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Collage: M.H.S

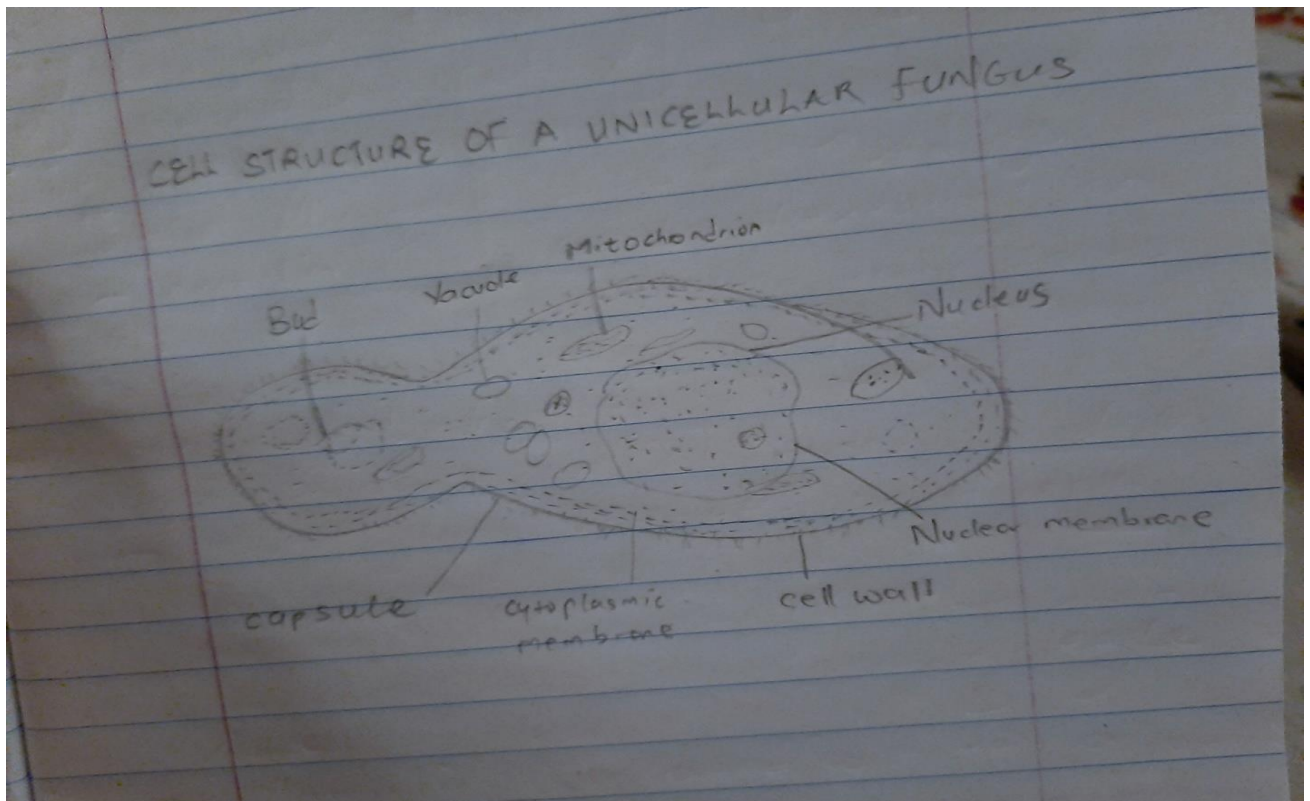
DEPARTMENT: NURSING

MATRIC NO: 19/ MHS 02 /111

1) How are fungi important to mankind?

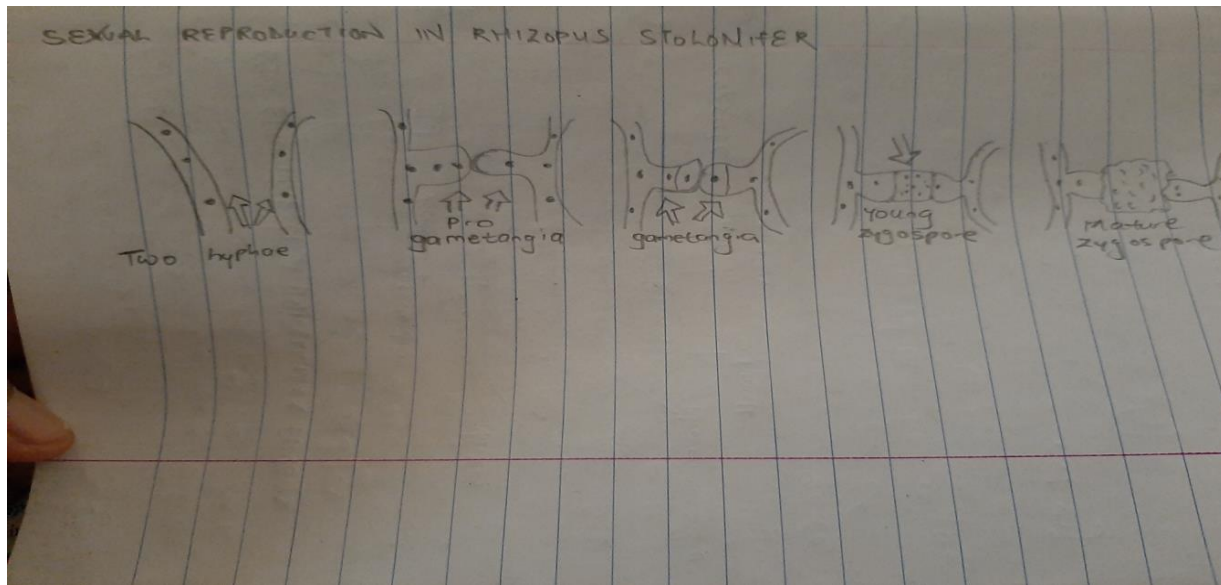
1. Fungi e.g yeast (*saccharomyces cerevisiae*) is important in food industry.
2. Fungi are responsible for breaking down organic matter and releasing carbon, oxygen, nitrogen and phosphorous into the atmosphere and soil.
3. Many fungi species mediate the spoilage of wood, food cloth and paper.
4. Without fungi, the surface of the earth would have been clogged up with dead matter with all various element locked up in them instead of returning into various cycles.

2) Illustrate the cell structure of a unicellular fungi with a well labeled diagram.



3) Outline the 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 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 is formed which may undergo prolonged dormancy or resting stage. The nuclei in the zygote fuse in twos and undergo meiosis independently. The zygote germinates under favorable conditions to produce a fruiting which at maturity liberates the haploid spores.

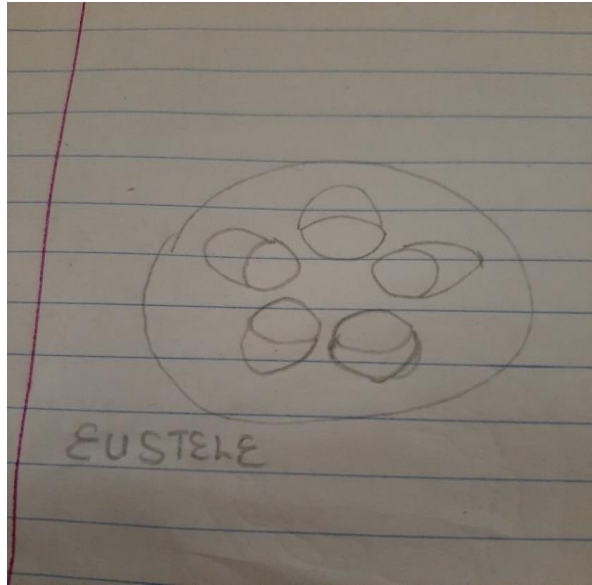


4) How do bryophytes adapt to their environment

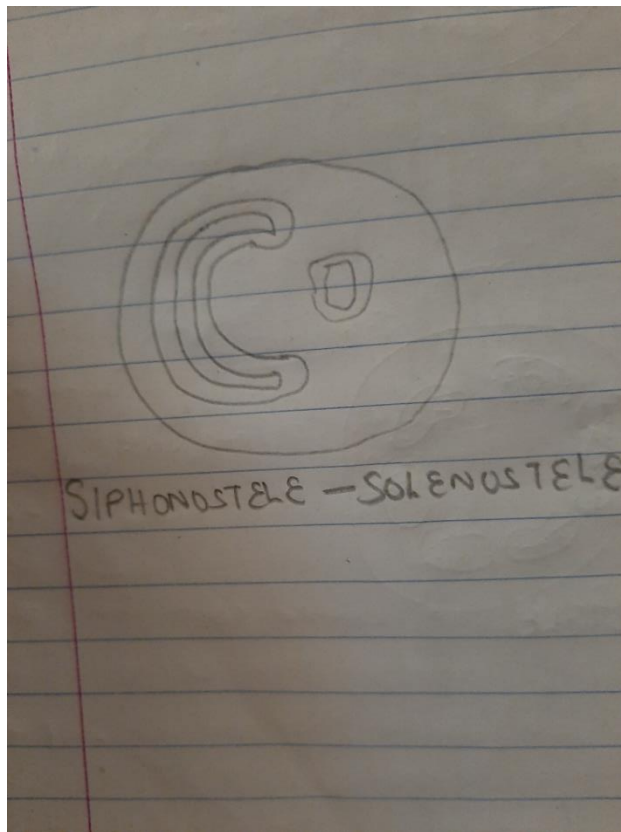
- They have definite structures for water and nutrient absorption from the soil; therefore the plant body is divided into two (an aerial portion and a subterranean portion). The subterranean portion is the rhizoid and is not a true root as the case of land plants that are advanced.
- The aerial portion 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 illustration the following terminology

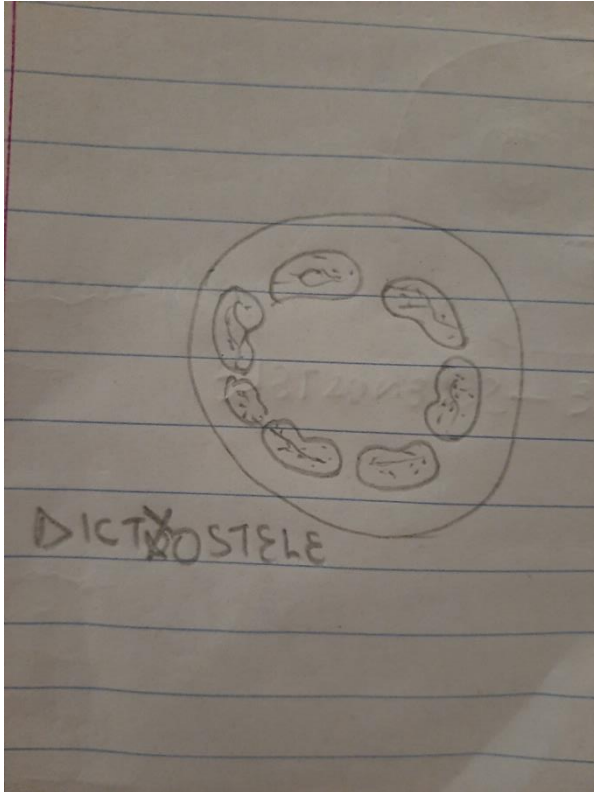
- ❖ Eusteles: a stele typical of dicotyledonous plants that consists of vascular bundles of xylem and phloem strands with parenchymal cells between bundles.



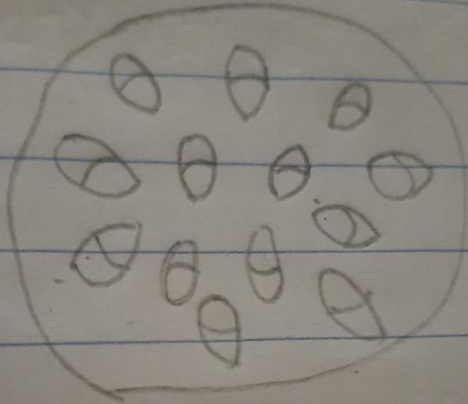
Siphonostele: the vascular tissue is in the form of a cylinder surrounding the pith, as in the stems of most ferns and other seedless vascular plants.



- ❖ **Dictyostele:** is a type of dissected Siphonostele in which the vascular tissue is divided into a number of amphicribal vascular bundle called meristeles



- ❖ **Atactostele:** In grasses and monocotyledonous plants the vascular bundles are scattered.



ATACTOSELE

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

