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**MATRIC NUMBER:** 19/MHS01/217

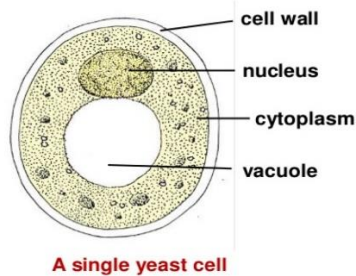
**COURSE:** BIO 102 ASSIGNMENT

**DEPARTMENT:** MEDICINE AND SURGERY

1. Importance of fungi to mankind
  - They serve as a source of food to man
  - They are used in food industries e.g. yeast
  - They help in the decay of organic matter
  - They cause spoilage of wood, food, clothes and paper.

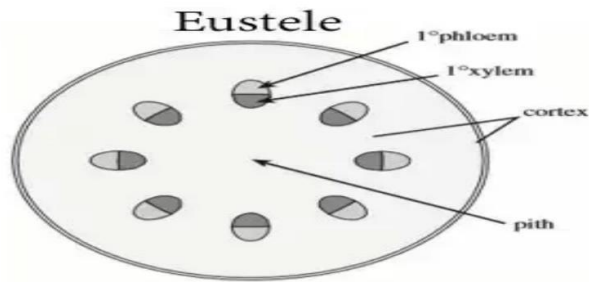
2. Illustrate the cell structure of a unicellular fungus with a well labeled diagram  
The cell structure of a unicellular fungus is very simple.

### Yeast is a unicellular fungus

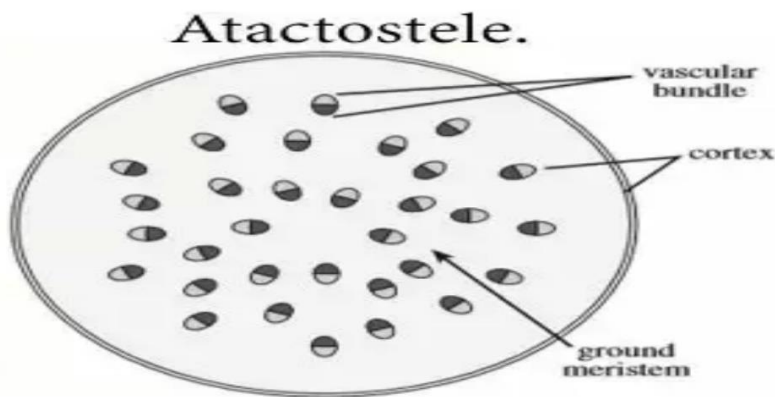


3. Outline the sexual reproduction in a typical form of filamentous fungi.  
This occurs when two mating types of hyphae grow in the same medium. The chemical interaction in the two mating types of hyphae causes growths perpendicular to the hyphae in opposite directions. These growths are delimited by a wall such that many nuclei are isolated in what is called a gametangium. The two gametangia fuse (plasmogamy) and a zygote is formed which may undergo prolonged dormancy or resting stage. The nuclei in the zygote fuse in twos and undergo meiosis independently. The zygote germinates under favorable conditions to produce a fruiting which at maturity liberates the haploid spores.

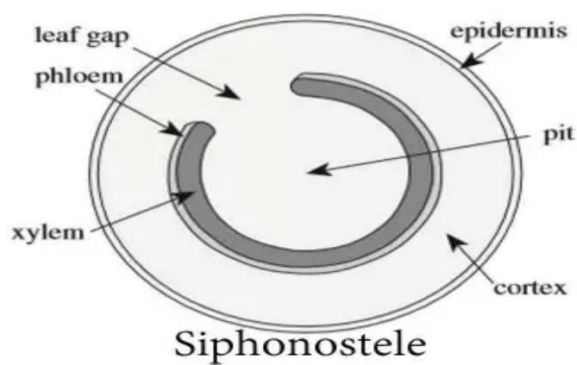
4. How do bryophytes adapt to their environment?
  - They have two body divisions:
    - i. The aerial portion: this part being exposed to the atmosphere has some modifications that prevent excessive loss of water through the body surface and,
    - ii. The subterranean portion: this possesses rhizoids which allow the bryophyte to absorb water and nutrients.
  - The surface of their body sometimes has cuticles which prevent loss of water.
5. Describe with illustrations the following terminologies: (a) eusteles (b) atactostele (c) siphonostele (d) dictyostele.
  - a. **Eusteles**: this is a type of stele which is found in herbaceous dicotyledonous plants in which the vascular bundles are discrete, concentric collateral bundles of xylem and phloem



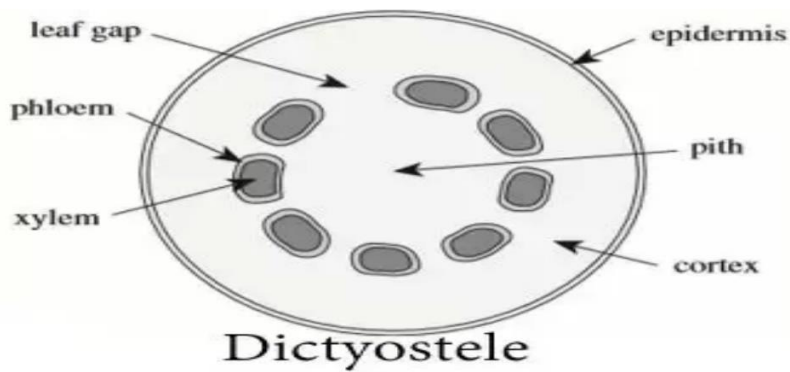
- b. **Atactostele**: this is found in grasses and many monocotyledonous plants and the vascular bundles are scattered.



- c. **Siphonostele**: this type of stele it is found in more advanced vascular systems e.g. stems of ferns and higher vascular plants and it is a cylinder enclosing a parenchymatous pith.



- d. **Dictyostele**: this is a type of siphonostele where the vascular supply to leaves is associated with leaf gaps and the conducting cylinder is a dissected one.



6. Illustrate the life cycle of a primitive vascular plant.  
 The life cycle of a primitive vascular plant is an alternation of generations, where the diploid sporophyte alternates with the haploid gametophyte phase. The diploid sporophyte is the dormant phase of the life cycle, while the gametophyte is an inconspicuous, but still independent organism.

