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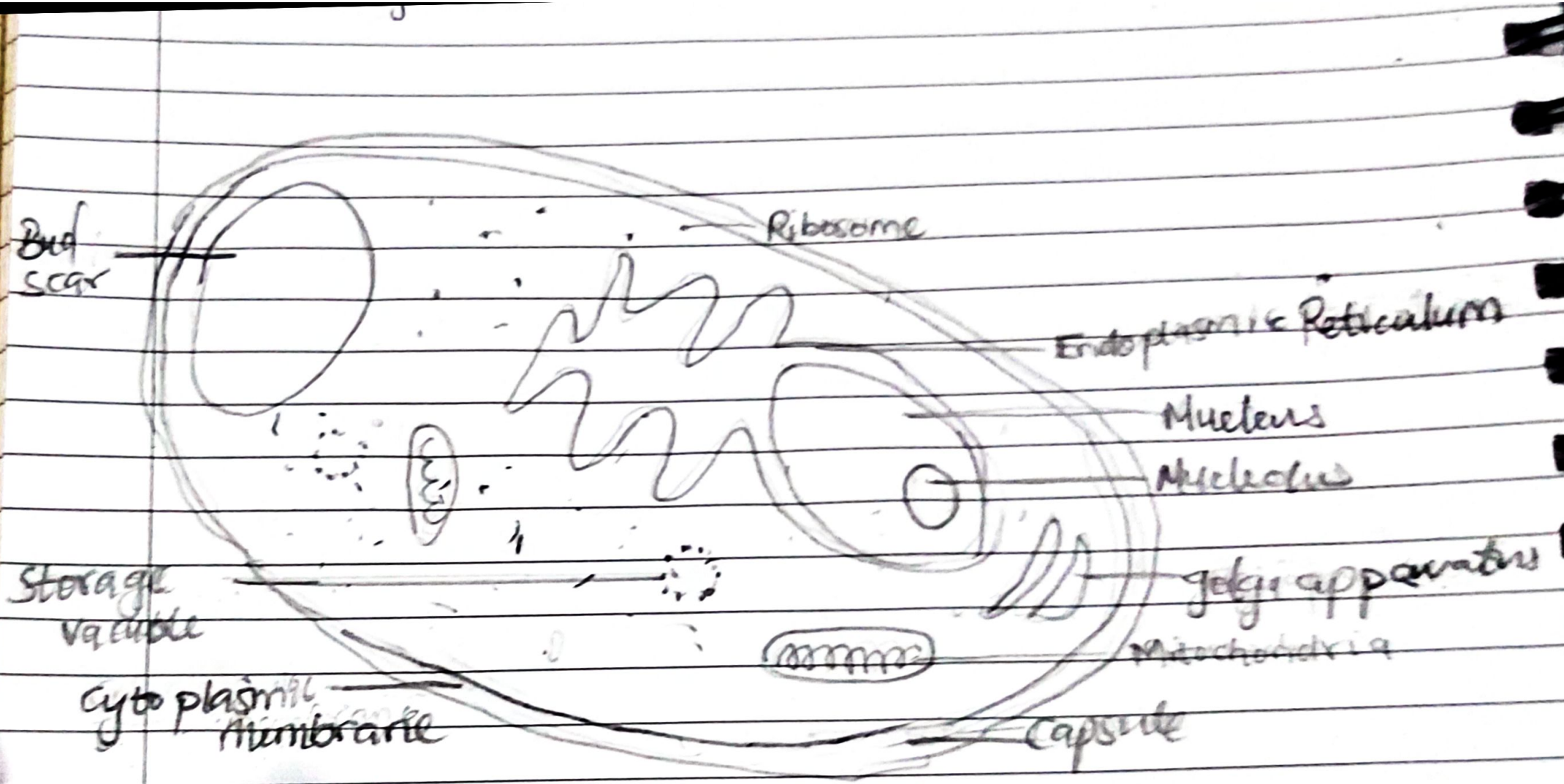
19/MHS01/311
Bio 102

1 How are fungi important to mankind?

Fungi is ~~used~~ important in the food industry. They (mushrooms) are eaten by many human society.
Also, Penicillium notatum is used to produce important antibiotics.

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



LABELLED DIAGRM OF A UNICELLULAR FUNGUS

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

- It occurs when two mating types of hyphae grow in the same medium
- There is a growth perpendicular to the hyphae in opposite directions due to a chemical reaction
- The growth is then limited by a wall in such a way that many nuclei are isolated in the "Gametangium
- Plasmogamy (fusing of two gametangi) take place and a zygote is formed.
- The zygot may undergo prolonged dormancy / resting stage
- The nuclei in the zygote fuse in pairs and undergo meosis independently.
- The zygote germinates under favourable conditions to produce a fruiting which @ maturity liberates the haploid spores.

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4 How do Bryophytes adapt to their environment

- Their body is divided into two (aerial portion & subterranean) and they have specific structures for water & nutrient absorption from the soil
- The aerial portion which is exposed to the atmosphere demands modifications which prevents access loss of water.
- Some the modification that permit exchange of gases between the internal parts of the plants and the atmosphere.
- Therefore spores are available on the aerial parts.

5 Describe with illustrations the following terminologies:

a eusteles

b atactostele

c siphonostele

d ~~dictyostele~~ dictostele

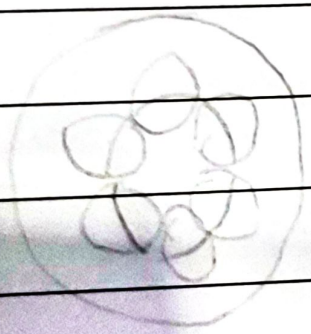
a Eusteles

Their vascular bundles are discrete, concentric collateral bundles of xylem and phloem.

d ~~tetrastele~~ dictostele

a Eustelics

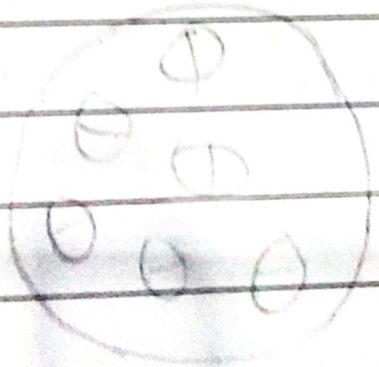
Their vascular bundles are discrete, concentric collateral bundles of xylem and phloem.



b Atactostele

b Atactostele

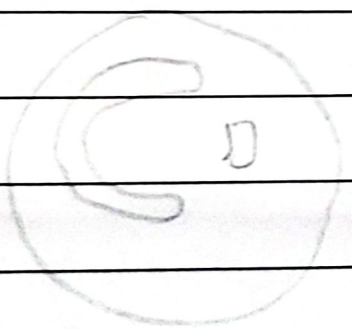
There are in grasses and many monocotyledones. They have scattered vascular bundles

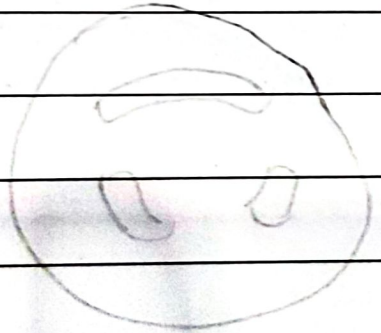


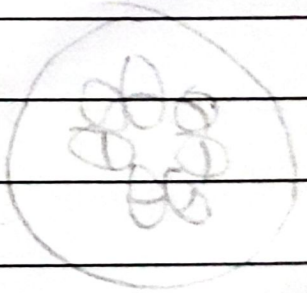
Siphonstele

c Siphonstele

Tee stele is a cylinder ~~enclo~~ enclosing a parenchymato path. They are of 3 three types; Solenostele, dictyostele, Eustele



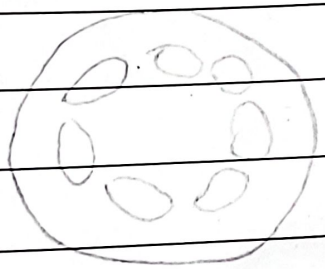




Solenostele dictyostele Eustele

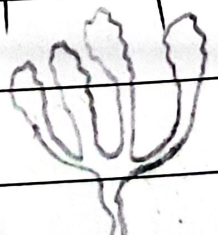
d. Dictostele

Their conducting cylinder is a dissected one

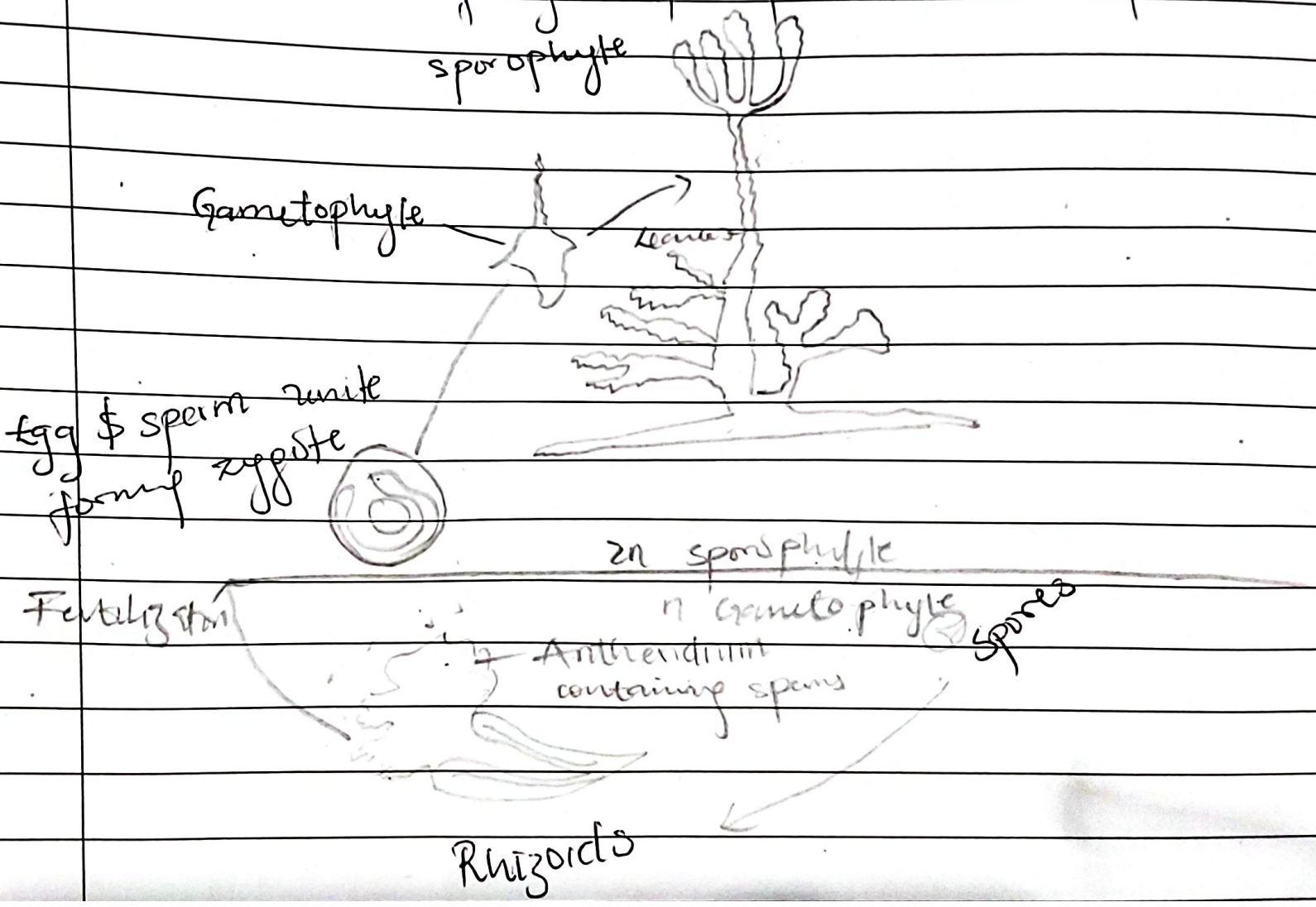


6. Illustrate the life cycle of a primitive vascular plant

sporophyte



6. Illustrate the life cycle of a primitive vascular plant



Rhizoids

~~by~~ Lifecycle of a primitive vascular plant