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MATRIC NO.: 19/MHS06/022

DEPARTMENT: MEDICAL LABOURATORY SCIENCE

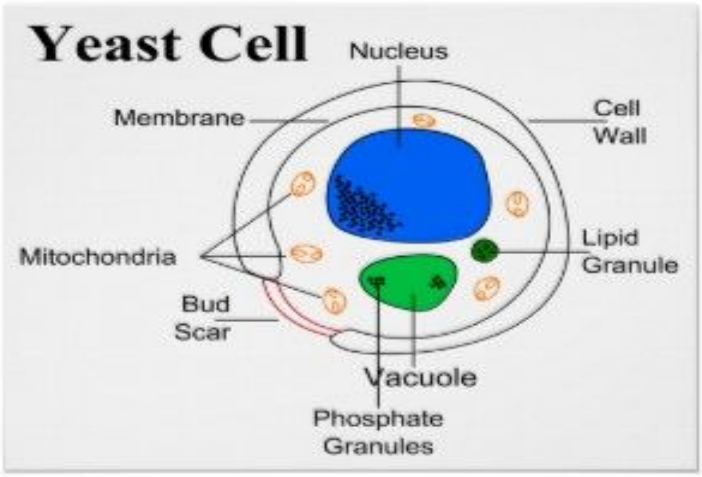
COLLEGE: MEDICAL AND HEALTH SCIENCES

COURSE: BIO 102

1. IMPORTANCE OF FUNGI TO MAN

- Fungi are responsible for the mediation of decay of organic matter.
- Some fungi are parasites to some certain horrible obnoxious (offensive, unbearable) pests e.g. houseflies, grasshoppers and therefore constitute important biological control agents in regard to such pests.
- Medical and veterinary mycology deals with fungal diseases and infections in human beings and animals. Skin diseases e.g. ringworm and dermatitis are caused by fungal agents.
- Fungi e.g. yeast (*Saccharomyces cerevisiae*) are important in food industry.
- Mushrooms are eaten by many human societies. Species e.g. *Penicillin notatum* produce important antibiotics.
- Without fungi and other microbes, the surface of the earth would have been clogged up with dead matters with all the various elements locked up in them instead of returning into various cycles.
- Fungi are very important to the entire terrestrial ecosystem in material cycling and to man.
- Many are plants pathogens causing blights and smuts in cereals (*Helminthosporium maydis* and *Ustilago zeac* respiration).

2. A well labeled diagram of the cell structure of a unicellular fungus.



3. **Sexual reproduction in a typical filamentous form of fungi**

   Rhizopus stolonifer

   Sexual reproduction occurs when two mating types of hyphae grow in the same medium. Chemical interaction in the two mating types of hyphae induces growths are delimited by a wall such that many nuclei are isolated in what is called a gametangium.

   The two gametangia fuse (plasmagomy) and a zygote is formed which may undergo prolonged dormancy or resting stage. The nuclei in the zygotes fuse in twos and undergo meiosis independently.

   The zygote germinates under favourable conditions to produce a fruiting which at maturity liberates the haploid spores.

4. **Ways in which bryophytes adapt to land habitat are:**

   I. They possess definite structures for water and nutrient absorption from the soil.

   II. They also possess a waxy cuticle that keeps them from drying out through the process of desiccation.

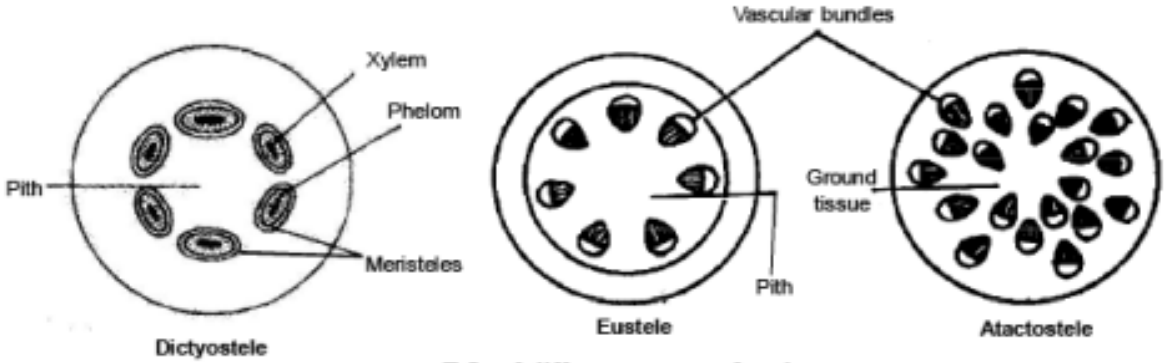
   III. They possess gamentagia that keeps the plants gametes from drying out.

5. A. **Eusteles**: a type of stele in which the vascular tissue in the stem forms a central ring of bundles around a path. The vascular bundles are discrete, concentric collateral bundles of xylem and phloem.

   B. **Atactostele**: a type of stele found in monocots, in which the vascular tissue in the stem exists as scattered bundles.

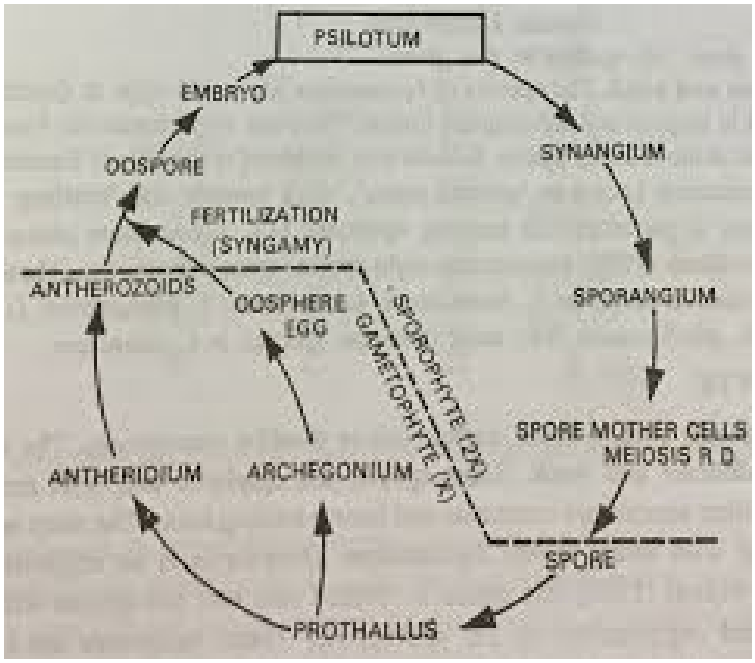
   C. **Dictyostele**: a type of stele in which the vascular cylinder is broken up into a longitudinal series or network of vascular strands around a path.

Diagrammatic illustration of the different types of steles



T.S. of different types of stele

6. **Life cycle of a primitive vascular plant (psilotum)**


PSILOTUM
EMBRYO
OOSPORE
SYNANGIUM
FERTILIZATION
(SYNGAMY)
ANTHEROZOIDS
OOSPHERE
EGG
SPOROPHYTE (2N)
GAMETOPHYTE (N)
SPORANGIUM
SPORE MOTHER CELLS
MEIOSIS R D
ANTHERIDIUM
ARCHEGONIUM
SPORE
PROTHALLUS