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MATRIC NUMBER:19/MHS01/381

DEPARTMENT: MBBS (MEDICINE AND SURGERY)

BIO 102 ASSIGNMENT

1)Importance of fungi to mankind:

a) They serve as decomposers in the ecosystems

b)They serve as food(they play a role in human nutrition in the form of mushrooms)

c)They serve as agents of fermentation in the production of bread,cheeses,alcoholic beverages, and numerous other food preparations

d)Secondary metabolites of fungi are used as medicines,such as antibiotics and anticoagulants

e)Fungi are model organisms for the study of eukaryotic genetics and metabolism

2)Cell structure of a unicellular fungus(a yeast cell)

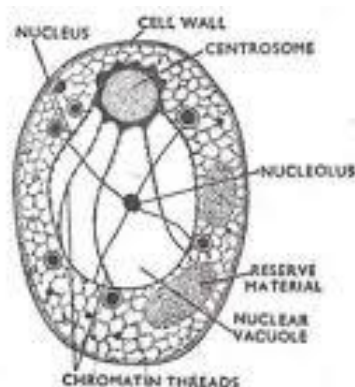


Fig. 214. Diagrammatic representation of parts of a yeast cell.

3)Sexual reproduction in a filamentous fungi like *Rhizopus stolonifer* undergoes the following steps:

a)Two mating types of hyphae grow in the same medium

b) A chemical interaction between them causes growth perpendicular to the hyphae in opposite directions, so they can meet with one another

c) The growths are delimited by a wall just so the nuclei are isolated in differentiated sex organs called gametangia (plural)

d) The gametangia fuse in a process called plasmogamy and together they form a zygote which may undergo dormancy for a period

e) The nuclei in the zygote fuse in twos and undergo meiosis independently, it then moves on to germinating under favourable conditions so as to liberate haploid spores at maturity through the production of a fruiting

f) Conclusion, Sexual reproduction in fungi consists of three stages; plasmogamy, karyogamy, meiosis. The diploid chromosomes are pulled apart into two daughter cells, each containing a single set of chromosomes (a haploid state). In most fungi, the zygote is the only cell in the entire life cycle that is diploid.

4) How Bryophytes adapt to their environment:

a) Possession of definite structures for water and nutrient absorption

b) Possession of gametangia that keep the plants gametes from drying out

c) They possess a waxy cuticle that prevents desiccation of the plant

d) They have subterranean portion (rhizoid) and the aerial portion to prevent excessive loss of water and to permit elimination of excess water

5) a) Eustele: A type of siphonostele, in which the vascular tissue in the stem forms a central ring of bundles around a pith

b) Atactostele: A type of eustele, found in monocots, in which the vascular tissue in the stem exists as scattered bundles

c) Siphonostele: A stele consisting of a core of pith surrounded by concentric layers of xylem and phloem

d) Dictyostele: A stele in which the vascular cylinder is broken up into a longitudinal series or network of vascular strands around a central pith

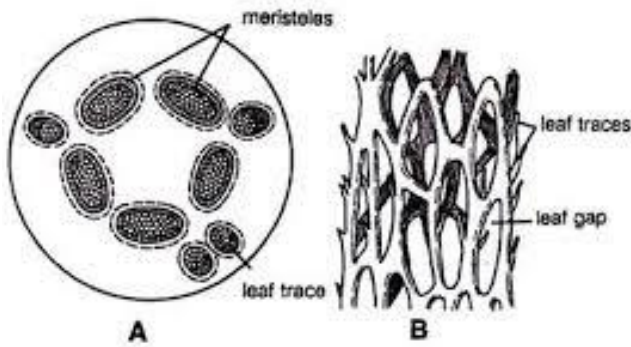


Fig. 5 (A-B) Stele System : A. Dictyostele, B. Vascular skeleton of a dictyostele

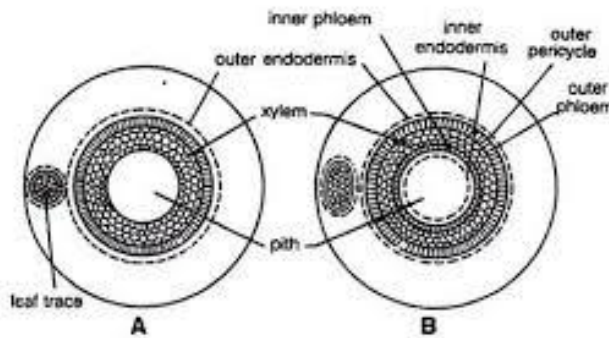
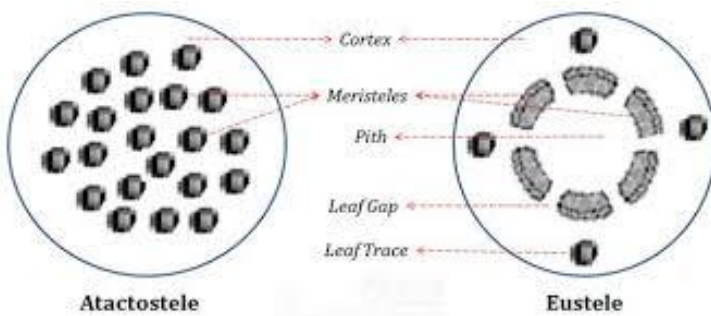


Fig. 3 (A-B). Stele System : A. Ectophloic siphonostele, B. Amphiphloic siphonostele



6) Life cycle of a primitive vascular plant

