

NAME: IBEM BLESSING ONYEKCHI

COURSE: BIO 102

MATRIC NUMBER: 19/MHS02/062

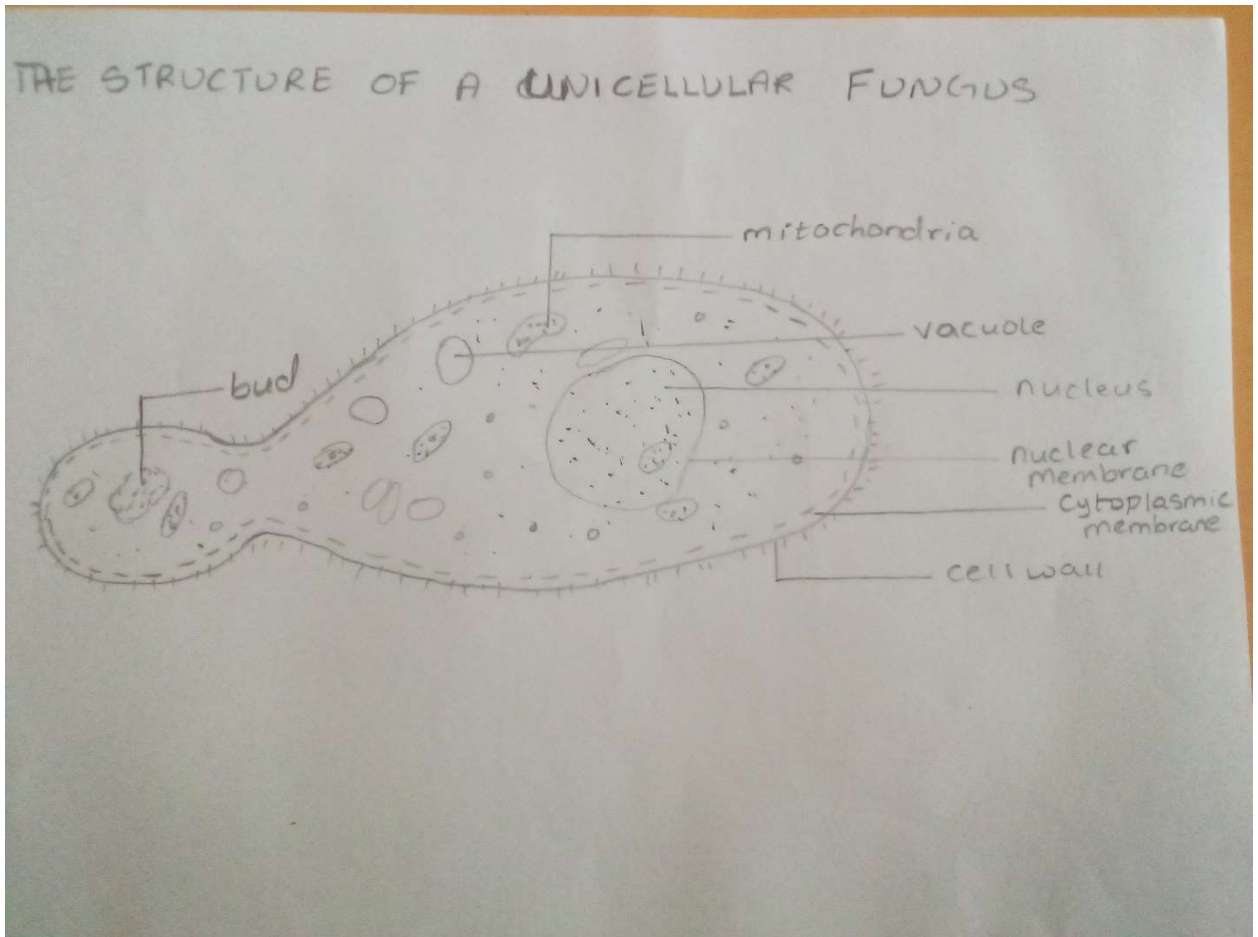
DEPARTMENT: NURSING

1) How is fungi important to mankind?

- Fungi is responsible for the mediation of decay of organic matter.
- **fungi used in food for man:**
Fungi like yeast are used in brewing industries for making beer, yoghurt e.tc also fungi like mushrooms are used as food for man.
- Fungi is used in the production of antibiotics used for man and also animals.
- Fungi can be used as a biological control agent used in controlling pests like; house flies, grasshoppers, locusts e.t.c
- Fungi can cause the spoilage of food stuffs and also cause diseases in plants like; blights and smuts in cereal crops.

2) Illustrate the cell structure of a unicellular fungus with a well labelled diagram.

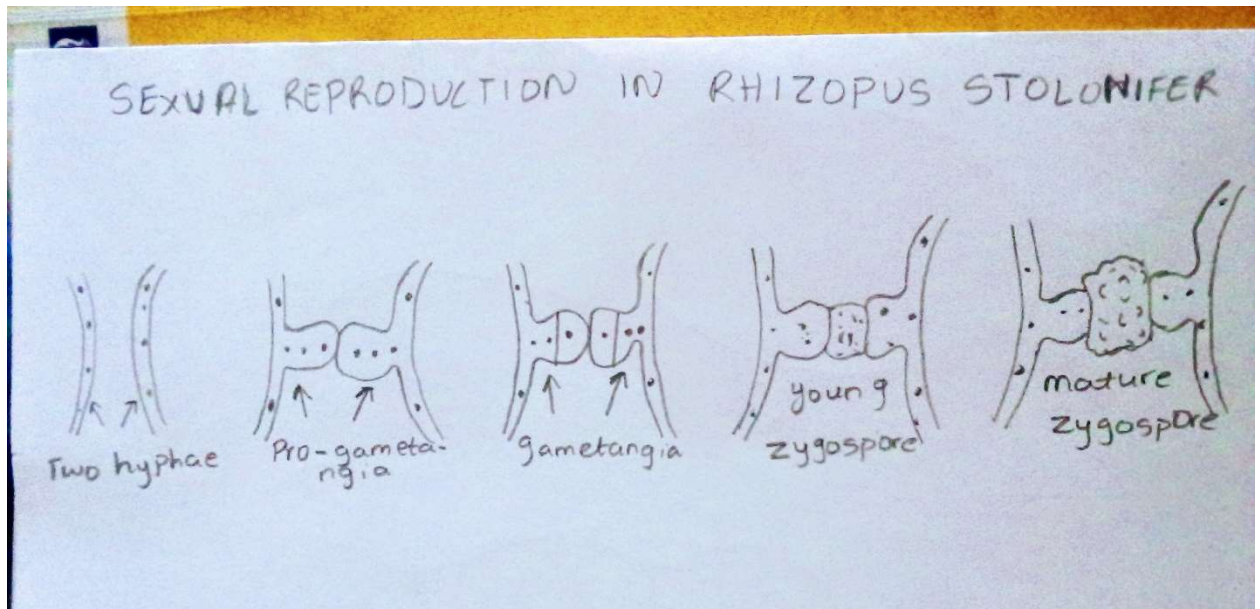
Yeast, is used in baking industries by causing the dough to rise by releasing CO₂ which gets trapped in the dough. It is also used in brewing industries to ferment and make beer or yoghurt. Yeast cells are found in exposed sugary fluids e.g palm wine. The cell exists in haploid and diploid state, under favorable condition they undergo simple mitotic cell division. Diploid cells arise from haploid cells by the process of **plasmogamy** and **karyogamy**.



3) **Outline the sexual reproduction in a typical filamentous form of fungi.**

Sexual reproduction of rhizopus stononifer

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 perpendicular to the hyphae in opposite directions. These growths are delimited by a wall such that many nuclei are isolated in what is called gametangium. The two gametangia fuse (plasmogamy) and a zygote fuse in twos and undergo meiosis independently. The zygote germinates under favorable conditions to produce fruiting which at maturity liberates the haploid spores.



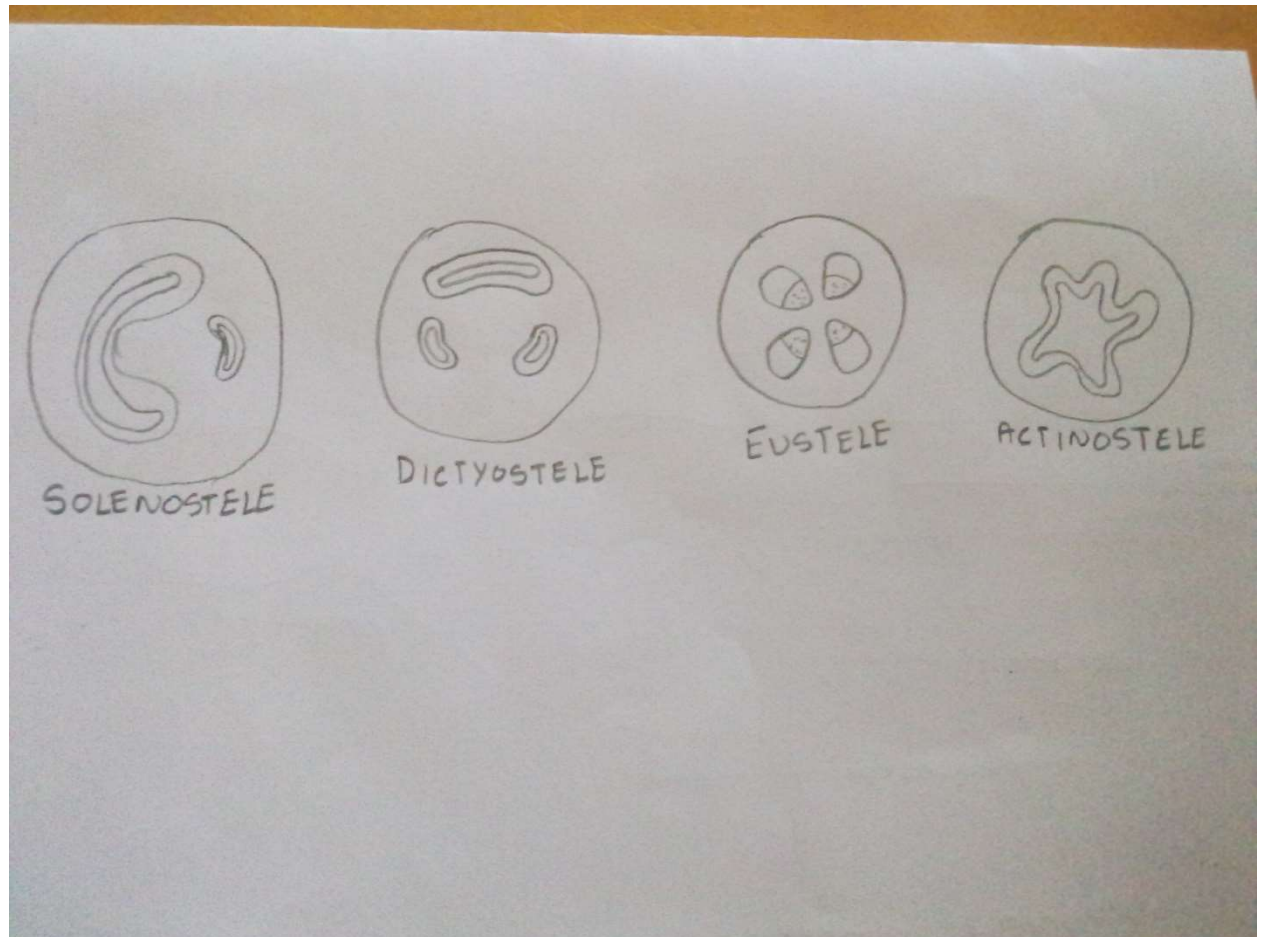
4) How do bryophytes adapt to the environment?

- They have definite structures for water and nutrient absorption from the soil; therefore the plant body is divided into two (an aerial portion and a subterranean portion). The subterranean portion is the rhizoid and is not a true root as the case of land plants that are advanced.
- The aerial portion being exposed to the atmosphere demands some modifications that prevents excessive loss of water through the body surface (i.e desiccation)
- Some other modifications that permit elimination of excess water from the plant body and not only exchange of gasses between the internal parts of the plant and the atmosphere therefore openings are available on the aerial parts of the plant.

5) Describe with illustrations the following terminologies;

- **Eusteles:** The vascular bundles are discrete, concentric collateral bundles of xylem and ploem.

- **Actinostele:** In grasses and monocotyledonous plants the vascular bundles are scattered.
- **Solenostele:** In more advanced vascular systems e.g stems of ferns and higher vascular plants, the stele is a cylinder enclosing a parenchymatous pith.
- **Dictyostele:** In siphonosteles, vascular supply to leaves is associated with leaf gaps and the conducting cylinder is a dissected one.



6) Illustrate the life cycle of a primitive vascular plant.

LIFE CYCLE OF PSILOTUM

