

Puspa Shrestha

Best Quality Resource Site for Class 11 And 12 Students
(Based on Updated Curriculum 2077)

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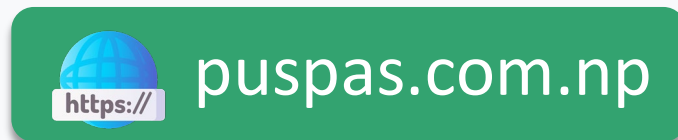


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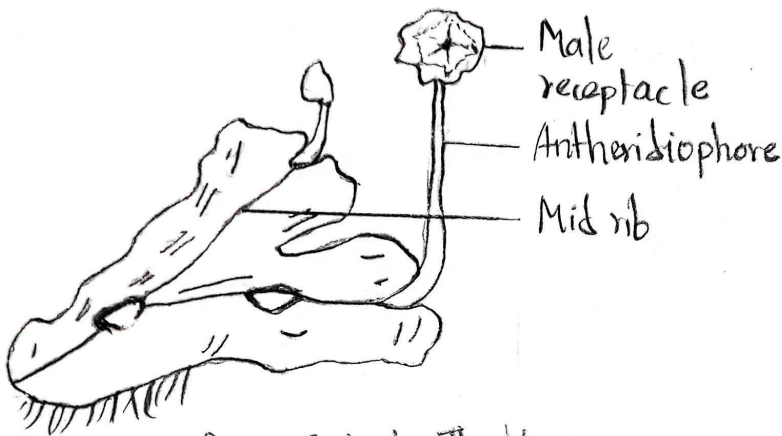
AIM: TO STUDY THE MUSEUM SPECIMENCOMMENTS ON MARCHANTIA

1. Marchantia is a common liverwort that mostly grows in moist and shady places, near the bank of streams and rivers, moist walls, logs of wood, tree trunks, rocks and crevices.
2. The plant body is gametophytic thallus.
3. The thallus is dark green, dorsoventrally flattened and dichotomously branched with an apical notch at the tip.
4. The dorsal surface of thallus contains distinct mid rib, conspicuous air chambers and small cup like structures called Gemma cups along the mid rib.
5. The ventral surface of thallus bears rhizoids and scales on either sides of thallus the mid rib.
6. The rhizoids are unicellular hair like structures that function as roots. They are of two types: smooth walled and tuberculated rhizoids.
7. The smooth walled rhizoids are larger in diameter with smooth walls while tuberculated rhizoids are smaller in diameter with peg like projections in their inner walls.
8. The scales are violet-colored multicellular and one cell in thickness which protect the growing plant. They are two types: ligulate (small and without appendage) and appendiculate (larger with an appendage) scales.

TO STUDY THE MUSEUM SPECIMEN

Roll No.: 11

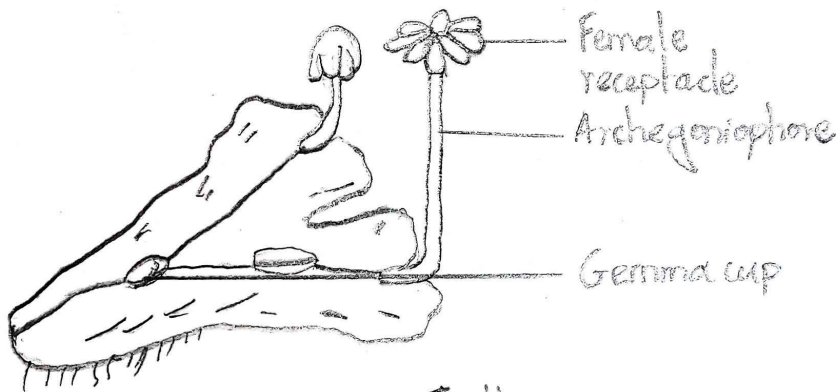
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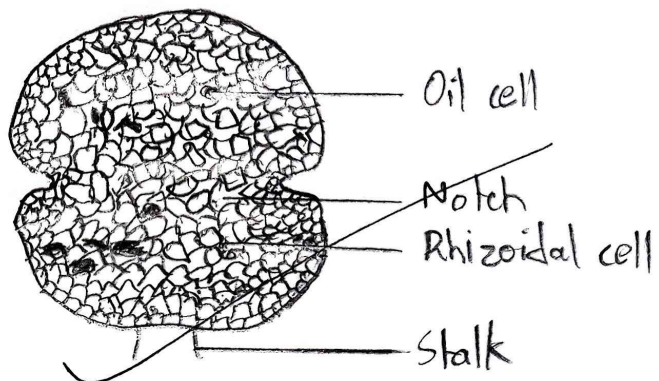
Dorsal Surface of Male Thallus

Systematic Position

Division	- Bryophyta
Class	- Hepaticopsida
Order	- Marchantiales
Family	- Marchantiaceae
Genus	- <u>Marchantia</u>



Dorsal Surface of Female Thallus



Single Gemma

Fig. Marchantia

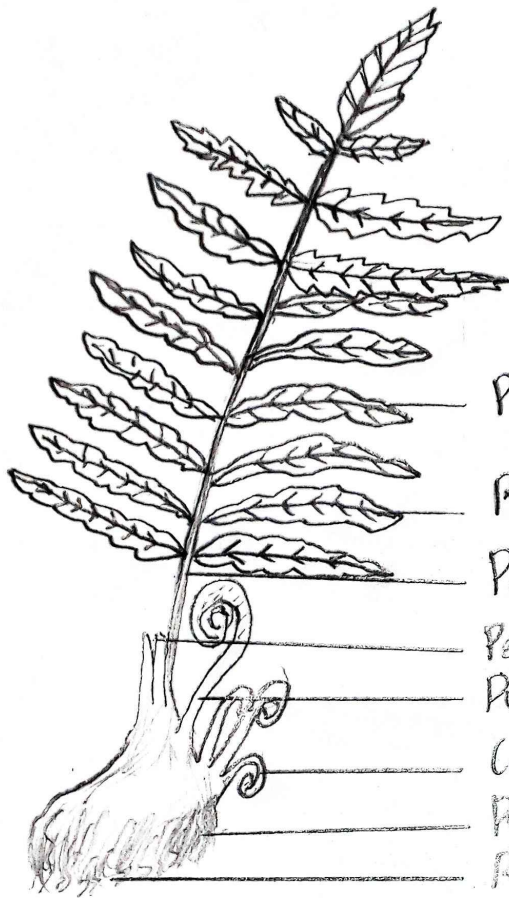
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COMMENTS ON FERN PLANT

1. Fern mostly grows in moist, cool and shady places.
2. The plant body is sporophytic and differentiated into root, stem and leaf.
3. The roots are adventitious and arise from the underside of rhizome.
4. The stem is underground, horizontal rhizome.
5. The leaf is the only aerial part of plant, which is megaphyll type.
6. The leaf is usually called frond, which is pinnately compound.
7. The rachis gives out lateral leaflets or pinnae. Each pinna again gives divides into smaller circinate.
8. The young leaves are circinate.
9. The young leaves and rhizome are covered with brownish hairs calledramenta.
10. Fern reproduces asexually and sexually.
11. Fern reproduces asexually by means of spores.
12. The spores are borne in sporangia which are grouped in sori.
13. The sori are developed on the lower surface of pinnules. They are enclosed with a membrane called indusium.
14. At the maturity of spores, the capsule wall bursts at the stomium and release spores.

TO STUDY THE MUSEUM SPECIMEN

Rolle No.: 10
Date: 27/11/25



Pinna

Rachis

Petiole

Persistent leaf base

Pinnule

Cirinate leaf

Rhizome

Root

Systematic position

Division - Pteridophyta
Class - Pteridopsida
Order - Filicales
Family - Polypodiaceae
Genus - Dryopteris

A sporophyte of Dryopteris

Sobha

077/12/03