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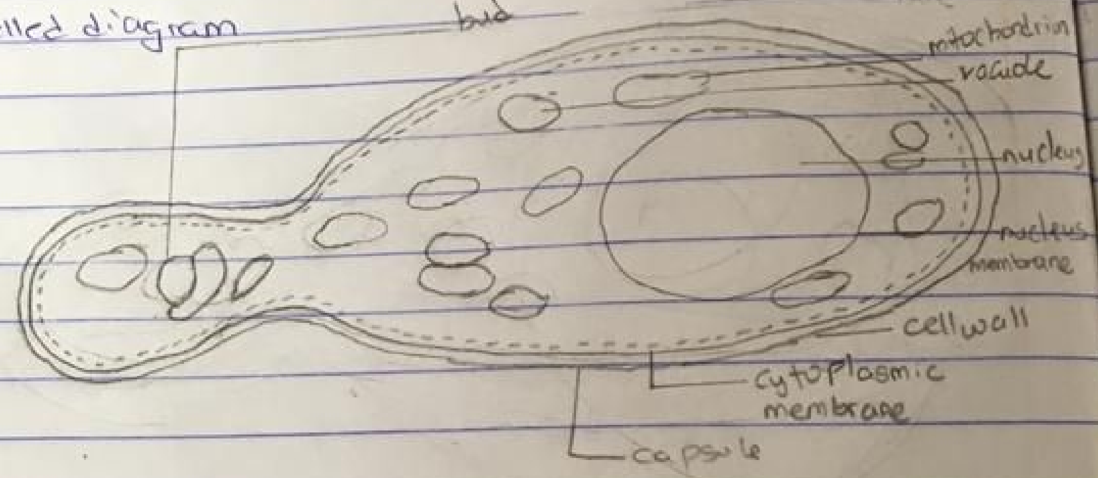
Matric number: 19/mhed/055
Course code: BIO102

1. How are fungi important to mankind
i. fungi are responsible for the mediation of decay of organic matter.
ii. Fungi e.g. yeast (saccharomyces cerevisiae) are important in food industry
iii. Mushrooms are eaten by woman
iv. fungi species mediate the spoilage of wood, food, clothes and paper

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



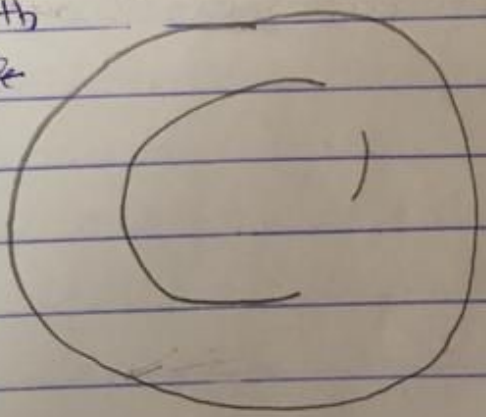
3. Outline the sexual reproduction in a typical filamentous form of fungi
- occurs when two mating types of hyphae grow in the same mediu[m]
Chemical interaction in the two mating types of hyphae induces growths perpendicular to the hyphae in opposite ~~danger~~ directions. These growths are delimited 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 zygotes fuse in twos and undergo meiosis independently.
The zygote germinates under favourable conditions to produce a fru[it] which at maturity liberates the haploid spores

4. How do Bryophytes adapt to their environment?

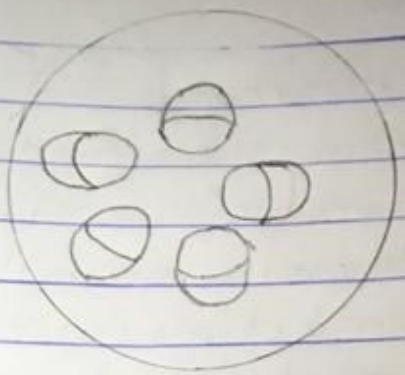
- They have definite structures for water and nutrient absorption from the soil; therefore the plant body is divided into two (an aerial portion and a subterranean portion). The subterranean portion is the rhizoid and is not a true root as the case of land plants that are advanced
- The aerial portion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

5. Describe with illustration the following terminologies: (a) eustele (b) actostele (c) siphonostele (d) dictyostele

- Siphonostele :- the stele is a cylinder enclosing a parenchymatous pith



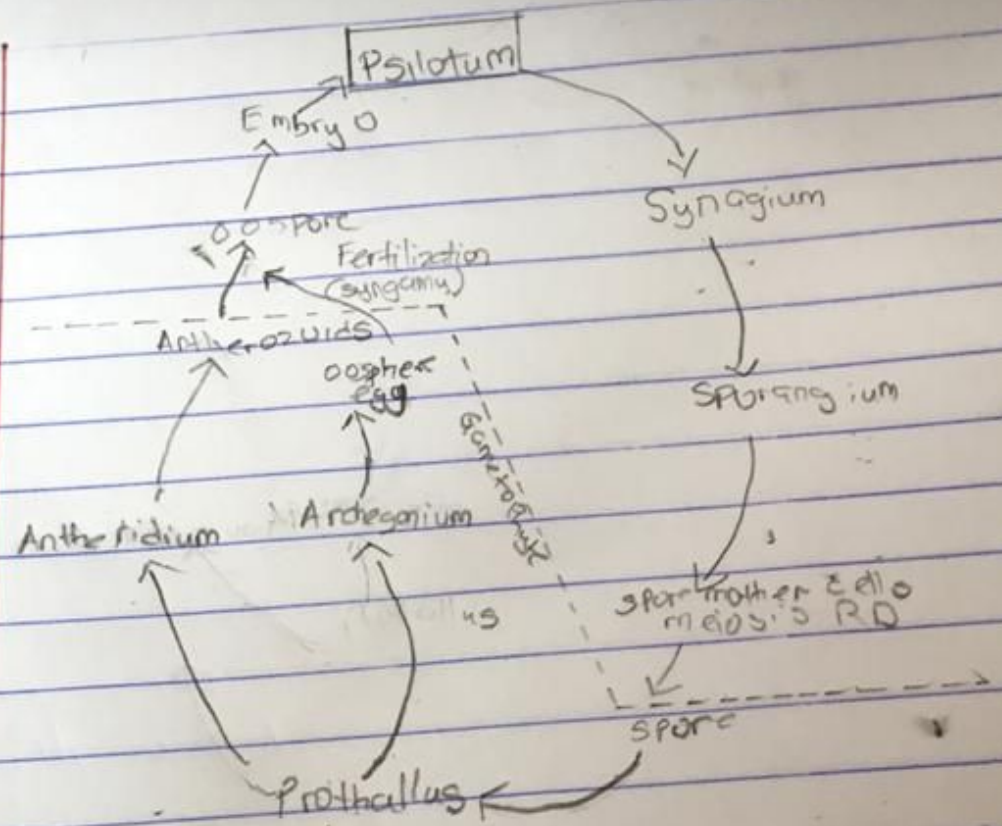
- eustele :- In herbaceous dicotyledonous plants if the vascular bundles are discrete, concentric collateral bundles of xylem and phloem



- atactostele: These Grasses and monocotyledonous plants. Their vascular bundles are scattered

- 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


Psilotum
Embryo
Synagium
Oospore
Fertilization
(syngamy)
Antherozoids
oospher
egg
Sporangium
Gametophyte
Antheridium
Archegonium
45
spore mother cell
meiosis 2n
spore
Prothallus