Quadrant II – Transcript and Related Materials

Programme: Bachelor of Science (First Year)

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Paper Title: Biodiversity I (Microbes, Algae, Fungi and Bryophytes)

Unit: 03

Module Name: Cell Wall composition, Nutrition in Fungi

Module No: 37

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Notes

Cell wall in Fungi

- Cell Wall is a rigid layer of polysaccharides lying outside the plasma membrane. It is present in the cells of Plants, Fungi, and Bacteria.
- In Fungi it is a strong, rigid structure that covers the fungal cell and encloses the protoplast.

Composition of Cell Wall

It consists of a structural scaffold of fibers which are crosslinked and a matrix of gel-like or crystalline material.

- Mostly made up of **Fungal Cellulose** (**Chitin**) except Oomycetes
- Based on **Glucans** (alpha and beta glucans)
- Other materials are pectic materials, proteins, lipids, cellulose, callose and minerals.

Role of Cell Wall in Fungi

- It defines the volumetric shape of the cell
- It gives rigidity
- Provides osmotic and physical protection
- Influences and regulates the influx of materials into the cell
- Acts as a reservoir of carbohydrates
- Help in interaction with the host cell

Nutrition in Fungi

Fungi are heterotrophs (lack chlorophyll)

- Fungi utilize both organic and inorganic compounds
- Fungi requires Essential elements like
  a) Macro elements C, O, H, N, P, K, Mg
  b) Micro elements Mn, Cu, Fe, Zn

Minute amounts of vitamins or growth factors (Thiamine (B1), Biotin, Pyridoxine (B6) and Riboflavin (B2)

Modes of Nutrition in Fungi

Saprophytic, parasytic, Mutualistic and Predation are the modes of nutrition in Fungi