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Course: BIO 102
Department: Medicine and Surgery

1) Fungi are important to mankind as some of them serve as food to man e.g mushrooms, some serve as ~~food to man e.g mushrooms~~ medicine e.g penicilin, some help in decomposing our waste products like bread mould and rhizopus while some are used by man to produce really important products like yeast used to produce alcohol by fermentation

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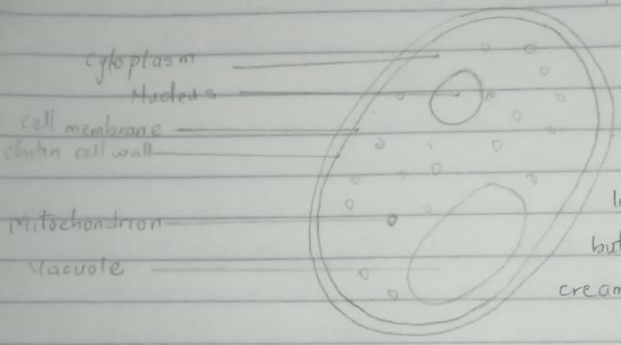


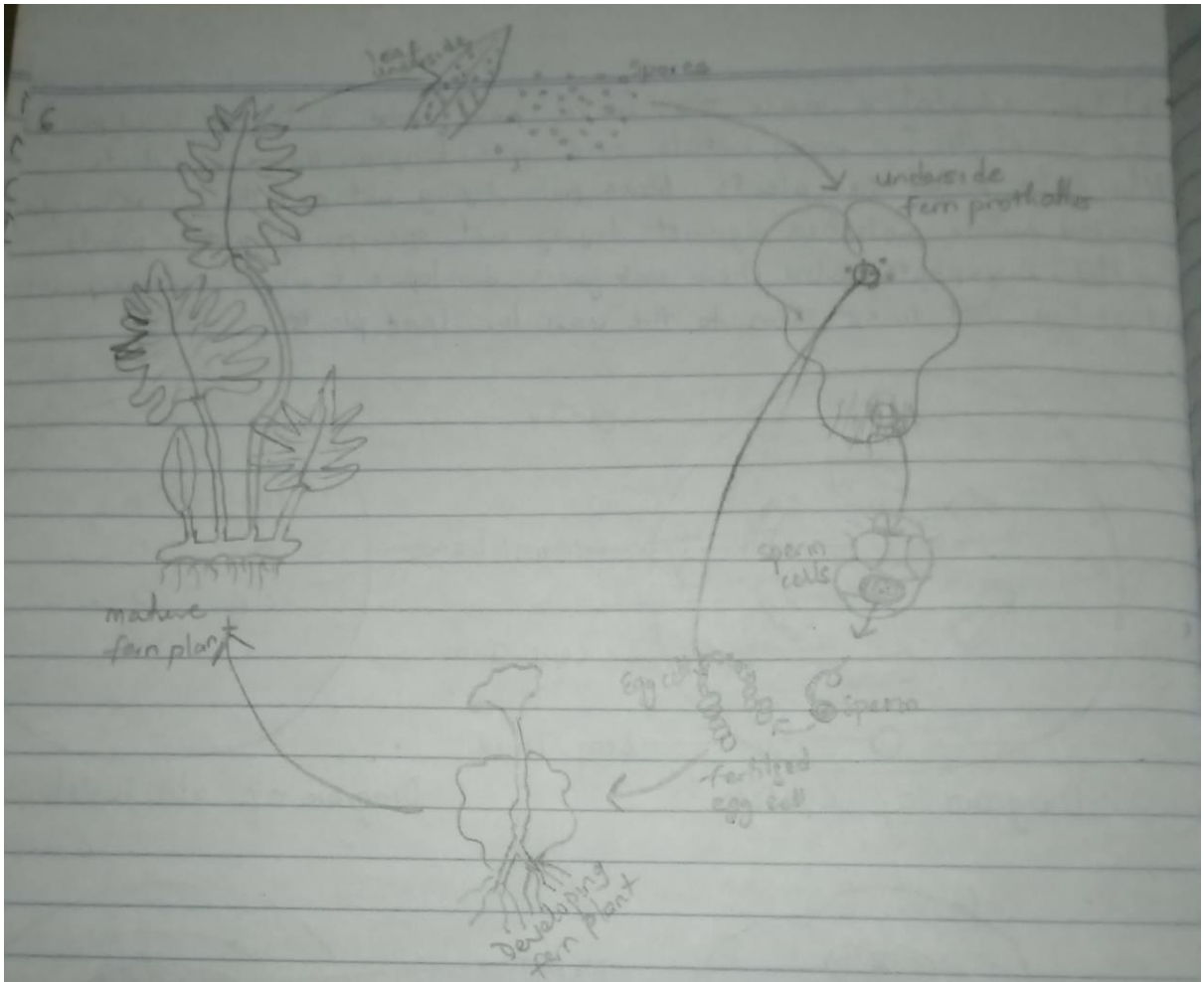
The yeasts are unicellular fungi. cells are extremely variable in shape being globose, oval, elongated or rectangular Individually yeast cells are hyaline but in colonies they appear white, cream-coloured or slightly brownish.

The structure of yeast

3) Sexual reproduction in the fungi consists of Three sequential stages: plasmogamy, karyogamy and meiosis. The diploid chromosomes are pulled apart into two daughter cells, each containing a single set of chromosoms (a haploid state).

Plasmogamy is the fusion of two protoplasts (the contents of the two cells), bring together two compatible haploid nuclei.

Karyogamy results in the fusion of these haploid nuclei and the formation of a diploid nucleus (i.e nucleus containing two sets of chromosomes, one from each parent The cell formed by karyogamy is called zygote. Once karyogamy has occured, meiosis (cell division that reduces the chromosome number to one set per cell) generally follows and restore the haploid phase. The haploid nuclei that result from meiosis are generally incorporated in spores called meiospores.



Lifecycle of a primitive vascular plants (fern)

(d) Two adaptations made the move from water to land possible for bryophytes: a waxy cuticle and gametangia. The waxy cuticle helped to protect the plants tissue from drying out and the gametangia provided further protection against drying out especially for the plants gametes. Bryophytes also show embryonic development which is a significant adaptation that links them to the vascular land plants

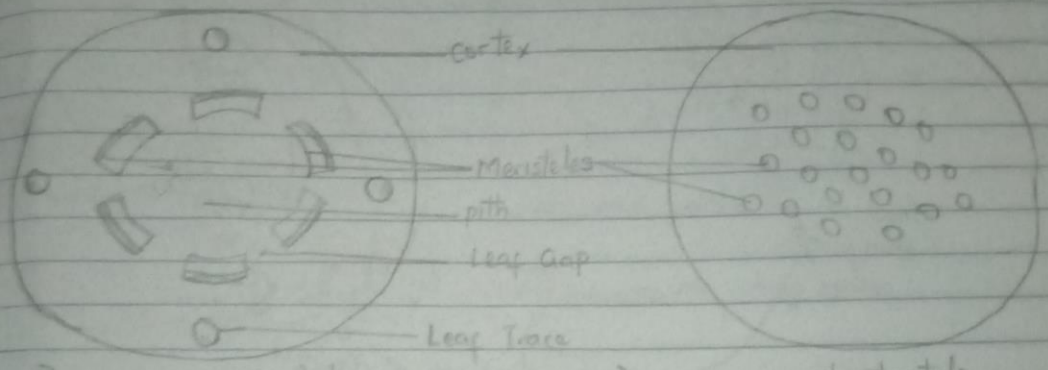


Diagram of Eustele

Diagram of atactostele

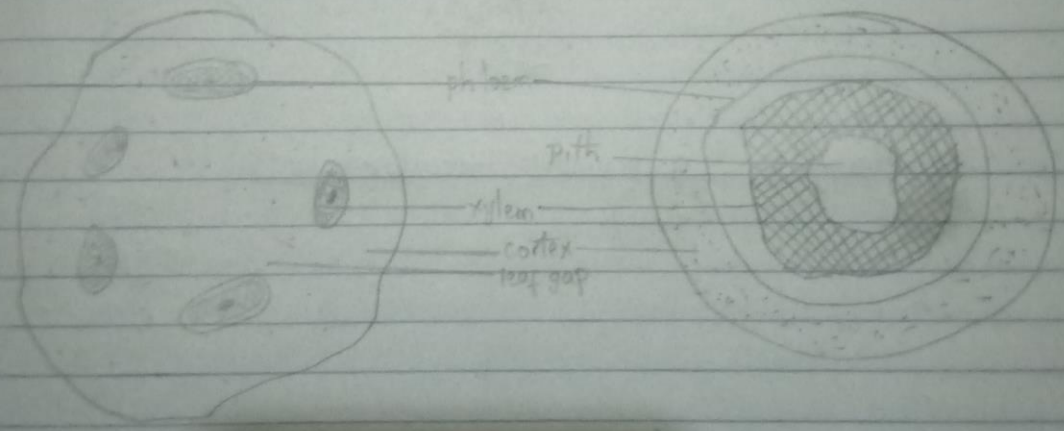


Diagram of Dictyostele

Diagram of siphonostele
(vascular cylinder with pith