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DEPARTMENT: MEDICINE AND SURGERY(MBBS)

MATRIC. NO: 19/MHS01/147

COLLEGE: MEDICINE AND HEALTH SCIENCES

BIO 102 Assignment

1 How are fungi important to mankind?

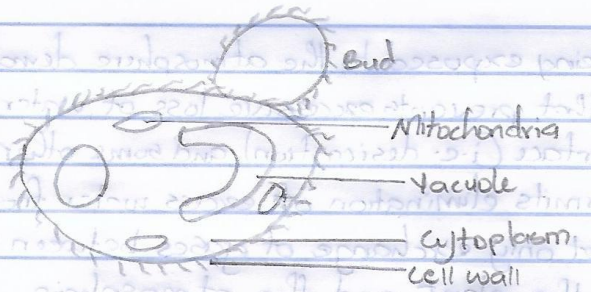
i Fungi are responsible for the ~~medita~~ mediation of decay of organic matter.

ii Without fungi and other microbes, the surface of the earth would have been clogged up with dead matters with all the various elements locked up in them instead of ~~ree~~ returning into various cycles.

iii Fungi e.g yeast (Saccharomyces species) are important in food industry. Mushrooms are eaten by many human societies. Species e.g Penicillium notatum produce important antibiotics. Many fungi species meditate the spoilage of wood, food, clothes and paper. Many are plants pathogens causing blights and smuts in cereals (Helminthosporium maydis and Ustilago zeae respiration)

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

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



Yeast cell

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

Sexual reproduction in Rhizopus stolonifer 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 undergoes meiosis independently.

The zygote germinates under favourable conditions to produce a ~~fruiting~~ fruiting which at maturity liberates the haploid spores.

4 How do Bryophytes adapt to their environment?

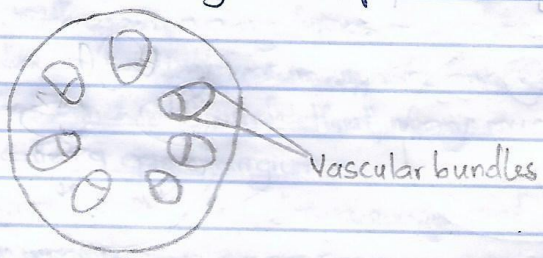
Bryophytes adapt to land habitat in two ways:

a) They have definite structures for water and nutrients 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.

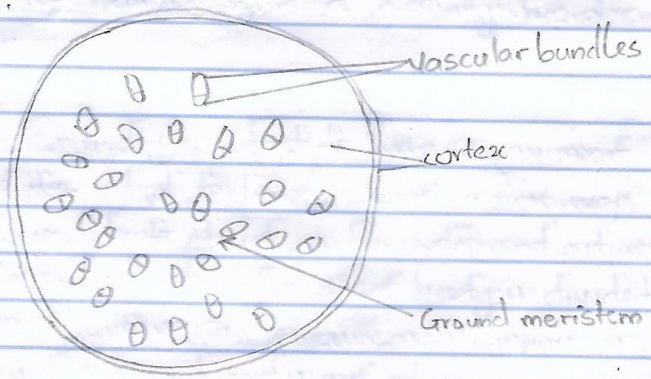
b) The aerial portion being exposed to the atmosphere demands some modifications that prevents excessive loss of water through the body surface (i.e. desiccation) and some other modification that permits elimination of excess water from the plant body and not only exchange of gases between the internal parts of the plant and the atmosphere therefore openings are available on the aerial parts of the plant.

5 | Describe with illustration the following terminologies:

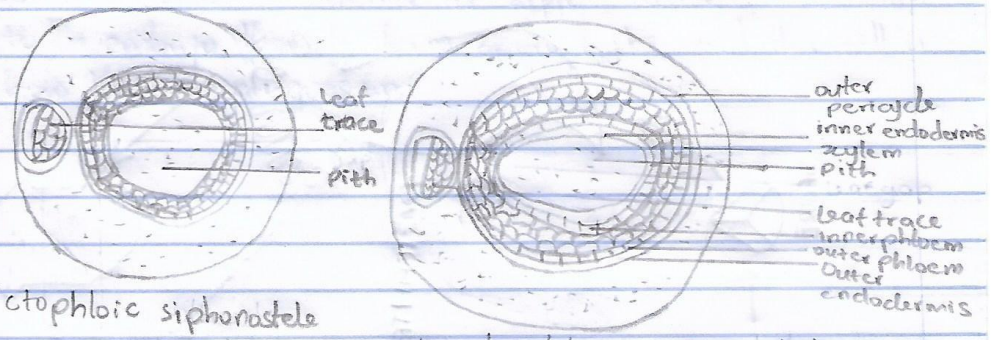
a | eusteles: Here, they are found in herbaceous dicotyledonous plants in which the vascular bundles are discrete, concentric collateral bundles of xylem and phloem.



b | Atactostele: They are found in many monocotyledonous plants. The vascular bundles are scattered. The nature of the vascular supply to leaves is also a note worthy element of the vascular system.



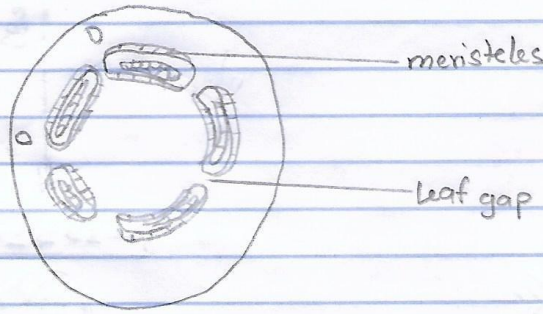
c Siphonostele: It is found in more advanced vascular ~~pla~~ systems e.g. stems of ferns and higher vascular plants, the stele is a cylinder enclosing a parenchymatous pith.

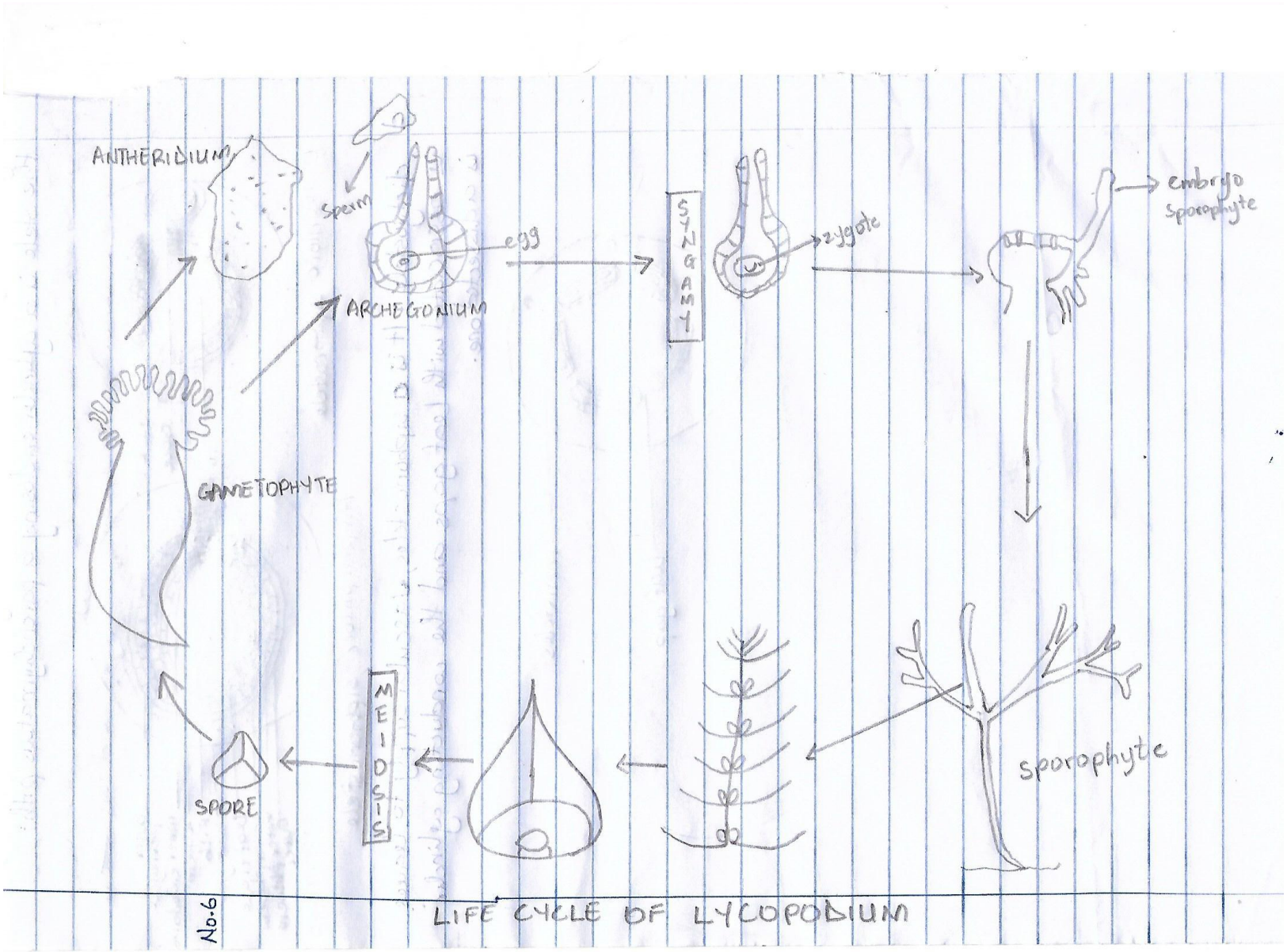


Ectophloic siphonostele

Amphiphloic siphonostele

d dictyostele: It is a siphonosteles, vascular supply to leaves is associated with leaf gaps and the conducting cylinder is a dissected one.





No.6

LIFE CYCLE OF LYCOPODIUM

A mature plant (sporophyte) will have sporangium which will release spores which will germinate to form the gametophytes ~~sex cells~~ which will produces the sex cells which will fuse to produce the zygote which will develop to the embryo then to form sporophytes and this ~~with~~ is how the life cycle goes on.