

CHUKWUEMEKA EYANGEL

MEDICINE AND SURGERY

19/MHS01/130

BIO 102

1 Fungi are important to mankind in the following ways:

- i. Fungi e.g. yeast are important in food industry.
- ii. Many fungi are agents for disease and infection transfer.
- iii. Fungi are also responsible for the mediation of decay of organic matter.
- iv. Fungi e.g. mushroom, are eaten as food by humans.
- v. Fungi are also important biological control agents due to the fact that they are parasites to some certain horrible obnoxious pests e.g. housefly, grasshoppers etc.
- vi. Many fungi are agents for disease and infection transfer.

2



The structure of *Saccharomyces cerevisiae* (Yeast) undergoing asexual reproduction

not only exchange of gas between the internal parts of the plant:

5 a) Eustele: This is a type of siphonostele in which the vascular tissue in the stem forms a central ring of bundles around a pith.

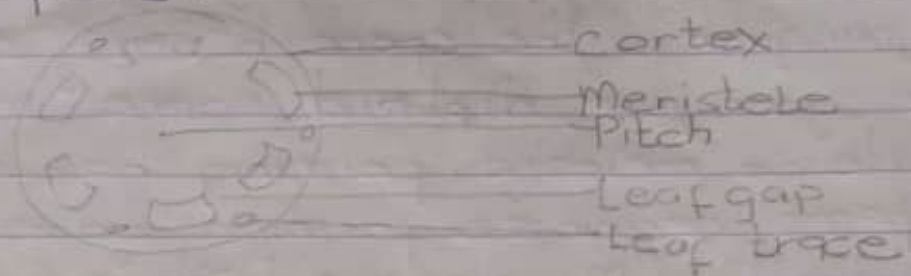


Diagram of Eustele

b) Atactostele: This is a type of eustele, found in monocots, in which the vascular tissue in the stem exists as scattered bundles.



Diagram of Atactostele

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



3. Sexual reproduction in Rhizopus

Stolonifer [a filamentous form in fungi]

This occurs when two mating type of hyphae grow in the same medium.

Chemical interaction in the two mating types of hyphae induces growth perpendicular to the hyphae in opposite directions.

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 to produce a fruiting which at maturity liberates the haploid spore.

4. How Bryophytes adapt to their environment include:

- The aerial portion being exposed to the atmosphere demands some modifications that prevents excessive loss of water through the body surface.
- They have definite structures for water and nutrient absorption from the soil; therefore the plant's body is divided into two (an aerial portion and a subterranean portion).
- They also possess openings on their aerial parts that allows elimination of excess water from the plant body.

6 The lifecycle of a primitive vascular plant.

6 The lifecycle of Psilotum; a primitive vascular plant.

Steps in life cycle of Psilotum

- i Psilotum plant body is a sporophyte (Diploid $2n$)
- ii Synangium is the spore bearing structure.
- iii In synangium, diploid spore mother cells undergo meiosis forming haploid spores (n)
- iv Spores germinate forming gametophyte or prothallus (Monoecious: both antheridia and archegonia are present).
- v Antheridium produce sperms. Sperms are multiplagellate. Archegonium produce egg.
- vi Fertilization is oogamous.
- vii Zygote divides to form Embryonic sporophyte later form mature plant body (Diploid Psilotum Sporophyte)

