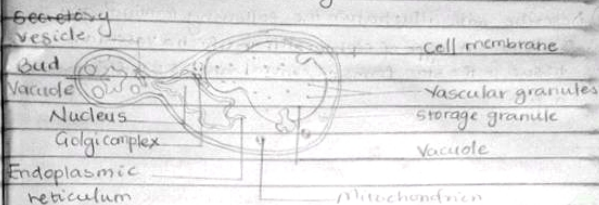


Biology

1. How are fungi important to mankind?

Fungi influence the well-being of human populations on a large scale because they are part of the nutrient cycle in ecosystems. Fungi also help to control the population of damaging pests because they are animal pathogens.

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



THE UNICELLULAR FUNGUS CELL STRUCTURE (Labeled Diagram)

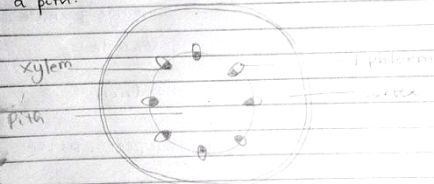
3. Outline the sexual reproduction of a typical filamentous form of fungi.

- Hyphae from two compatible mating types fuse
- Nuclear fusion results in a diploid nucleus within each basidium
- Hyphae from two compatible mating types fuse
- The two gametangia fuse and a zygote is formed
- The nuclei in the zygotes fuse in twos and undergo meiosis independently
- The zygote germinates under favourable conditions to produce a fruiting at which maturing produces haploid spores.

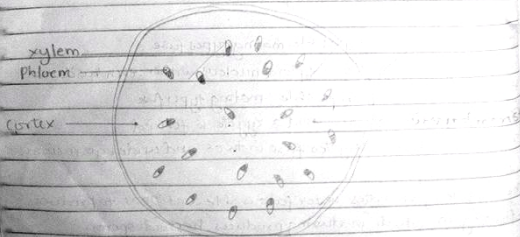
- 4) How do Bryophytes adapt to their environment
- i) They have definite structures for water and nutrient absorption
 - ii) Its aerial portion being exposed to the atmosphere demands modifications that help prevent loss of water
 - iii) They have some modifications that permit elimination of excess water from the plant
 - iv) They have openings that help allow exchange of gases between the plant and the atmosphere

5) Describe with illustration the following terminologies

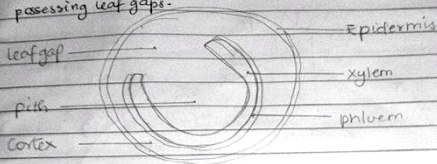
a) Eustele - A type of siphonostele in which a vascular tissue in the stem forms a central ring of bundles around a pith.



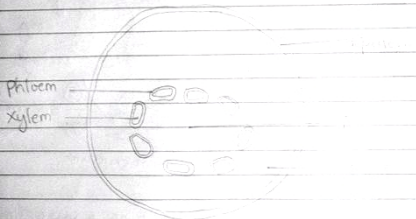
b) Atactostele - A type of eustele, found in monocots, in which the vascular tissue in the stem exists as scattered bundles.



c) Siphonostele - A type of stele in which the vascular tissue in the stem forms a cylinder surrounding a central pith and possessing leaf gaps.

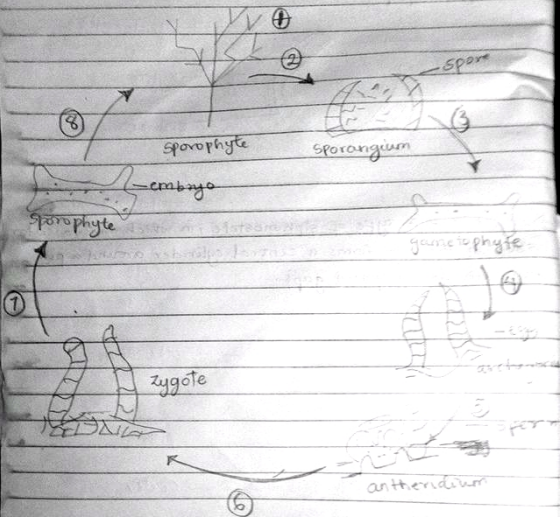


d) Dictyostele - A type of siphonostele, in which the vascular tissue in the stem forms a central cylinder around a pith, but with closely spaced gaps.



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

6. Illustrate the life cycle of a primitive vascular plant



AN ILLUSTRATION OF THE LIFE CYCLE OF A PSILUM