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**DEPARTMENT: MBBS**

**COURSE TITLE AND CODE: GENERAL BIOLOGY II (BIO102)**

1. How are fungi important to mankind?
* Fungi eg yeast are important in food, industries and some are medicinal
* They influence the well-being of human population on a large scale because they are part of the nutrient cycle.
* Some fungi are parasites to obnoxious pests of man.
1. Illustrate the cell structure of a unicellular fungus with a well labeled diagram.

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

Sexual reproduction in *Rhizopus stolonifer* : when two mating types of hyphae grow in the same medium, chemical interaction in the two mating types of hypae induces growth perpendicular to the hypae in the opposite direction. These growths are delimited by a wall such that many nuclei are isolated in what is called a gametangium. The gametangium fuse together and produce a zygote which may undergo prolonged dormancy or resting stage. The nuclei present in the zygote fuse in twos and undergoes meiosis independently. The zygote germinates under favorable conditions to produce a fruiting which at maturity liberates the haploid spores.

1. How do Bryophytes adapt to their environment?
* They possess definite structures for water and nutrient absorption from the soil.
* They posses waxy cuticle that keeps them from drying out through the process of desiccation
* They possess gametangia that keep the plants gametes from drying out.
1. Describe with illustration the following terminologies: (a) eusteles (b) atactostele (c) siphonostele (d) dictyostele.

A. Eusteles; a type of stele in which the vascular tissue in the stem forms a central ring of bundles around a pith. The vascular bundles are discrete, concentric collateral bundles of xylem and phloem.

B. Atactostele; a type of stele found in monocots, in which the vascular tissue in the stem exists as scattered bundles.

C. Dictyostele; a type of stele in which the vascular cylinder is broken up into a longitudinal series or network of vascular strands around a pith.

1. Illustrate the life cycle of a primitive vascular plant.