walls.
- A protoplast is the term used to refer to cell (fungi, bacteria, plant cells etc) in which the cell wall has been removed, which is why they are also referred to as naked cells.

Protoplasts may be cultured in the following ways:

- Hanging-drop cultures
- Micro culture chambers
- Soft agars matrix

- Once a protoplast has regenerated a cell wall, then it goes through the process of cell division to form a callus, which may then be subcultured for continued growth.
- Protoplast culture is an important method that provides numerous cells (single cells) that can be used for various studies.

These includes:

- ✓ Protoplast culture regenerated into a whole plant
- ✓ Development of hybrids
- ✓ Cell cloning
- ✓ Genetic transformations
- ✓ Membrane studies