

Abdul Ibrahim

19/MHS01/002

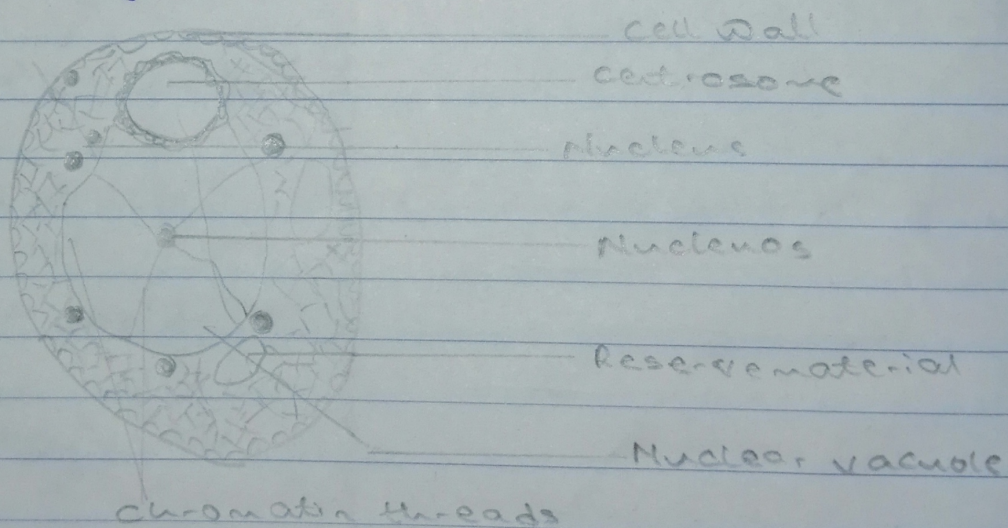
Medicine and Health sciences

Medicine and surgery

BIO 102 Assignment

- 1) How are fungi important to mankind?
 - i) Fungi e.g yeast (*Saccharomyces* species) are important in food industry and some are medicinal.
 - ii) Mushrooms are eaten by human societies
 - iii) 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.
 - iv) They influence the well-being of human population on a large scale why because they are part of the nutrient cycle in ecosystem.

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



DIAGRAMATIC REPRESENTATION OF PARTS OF A YEAST CELL

- 3) Outline the sexual reproduction in a typical filamentous form of fungi.
Using *Rhizopus stolonifer* as an example.
Sexual reproduction; occurs when two mating types of hyphae grow in the same medium. 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 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 undergoes 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?

Bryophytes adapt to their environment in two ways:

- 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 are advanced.
- The aerial portion being exposed to the atmosphere demands some modifications that prevents excessive loss of water through the body surface and permits elimination of excess water.

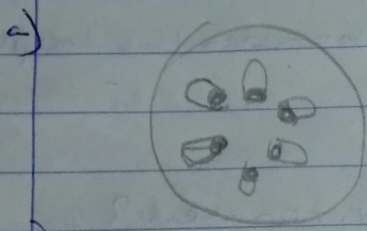
5) Describe with illustration the following terminologies

- eusteles
- atactostele
- siphonostele
- ~~dictyo~~ dictyostele.

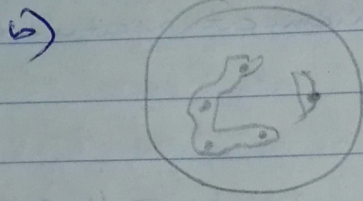
Answers

- Eusteles; A type of siphonostele, the vascular tissue in the stem form a central ring of bundles around a pith.
- atactostele; A type of eusteles found in monokots, in which the vascular tissue in the stem exists as scattered bundles.

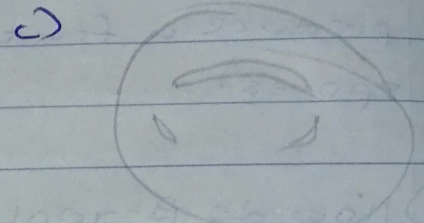
- c) **Siphonostele**; A stele consisting of a core of pith surrounded by concentric layers of xylem and phloem. It is cylindrical surrounding the pith, as in the stems of root ferns and other seedless vascular plants.
- d) **Dictyostele**; A stele in which the vascular cylinder is broken up into a longitudinal series of network of vascular strand around a central pith.



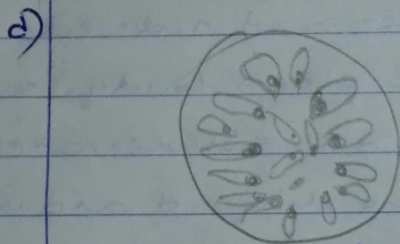
Eustele



Siphonostele



Dictyostele



Atactostele

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

PSILOTUM

