**LEBILE CELINE MOTUNROLA**

**19/MHS01/235**

**MBBS**

1. Importance of fungi:
* They are responsible for breaking down organic matter and releasing carbon, oxygen, nitrogen, and phosphorus into the soil and the atmosphere, by the means of enzymes they produce.
* They are essential in food industries, where yeast could be used to make bread, and edible mushrooms are used in restaurants to serve as a garnish on foods.
* They are used in the production of antibiotics e.g. penicillin
* They mediate the spoilage of wood, food, clothes and paper
* Some fungi are parasites to household pest like housefly, grasshoppers, therefore can be used as a biological control against these pests.
1. Unicellular form of fungus (yeast)



1. Sexual reproduction in a typical filamentous form of fungi (Rhizopus stolonifera)
* It takes place by the fusion of multinucleate gametangia.
* Two fusing gametangia (male and female) are morphologically similar but physiologically different.
* Developing gametangia are known as progametangia. These are filled with cytoplasm and nuclei in their swollen tip.
* At the time of their fusion each gametangium is separated from the ‘suspensor’ with the help of a septum.
* Fusion of two gametangia takes place. The nuclei of the male gametangium fuse with those of female, and thus many diploid nuclei are formed. Around this fusion product, a thick, spiny wall develops, and now it is called **zygospore.**
* Zygospore germinates gradually by producing a long sporangiophore bearing a sporangium at the tip.
1. How Bryophytes adapt to their environment:
* They have definite structures for water and nutrient absorption from the soil i.e. The plant is divided into two (aerial and subterranean portion)
* On land, the aerial portion, being exposed to the atmosphere, have waxy cuticles that prevents excessive loss of water through the body surface. It also has openings, that helps for gaseous exchange.
1. Eustele is the arrangement of the xylem and phloem in discrete strands, separated by areas of parenchymatous tissue. I.e. vascular bundles are arranged in bundles around a pith.
* Atactotele is a type of eustele found in monocots, where the vascular tissues in the stem exists as scattered bundles.
* Siphonostele is a stele in which the vascular tissue is in the form of a cylinder surrounding the pith, as in the stems of most ferns and other seedless vascular plants. It is a hollow tube of vascular tissue enclosing a pith and embedded in ground tissue.
* Dictyostele is a stele in which the vascular cylinder is broken up into a longitudinal series or network of vascular strands separated by parenchymatous areas around a central pith



1. Life cycle of a primitive vascular plant (Psilotum)

Psilotum plant body is a sporophyte (diploid 2n), Synangium is the spore bearing structure. In synangium, diploid spore mother cells undergo meiosis forming haploid spores(n). These spores germinate forming gametocyte (Monoecious both: Antheridia which produces sperm and archegonia which produces egg are present. The fertilization is oogamous. The zygote divides to form Embryonic sporophyte later from mature plant body.

