

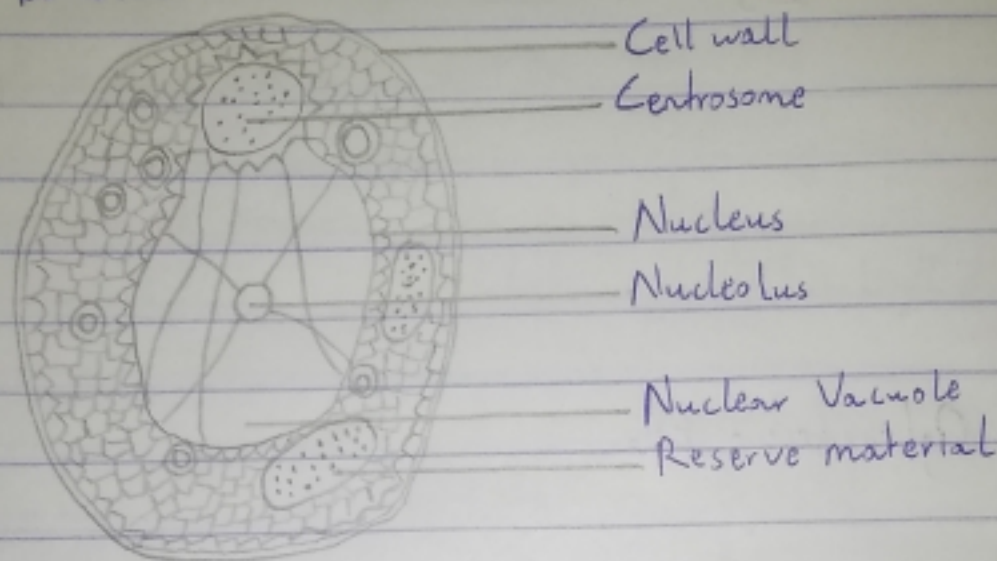
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19 / MHS01 / 24

BIO 102 ASSIGNMENT

- 1A - Fungi serves as a source of food e.g. Mushroom  
 B - They are a major source of Citric acid  
 C - They are used to produce antibiotics such as penicillin, which has saved countless lives  
 D - They can be genetically engineered to produce insulin and other human hormones  
 E - They are model research organisms.

### DIAGRAM OF A YEAST CELL



3 - In the life cycle of a sexually reproducing fungus, a haploid phase alternates with a diploid phase. In these fungi, Plasmogamy (fusion of the cellular contents of two hyphae but not of the two haploid nuclei) results in dikaryotic hyphae in which each cell contains two haploid nuclei, one from each parent.

- The diploid chromosomes are pulled apart into two daughter cells, each containing a single set of chromosomes (a haploid state).
- Plasmogamy: - The fusion of two protoplasts (the contents of two cells) brings together two compatible haploid nuclei.

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- Karyogamy results in the fusion of these haploid nuclei and the formation of a diploid nucleus.

- Countless  
hormones
- 4 A - They possess waxy cuticle which protect the plant tissue from drying out
  - B - Possession of gametangia also protect from drying out specifically for the plants gamete
  - C - Embryonic development that links them to the vascular land plants
  - D - Spores are dispersed by wind

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

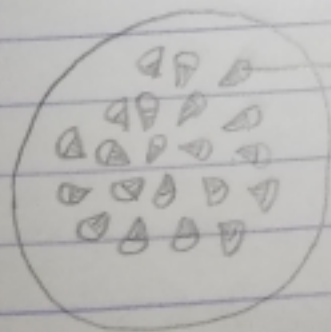


Xylem

Metaxylem

ase  
the cellular  
otic hyphae

B) Atactostele: - is a type of eustele, found in monocots, in which the vascular tissue in the stem exists as scattered bundles.

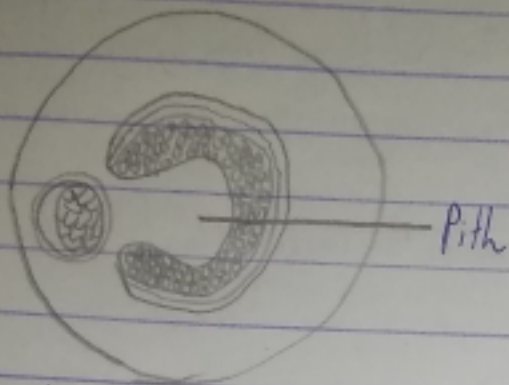


Phloem

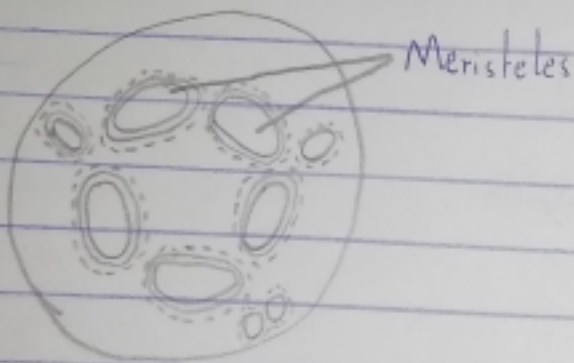
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s together

C) Siphonostele - A stele in which the vascular tissue is in form of a cylinder surrounding the pith, as in the stems of most ferns and other seedless vascular plants



D) Diactyostele - A stele in which the vascular cylinder is broken up into a longitudinal series or network of vascular strands around a central pith



### Life cycle of a Fern

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