

BIO 102

1 How are Fungi Important to mankind

They are very important to the <sup>terrestrial</sup> ecosystem in material cycling and to man.

They are responsible for the mediation of decay of organic matter.

Fungi are important in Food industry of Mushroom are eaten by human societies.

Fungi mediate the spoiling of wood, clothes and paper.

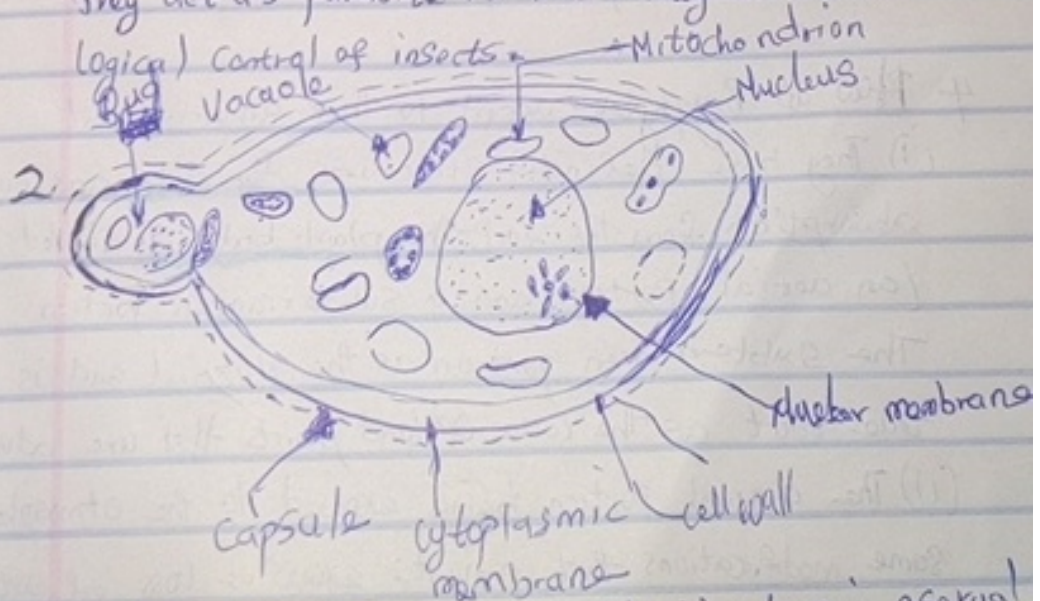
They are decomposers

They use fungi for fermentation

They are used to manufacture anti-fungal

They produce foul smell

They act as parasite to insect they can be used as biological control of insects.



The structure of *Saccharomyces cerevisiae* (Yeast) undergoing asexual Reprod

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

Rhizopus Stolonifer is a filamentous form of fungi. Sexual reproduction occurs when two mating types of hyphae grow in the same medium. Chemical interaction in the two mating medium types of hyphae induces growth perpendicular to the hyphae in opposite directions. The growth is 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 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

- (i) They have definite structures for water and nutrient absorption from the soil, the plant body is divided into (an aerial portion and a subterranean portion). The subterranean portion is the rhizoid and is not true root as the case of land plants that are advanced.
- (ii) The aerial portion being exposed to the atmosphere has some modifications that prevent excessive loss of water.

through the body surface.

(iii) 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 plants.

5. (a) Eustele (b) Atactostele (c) Siphonostele (d) Dictyostele

(A) Eustele:- In herbaceous dicotyledonous plants the eustele are vascular bundles are discrete, concentric collateral bundles of xylem and phloem.

(B) Atactostele:- In grasses and many monocotyledonous plants, the atactostele, the vascular bundles are scattered. The nature of vascular supply to leaves is also note worthy element system.

(C) Siphonostele:- In Siphonostele, vascular supply to leaves associated with leaf gaps and the conducting cylinder is ~~a discrete~~ dissected on dictyostele.

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

# Lifecycles of a Primitive Vascular plant

## 6. Psilotum

