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DEPARTMENT: MEDICINE AND SURGERY (MBBS)

SUBJECT: BIO 102

MATRIC. NUMBER: 191MHS01368

D) IMPORTANCE OF FUNGI TO MANKIND

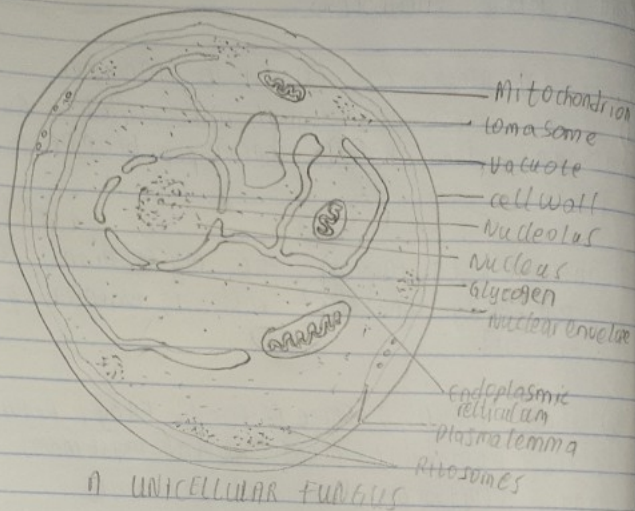
1) They serve as biological insecticides - As animal pathogens, fungi help to control population of damaging pests.

2) They help in farming: The mycorrhizal relationship between fungi and plant roots is essential for productivity of farmland.

3) They serve as a source of food: Fungi figure prominently in the human diet. Morels, shiitake mushrooms, chanterelles and truffles are considered delicacies.

4) Medicine: Many secondary metabolites of fungi are of great commercial importance. Fungi naturally produce antibiotics to kill or inhibit the growth of bacteria, limiting their competition in the natural environment.

2)



3) SEXUAL REPRODUCTION IN A FILAMENTOUS FORM OF FUNGI (RHIZOPUS STOLONIFER)

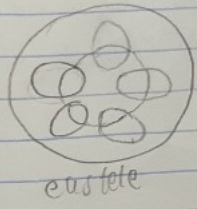
In sexual reproduction, resistant spherical spores are formed, called zygospores. Zygospores are thick-walled, which make them highly resistant to the environment hardships. The word zygospore comes from Greek word "zygos" which means joining. The zygospores are the only diploid phase of *Rhizopus stolonifer* reproduction. They are composed of two suspensor cells, which are the former gametangia or hyphae. There is a suspensor cell on either side of a large, rough, dark brown spore. The suspensor cells are present to provide support. The zygospore form two special haploid hyphae of opposite mating types that touch due to hormones and being in close proximity of each other. The two cytoplasm intermingle, also known as plasmogamy.

As this occurs the nuclei of both parents enter the conjunction, causing the resting spore to develop. Karyogamy is the term used to describe the fusion of the two nuclei. After this, the zygospore which has fully formed, meiosis occurs and haploid spores are formed and dispersed. The zygospore can become dormant for several months at a time. Meiosis still occurs and a sporangium similar to the asexually produced sporangium ~~spor~~ is created when the zygospore finally cracks open.

4) WAYS BRYOPHYTES ADAPT TO THEIR ENVIRONMENT.

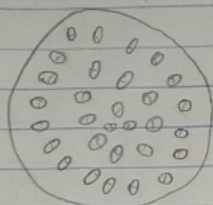
- 1) They have waxy cuticle which prevents the body, the zygote, and the embryo from drying out.
- 2) Spores are dispersed by the wind.
- 3) The aerial portion being exposed to the atmosphere demands some modifications that prevents loss of water through body surface.
- 4) They have definite structures for water and nutrient absorption from the soil.

5a)



eustele - in this arrangement, the primary vascular tissue consists of vascular bundles, usually in one or two rings around the pith... The vascular bundles in a eustele can be collateral or bicollateral.

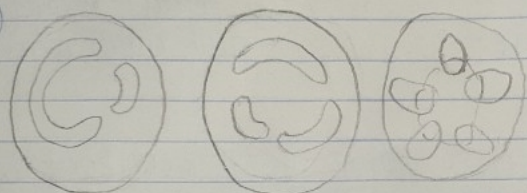
3b)



Atactostele

Atactostele can be defined as a type of eustele where collateral vascular bundles are arranged in an irregular manner. It is the characteristic of monocotyledonous stem where there is no distinction between pith and cortex.

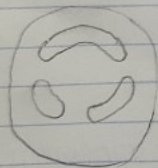
4)



siphonostele

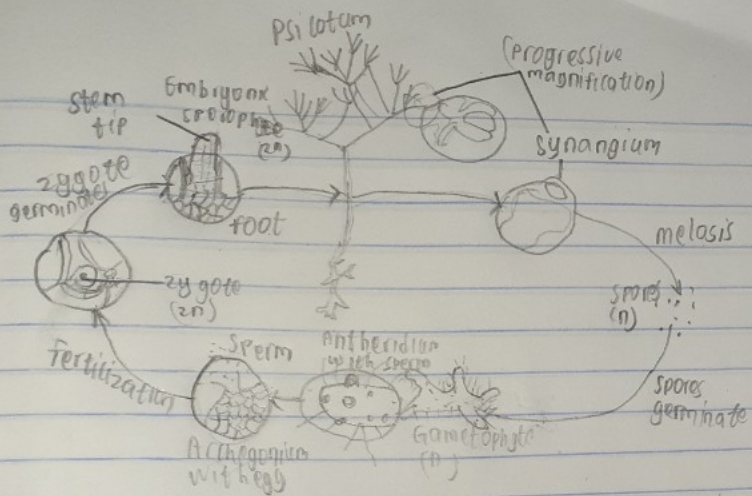
where xylem is in the form of a hollow cylinder, has paracymatous pith at the central region of xylem. The xylem is surrounded by phloem that in turn remains encircled by pericycle. The whole stele is surrounded limited outside by a continuous endodermis.

5)



Dictyostele

Dictyostele can be defined as a type of amphiphloic siphonostele with overlapping leaf gaps. The upper part of a leaf gap overlaps the lower part of the upper adjacent.



LIFE CYCLE OF A PRIMITIVE VASCULAR PLANT (PSILOTUM)