NAME: KANEE TINA ZORBARI 10/05/2020
MATRIC NUMBER: 19/MHS01/226
COLLEGE: MEDICINE AND HEALTH SCIENCES
DEPARTMENT: MEDICINE AND SURGERY

BIO 102 ASSIGNMENT

1. How Are Fungi Important to Mankind?

Answer:

a. Fungi like yeasts have been used for thousands of years in the production of beer, wine and bread
b. Fungi not only directly produce substances that humans need as medicine, but they are also versatile tools in the vast field of medical research.
c. Some fungi attack insects, and therefore, can be used as natural pesticides.
d. Fungi such as mushrooms are used as food for humans.
e. Majority of grasses and trees require a mycorrhizal relationship with fungi to survive.

2. Illustrate the cell structure of a unicellular fungus with a well labeled diagram.

Answer:

DIAGRAM OF A UNICELLULAR FUNGUS (YEAST CELL)

3. Outline the Sexual reproduction in a typical filamentous form of fungi.

Answer:

Sexual reproduction in fungi consists of three sequential stages.

a) Plasmogamy (b) Karyogamy (c) Meiosis

* In plasmogamy the fusion of two protoplasts (the contents of two cells) brings together two compatible haploid nuclei. At this point, two nuclear types are present in the same cell, but the nuclei have not yet fused
* Karyogamy results in the fusion of these haploid nuclei and forms a diploid nucleus (which is a nucleus containing two sets of chromosomes, one from each parent). The cell formed by karyogamy is called zygote
* Meiosis generally follows and restores the haploid phase. The haploid nuclei that result from meiosis are generally incorporated in spores called meiospores.

4. How do Bryophytes Adapt to Their Environment?

Answer:

a. They have a waxy cuticle that prevents the body, the zygote and the embryo from drying out
b. Their spores are light and can be dispersed by the wind
c. They have gametangia which help to prevent their gametes from drying out

Question 5: Describe with illustration the following terminologies:

a) eustales b) atactostele c) siphonostele d) dictyostele

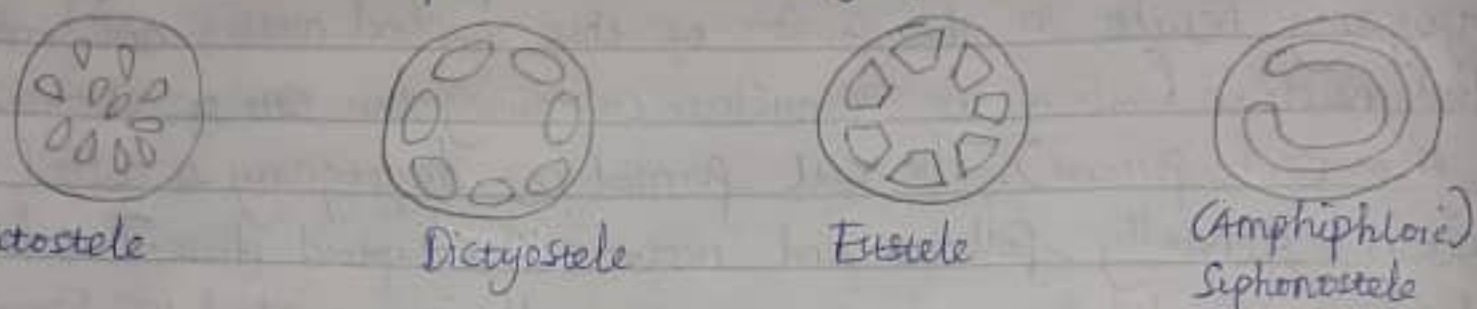
Answer:

a) Eustele: Eustele is a stele typical of dicotyledonous plants that consists of vascular bundles of xylem and phloem strands (with parenchymal cells between the bundles.
b. Atactostele: Atactostele is a type of eustele found in monocots, in which

the vascular tissue in the stem exists as scattered bundles.

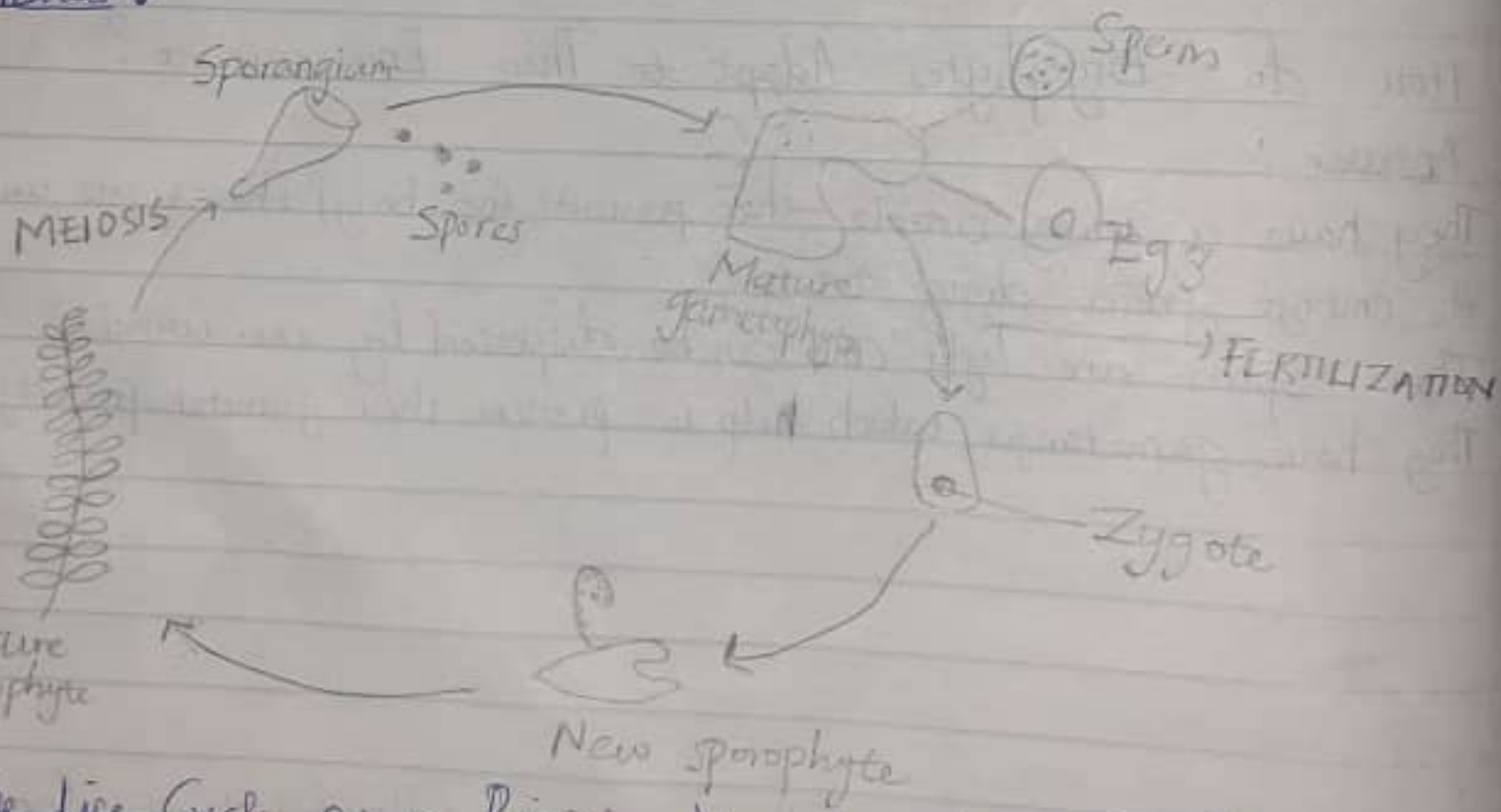
c. Siphonostele: This is a stele in which the vascular tissue is in the form of a cylinder surrounding the pith, as in the stems of most ferns and other seedless vascular plants.

d. Dictyostele: This is a stele in which the vascular cylinder is broken up into a longitudinal series or network of vascular strands around a central path (as in many ferns).



Question 6: Illustrate the life cycle of a primitive vascular plant.

Answer:



The Life Cycle of a Primitive Vascular plant (Fern)