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MATRIC NUMBER: 19/MHS01/275

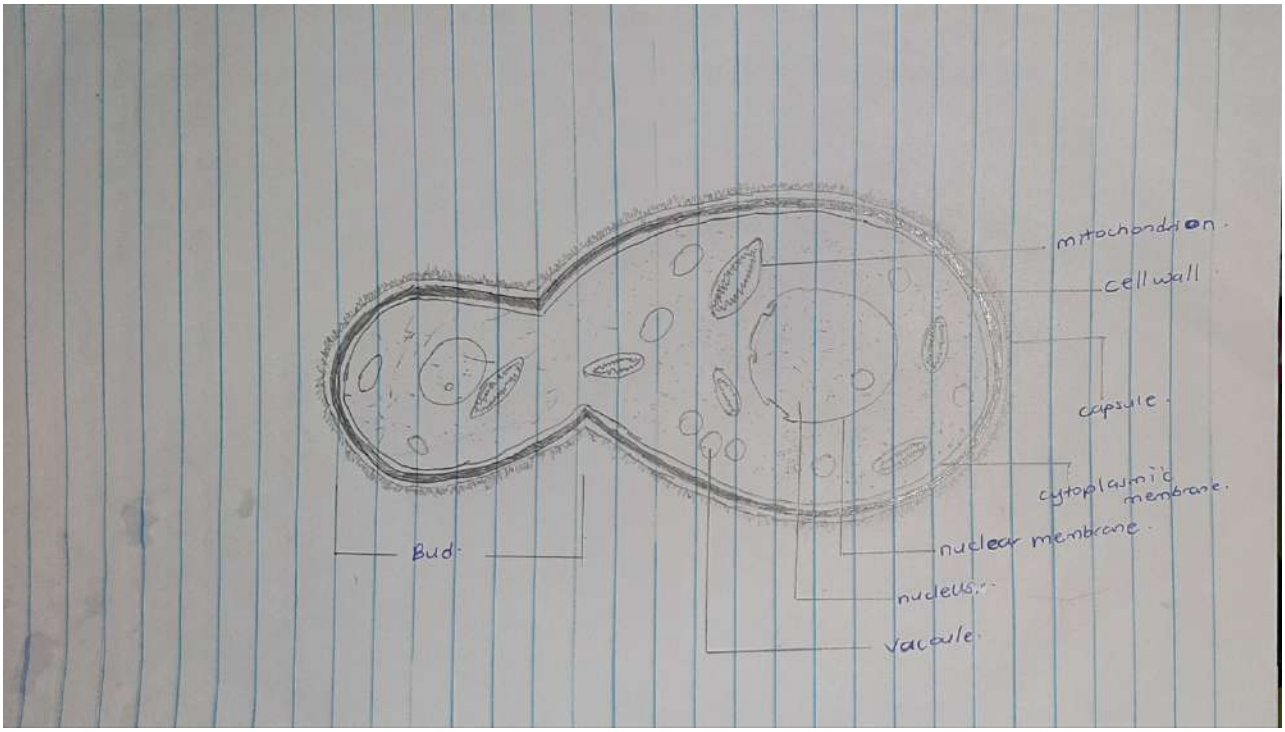
DEPARTMENT: MBBS

BIO 102 ASSIGNMENT.

1. How are fungi important to man?

- Fungi are very important to the entire terrestrial ecosystem in material cycling and to man.
- Fungi are responsible for the mediation of decay of organic matter.
- Without fungi and other microbes, the surface of the earth will be clogged up with dead matters with all the various elements locked up in them instead of returning into various cycles.
- Fungi e.g yeast (*Saccharomyces cerevisiae*) are important in the food industry.
- Mushrooms are eaten by many human societies. Species such as *Penicillium notatum* produce important antibiotics.
- Many fungi species mediate the spoilage of wood, food, clothes and paper.
- Many fungi are plant pathogens causing blights and smuts in cereals.
- Some fungi are parasites to some certain obnoxious offensive unbearable) pests e.g hoseflies, grasshoppers and therefore constitute important biological control agents in regards to such pests.

2.



The above diagram is a form of unicellular fungi i.e *Saccharomyces cerevisiae* (bakers yeast). It is referred to as bakers yeast because it causes bread to rise by releasing CO_2 which is trapped in the dough.

3. Sexual reproduction in filamentous form of fungi (*Rhizopus stolonifer*)

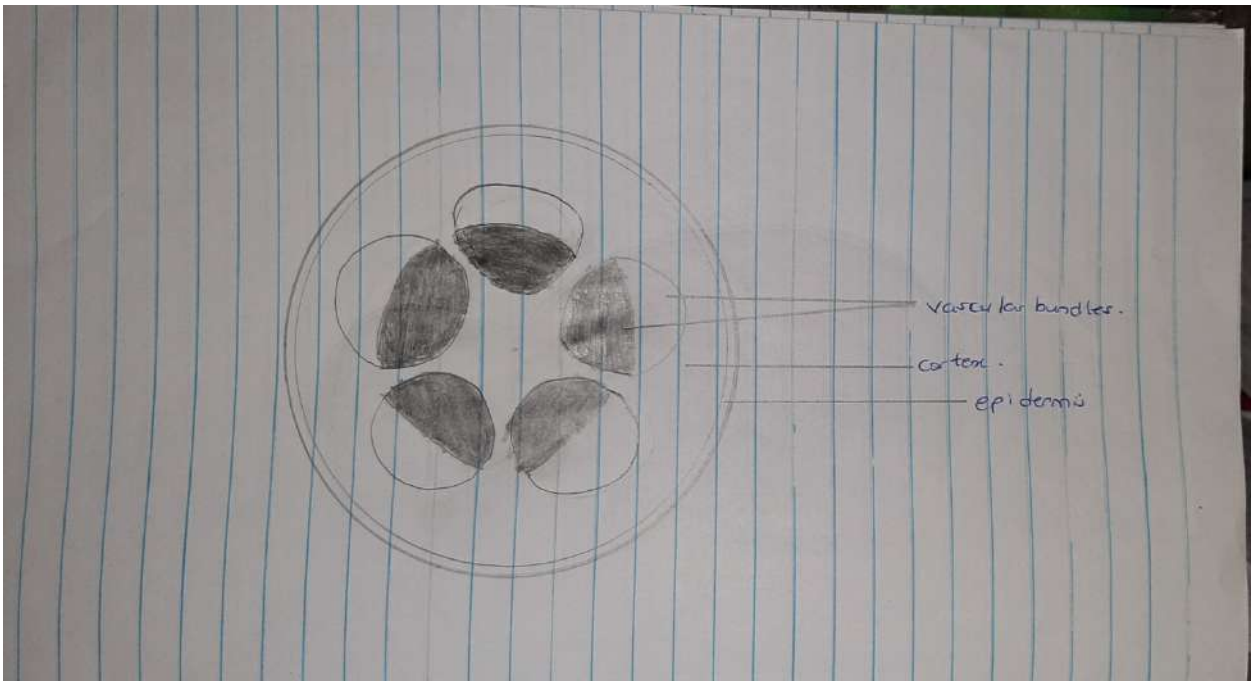
Sexual reproduction occurs when the two mating types of hyphae in the fungi grow in the same medium. Chemical interaction in the two mating types of hyphae induces growth perpendicular to the hyphae in the opposite directions. These growths are delimited by a wall such that many nuclei are isolated in what is called a gametangium. The two gametangium 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 whuch at maturity liberates the haploid spores.

4. Ways in which Bryophytes adapt to their environment.

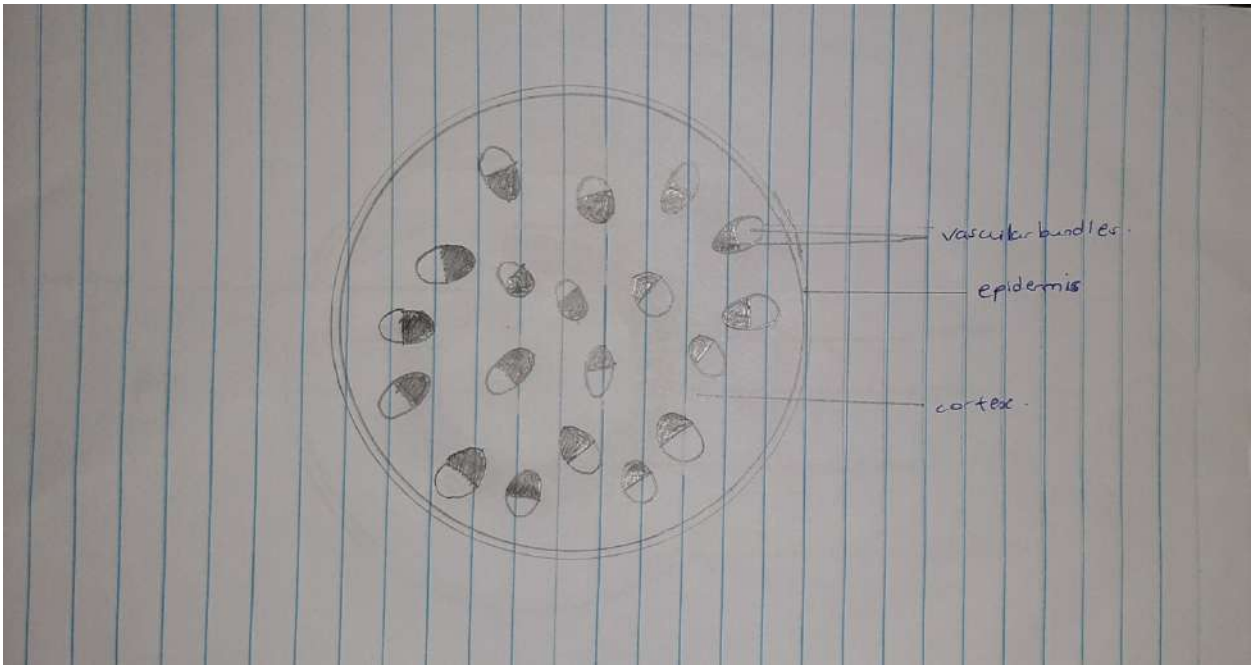
- They have definite structures for water and nutrient absorption from the soil; therefore the plant body is divided into two (an aerial portion and a subterranean portion), the subterranean portion is the rhizoid and is not a true root as the case of land plants that are advanced.
- The aerial portion being exposed to the atmosphere demands some modification that prevent 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 gases between the internal parts of the plant and the atmosphere therefore openings are available on the aerial parts of the plant.

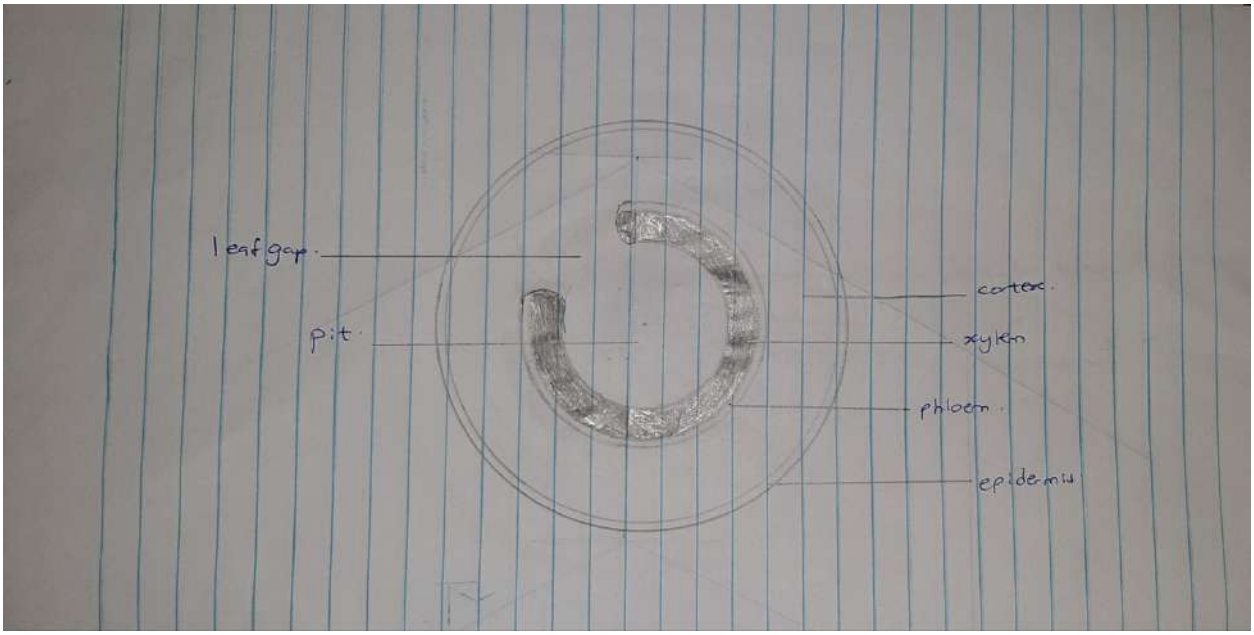
5. A.) Eusteles:



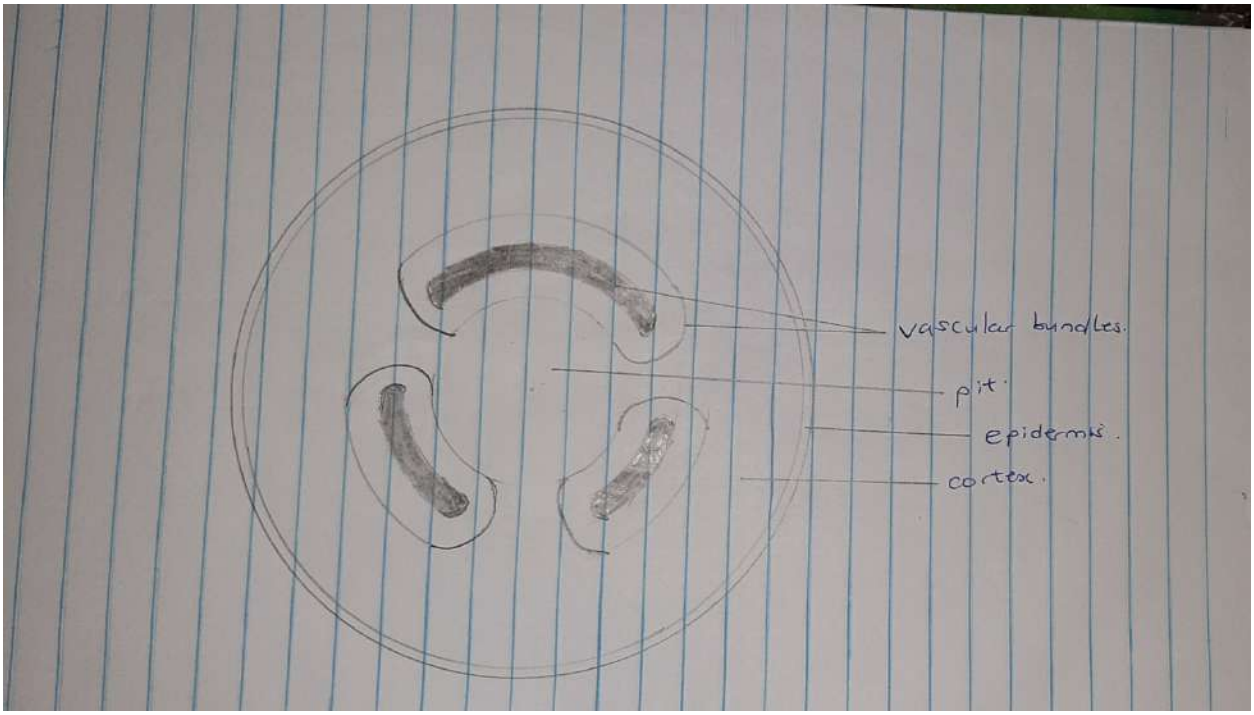
B.)Atactostele:



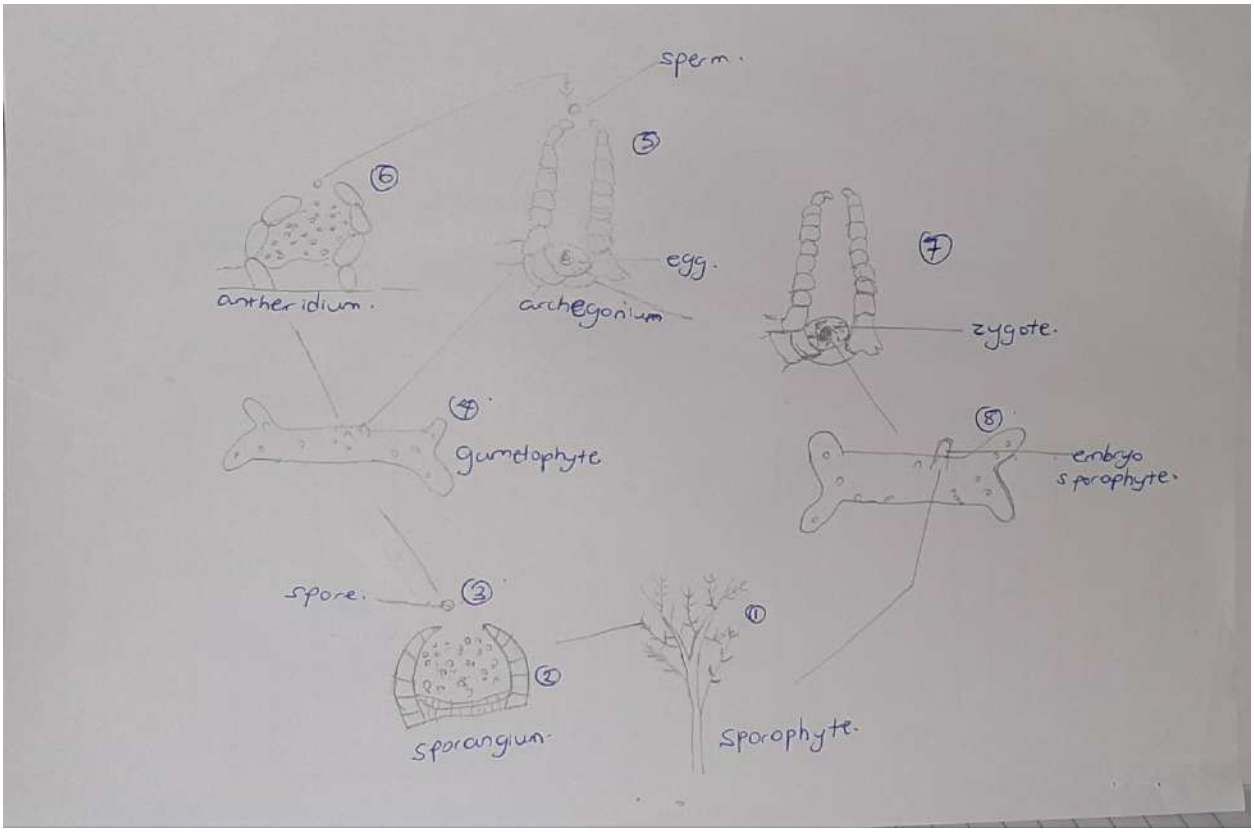
C.) Siphonostele:



D.) Dicotyostele:



6. The life cycle of a primitive vascular plant.


sperm.
⑤
⑥
egg.
antheridium.
archegonium
⑦
zygote.
④
gametophyte
⑧
embryo sporophyte.
spore.
③
①
②
sporangium
sporophyte.