

Name: Anochirionye Oreofe Tjeoma

Dept: Nursing

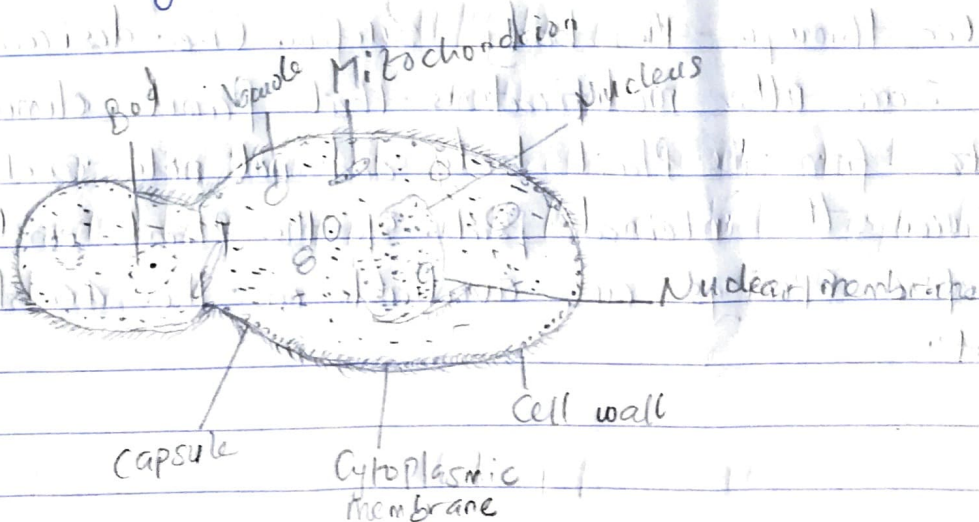
Course: B10 102

Matric No: 19/MHS02/025

B10 102 Assignment (Plant Diversity)

1. How are fungi important to mankind?
  - i) Fungi e.g yeast (*Saccharomyces Cerevisiae*) are important in food industries
  - ii) Many fungi species mediate the spoilage of wood, food, clothes and paper
  - iii) Fungi is responsible for the mediation of decay of organic matter.
  - iv) Mushrooms are eaten by many human societies, species—e.g. *Penicillium notatum* produce important antibiotics.
  - v) Some fungi are parasites to some certain horrible obnoxious pests e.g. houseflies therefore constitute important biological control agents in regard to such pests.

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



CELL STRUCTURE OF A UNICELLULAR FUNGUS

3. Outline the sexual reproduction in a typical filamentous forms of fungi.

Sexual Reproduction in *Rhizopus stolonifer*: This occurs within two types of hyphae when they occur grow in the same medium. The 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 a 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 favourable conditions to produce a fruiting which at maturity liberates the haploid spores.

4. How do Bryophytes adapt to their environment.

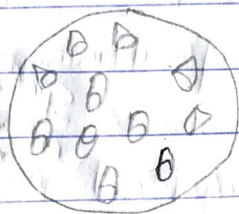
- i. They have definite structures for water and nutrient absorption from the soil, therefore the plant body is divided into two (an aerial portion and a subterranean portion).
- ii. The aerial portion being exposed to the atmosphere demands some modifications that prevents excessive loss of water through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

5. Describe with illustrations the following terminologies  
i. Eusteles: The vascular bundles are discrete, concentric collateral bundles of xylem and phloem



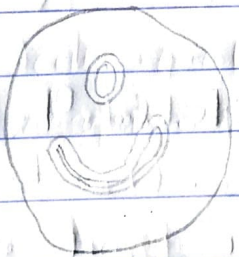
EUSTELE

ii. Atactostele: In grasses and monocotyledonous plants the vascular bundles are scattered.



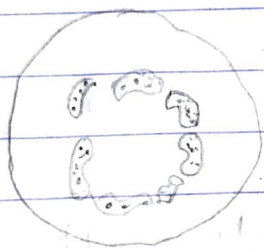
ATACTOSTELE

iii. Siphonostele: In more advanced vascular systems eg. stems of ferns and higher vascular plants, the stele is a cylinder enclosing a parenchymatous pith.



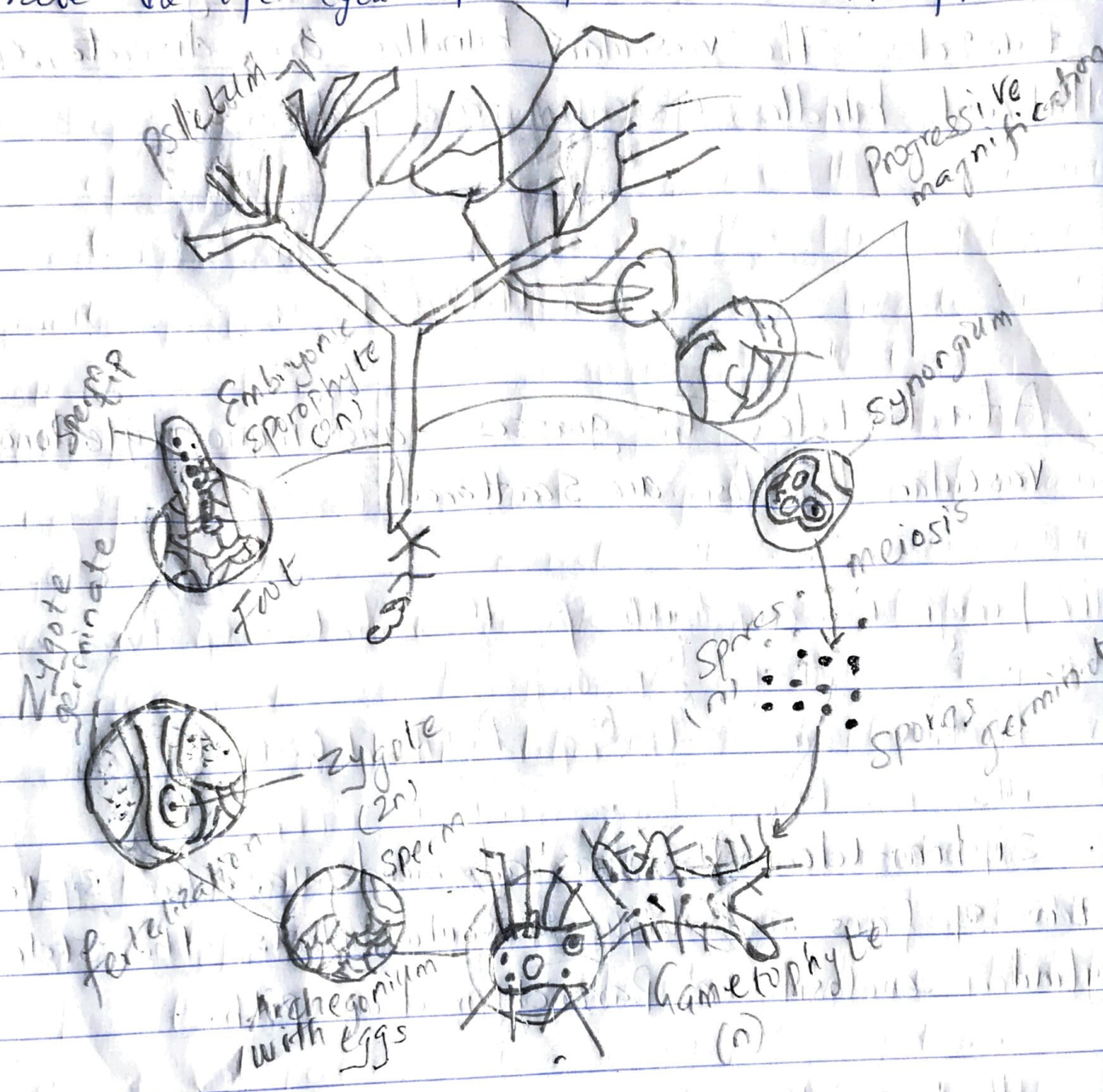
SIPHONOSTELE -  
SOLENOSTELE

iv. Dictyostele: In siphonosteles, vascular supply to leaves is associated with leaf gaps and the conducting cylinder is a dissected one.



DICTYOSTELE

Q. illustrate the life cycle of a primitive vascular plant.



### A REAL LIFE CYCLE OF PSILOTUM