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Course	Bio 102
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Matric No	19/MHS01/343

Assignment

1. How are fungi important to mankind?
2. Illustrate the cell structure of a unicellular fungus with a well labeled diagram.
3. Outline the sexual reproduction in a typical filamentous fungi.
4. How do Bryophytes adapt to their environment?
5. Describe with illustration the following terminologies: (a) eustele (b) ataxtele (c) siphonostele (d) dictyostele.
6. Illustrate the life cycle of a primitive vascular plant.

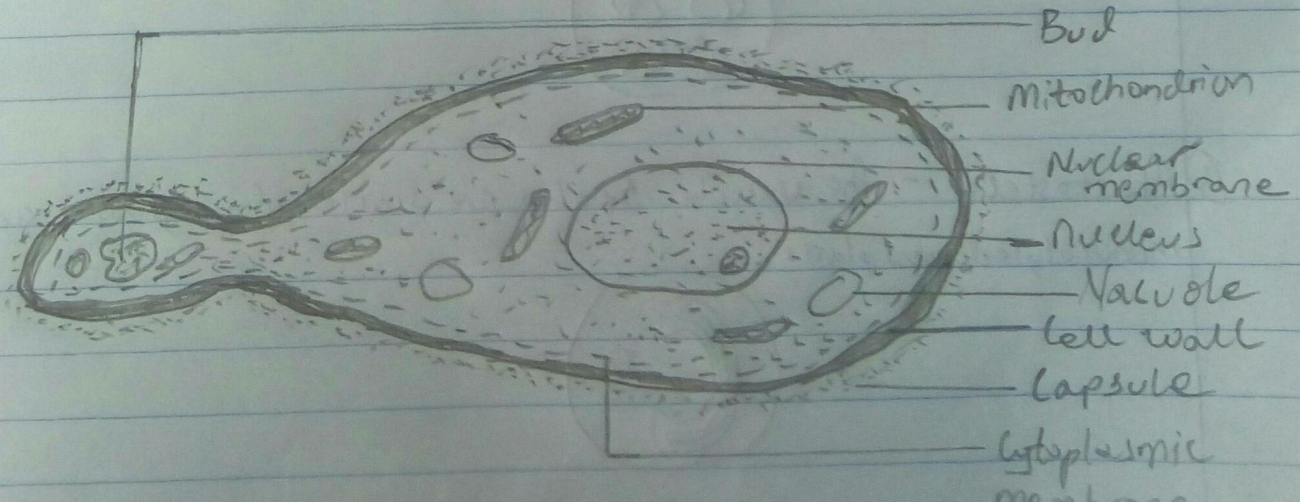
Answers

(1) (i) They are responsible for the mediation of decay of organic matter.
(ii) They are important in food industry e.g Yeast
(iii) They are responsible for producing important antibodies.
(iv) They mediate the spoilage of wood, food, clothes and paper.
(v) Some are parasites to some certain horrible obnoxious pests.

(2) Unicellular Form of Fungi:- Yeast (Saccharomyces cerevisiae)

Cell Structure:

The cell structure is very simple, though the organism is one of the more advanced fungal forms from the point of view of its spore-producing structures.



The Structure of Saccharomyces cerevisiae (Yeast)

3 Filamentous Forms In Fungi: Rhizopus stoloniter

Sexual Reproduction:- It 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 zygotes fuse in twos and undergo meiosis independently.

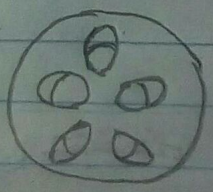
The zygote germinates under favourable conditions to produce a fruiting which at maturity liberates the haploid spores.

(4) How do Bryophytes adapt to their environment?

(a) They have definate structures for water and nutrient absorption from the soil; therefore the plant body is divided into two (an aerial portion and a subterranean portion)

(b) Some other modifications that permit 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.

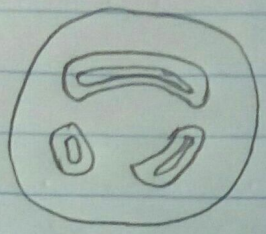
(5)(a) Eustele: This is where vascular bundles are discrete, concentric collateral bundles of xylem and phloem in herbaceous dicotyledonous plants.



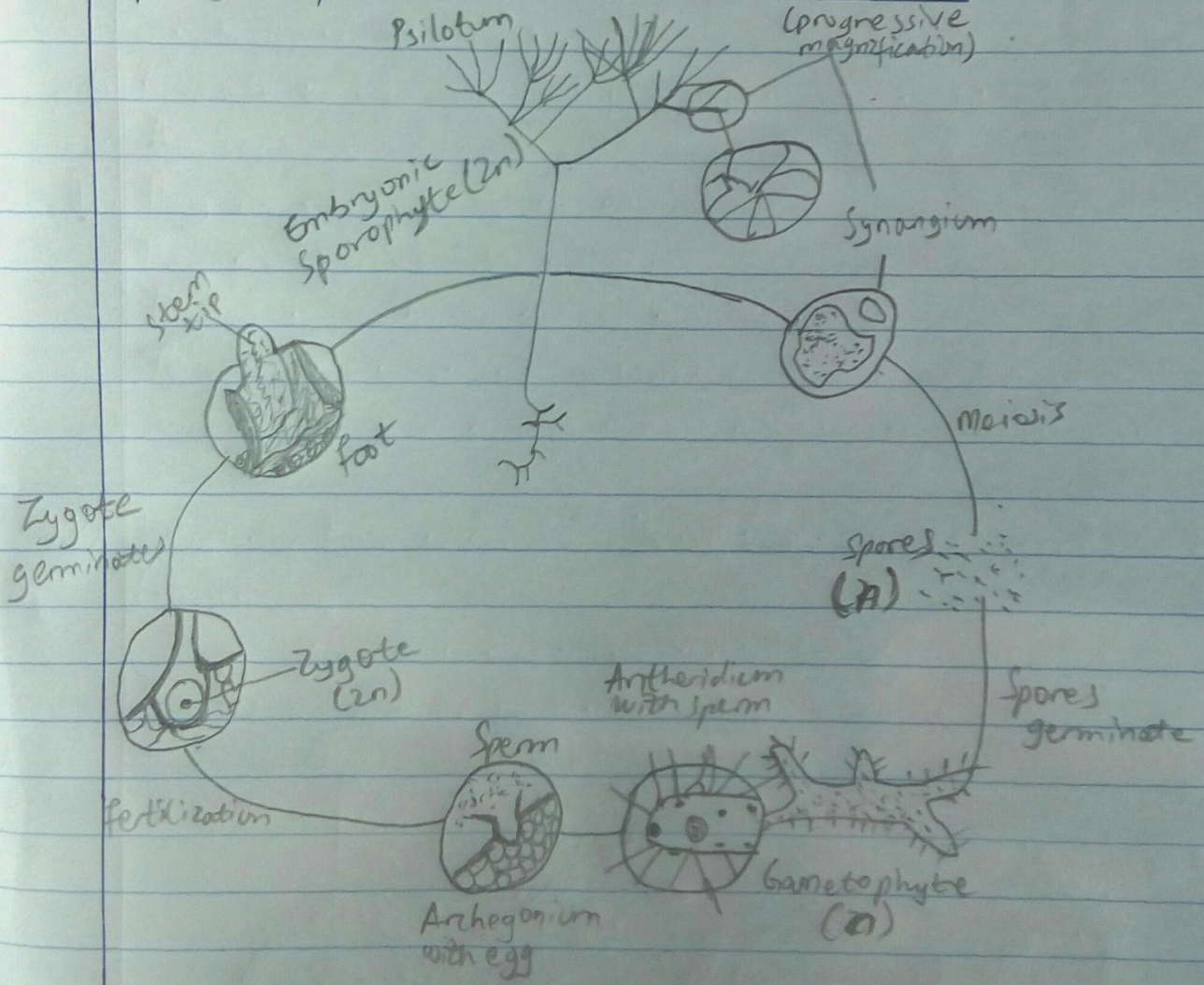
(b) Atactostele:- The vascular bundles are scattered in grasses and many monocotyledonous plants.

(c) Siphonostele :- The stele is a cylinder enclosing a parenchymatous pith in more advanced vascular systems.

(d) Dictyostele :- In siphonostele, vascular supply to leaves associated with leaf gaps and the conducting cylinder is a dissected one.



(e) Life Cycle of a Primitive Vascular Plant : Psilotum



A real life cycle of Psilotum