4TH MAY, 2020

AKPOFURE TESE
100 LEVEL
19/MHS01/077
MEDICINE AND SURGERY
MEDICINE AND HEALTH SCIENCES

BIO 102 - GENERAL BIOLOGY II

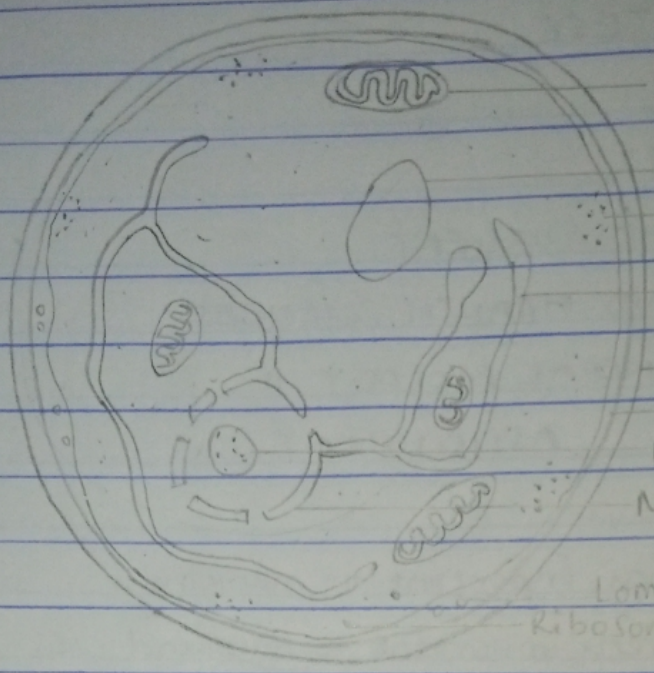
ASSIGNMENT

1. How are fungi important to mankind?

Fungi are very important to mankind as:

- Fungi e.g yeast (saccharomyces species) are important in food industry.
- Some fungi are responsible for the mediation of decay of organic matter.
- Fungi are very important to the entire terrestrial ecosystem in material cycling and to man.
- Mushrooms (a fungi specie) are eaten by some human societies. Also, species eg Penicillium notatum produce important antibiotics.
- Some fungi are parasites to certain horrible, obnoxious pests and therefore constitute important biological control agents in regard to such pests.

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



Diagrammatic representation of the ultrastructure of a typical fungus cell in cross section

3. Outline the sexual reproduction in a typical filamentous form of fungi.

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 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 conditions to produce a fruiting which at maturity liberates the haploid spores.

4. How do Bryophytes adapt to their environment?

Bryophytes adapt to land in two ways. The first is that 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.

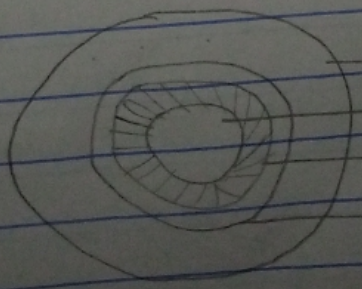
Secondly, there are some openings on the aerial parts of the plant. This is because the aerial portion being exposed to the atmosphere demands some modifications that prevent excessive loss of water through the body surface and some other modification that permits elimination of excess water from the plant body and not only exchange of gases between the internal parts of the body and the atmosphere.

5. Describe with illustration the following terminologies: (a) Eustele (b) Atactostele (c) Siphonostele (d) Dictyostele.

a) Eustele: This is a stele typical of dicotyledonous plants that consist of vascular bundles of xylem and phloem strands with parenchymal cells between the bundles.

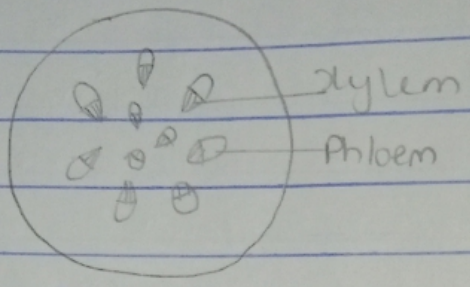
Eustele

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



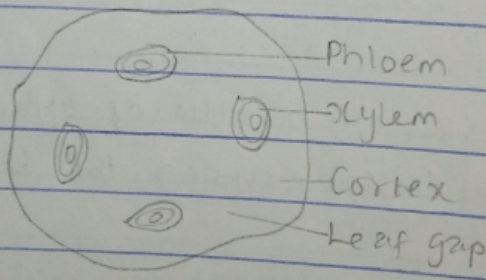
Siphonostele

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



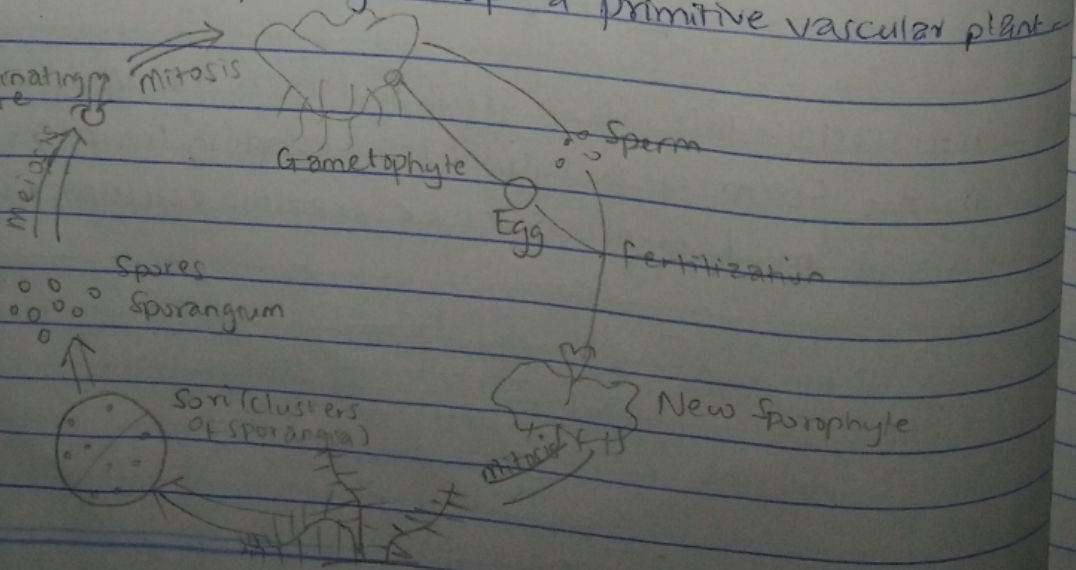
Atactostele

d) Dictyostele: It is a stele in which the vascular cylinder is broken up into a longitudinal series or network of vascular strands around a central pith (as in many ferns).



Dictyostele

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



Life cycle of primitive vascular plant