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DEPARTMENT: DENTISTRY

COURSE CODE: BIO 102

MATRIC NUMBER: 19/MHS09/012

1. IMPORTANCE OF FUNGI TO MANKIND

Fungi are responsible for the mediation of decay of organic matter. Without Fungi and other microbes, the surface of the earth would have been clogged up with dead matters with all various elements locked up in them instead of returning into various cycles.

Fungi e.g. Yeast (*Saccharomyces species*) are important in food and brewery industries.

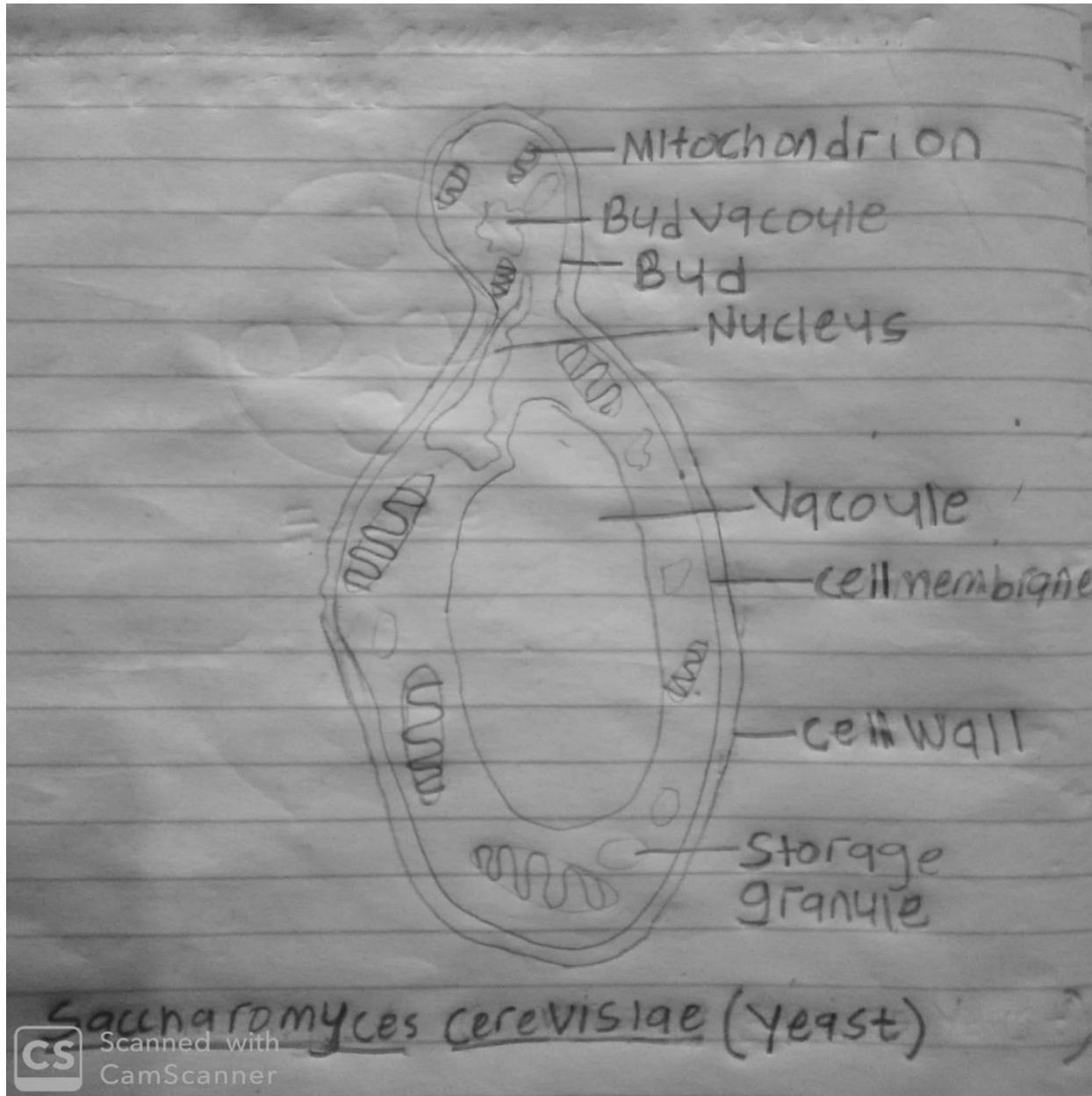
Mushrooms are eaten by many human societies. Species e.g. *Penicillium notatum* produce many antibiotics.

Many fungi species mediate the spoilage of wood, food, clothes and paper. Many are plant pathogens causing blights and smuts in cereals (*Heiminthosporium maydis* and *Ustilago zeac* respiration).

Some fungi are parasites to some certain horrible obnoxious (offensive, unbearable) pests. E.g. houseflies, grasshoppers and therefore constitute important biological control agents in regard to such pests.

Medical and Veterinary mycology deals with fungal diseases and infections in human beings and animals. Skin diseases e.g. ringworm and dermatitis are caused by fungal agents.

2. THE CELL STRUCTURE OF A UNICELLULAR FUNGUS WITH A WELL LABELLED DIAGRAM



3. SEXUAL REPRODUCTION IN RHIZOPUS STOLONIFER

Rhizopus stolonifer is a filamentous fungi that undergo sexual reproduction in the following ways:

- I. Two mating hyphae grow in the same medium. Chemical interaction in the two mating types of hyphae induces growths perpendicular to the hyphae in opposite directions.
- II. The two gametangia fuse (plasmogamy) and a zygote is formed which may undergo prolonged dormancy or resting stage.
- III. The nuclei in the zygotes fuse in to twos and undergo meiosis independently.

IV. 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?

Bryophytes are nonvascular plants that do not have true stems, true roots, and have no vascular bundles; they adapt to their environment in the following ways:

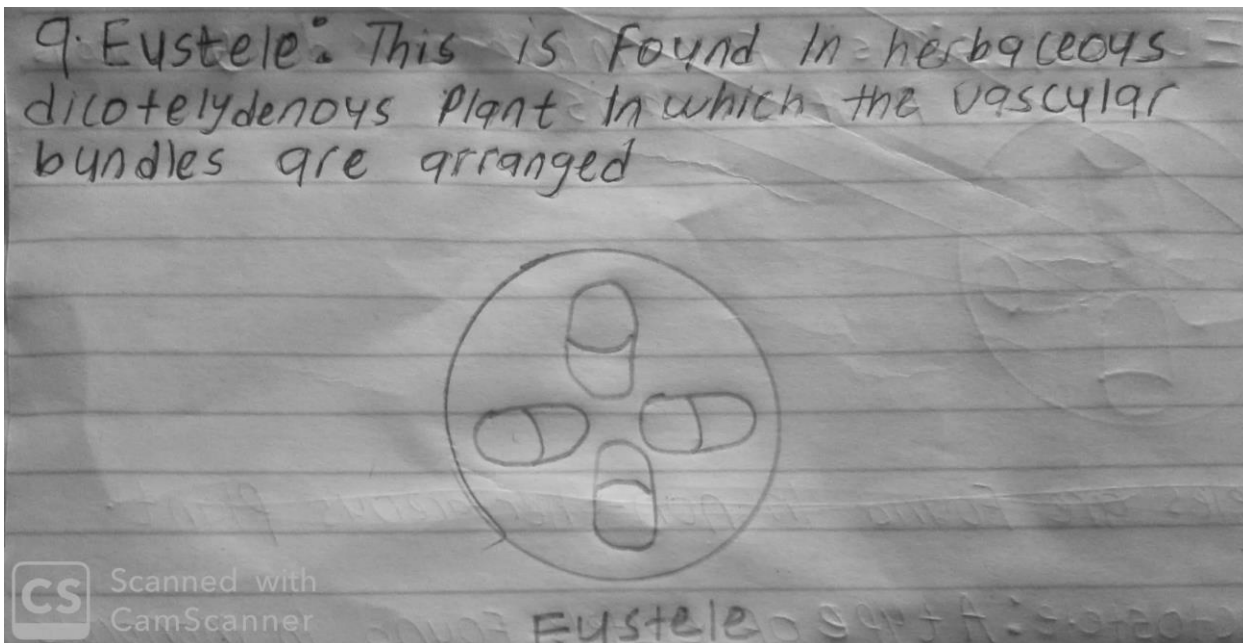
A. They have definite structure for water and nutrient adsorption from the soil; therefore the plant body is divided into two – (the subterranean portion and the aerial portion). The subterranean portion is the rhizoid and it is not a true root as the case of land plants is advanced.

B. The aerial portion prevents the loss of excess water through the body surface

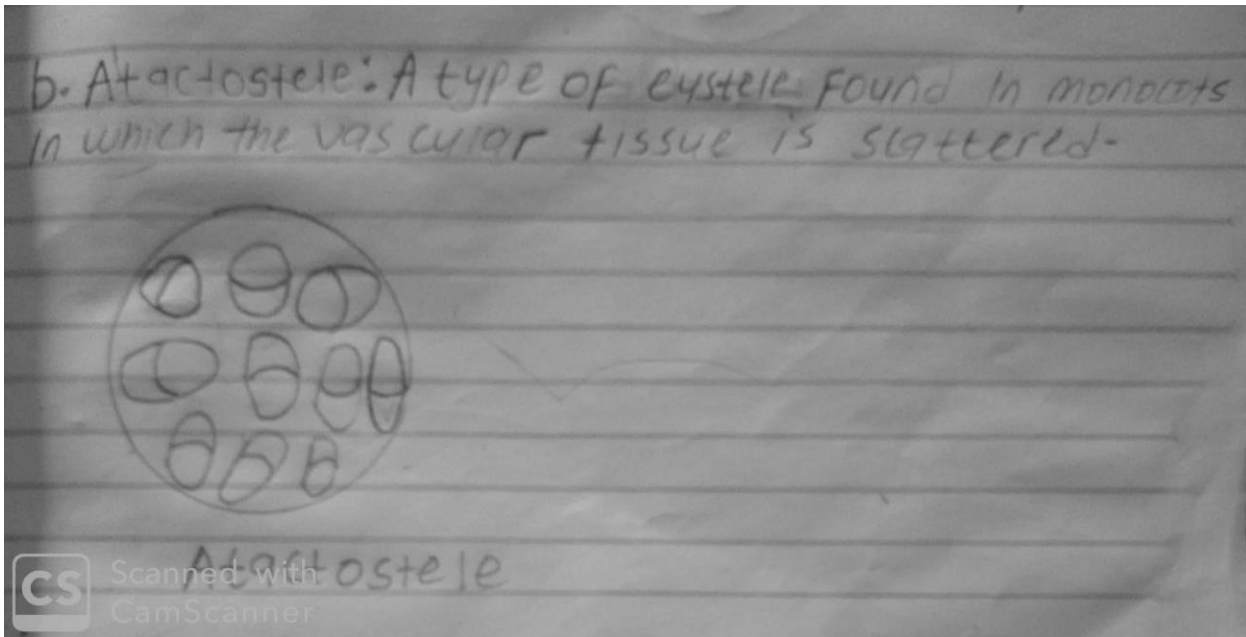
C. Opening on the aerial portion permits internal exchange of gasses and other modifications that permit elimination of excess loss of water from the plant.

5. DESCRIBE WITH ILLUSTRATION THE FOLLOWING TERMINOLOGIES (A) EUSTELES. (B) ATACTOSTELE. (C) SIPHONOSTELE. (D) DICTYOSTELE.

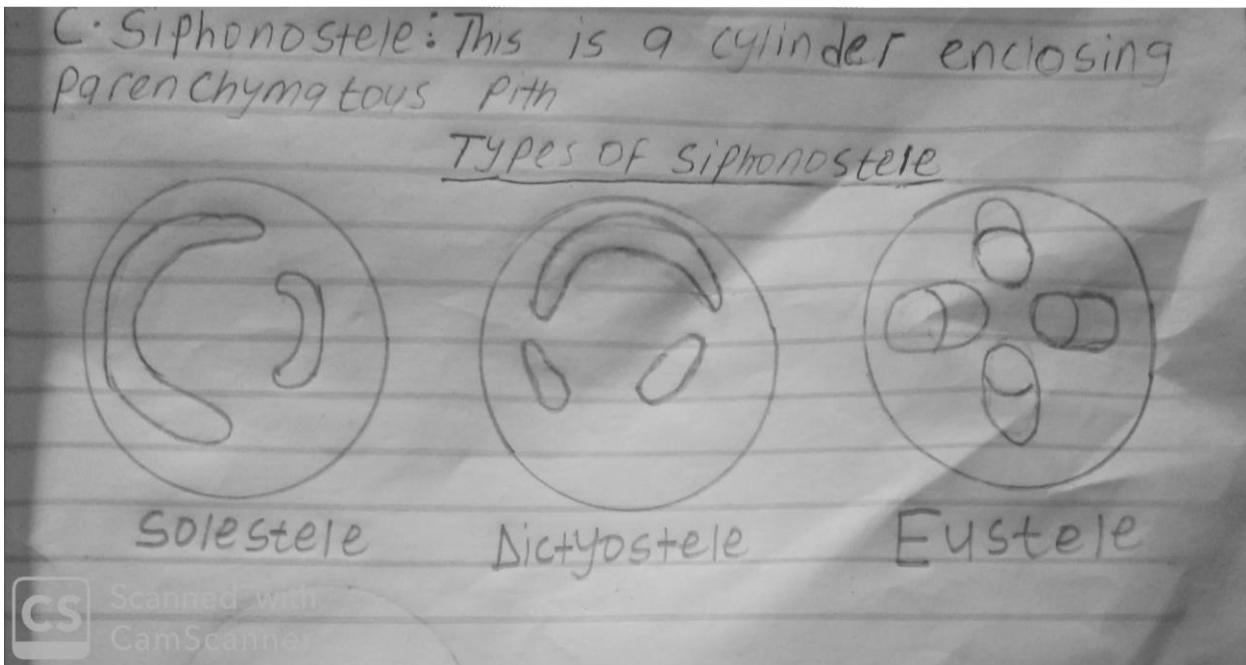
A. EUSTELES



B. ATACTOSTELE

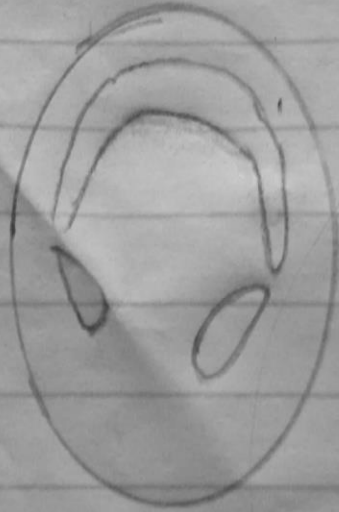


C. SIPHONOSTELE



D. DICTYOSTELE

d. Dictyostele: A stele in which the vascular cylinder is broken up into a longitudinal series or network of vascular strands around a central pith.



Dictyostele



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

