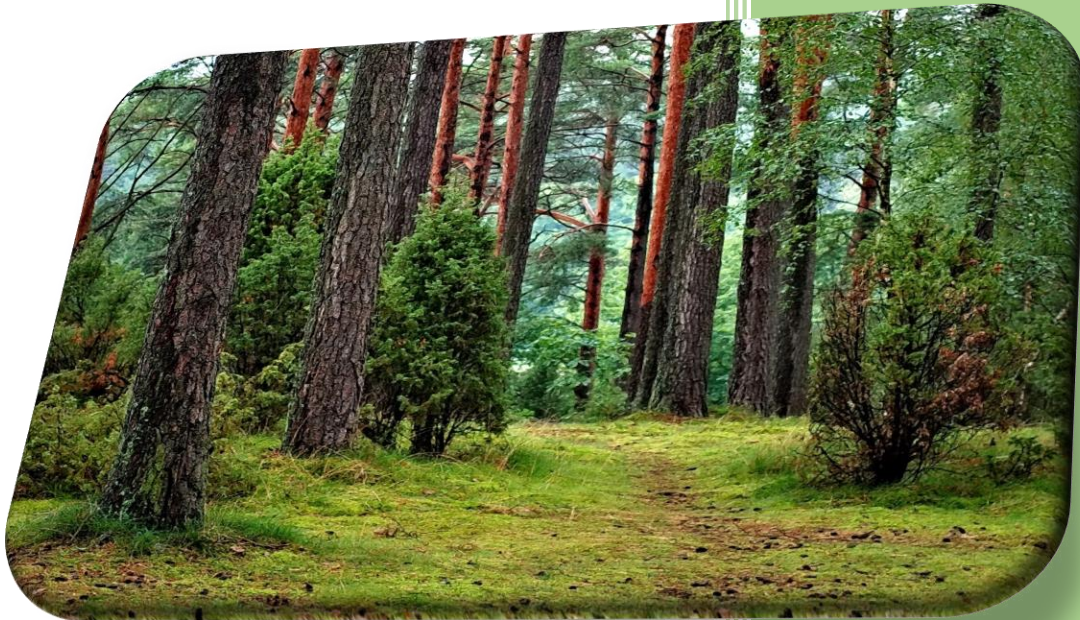


**ATOMIC ENERGY CENTRAL SCHOOL,  
INDORE**

**BIOLOGY- STANDARD XI**

# MODULE 3.2



**UNIT 1 :**  
**DIVERSITY IN THE LIVING WORLD**  
**CHAPTER 3 :**  
**PLANT KINGDOM**

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## BRYOPHYTA

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( *Amphibians of plant Kingdom*) –

Group of autotrophic plants with thallus having true roots, stem and leaves with multi cellular sex organs.

Occurs on damp, humid and shaded soil.

Root like rhizoids present.

-Main plant body gametophyte bears Antheridia and Archegonia. Biflagellate antherozoids produced from Antheridium and reach through water to egg in Archegonium.

-Zygote forms sporophyte which produces haploid spores to give rise to new plants.

### Types of Bryophytes

<b>Liverworts</b>	<b>Mosses</b>
<p>1. <b>Thallus</b> dorsiventrally flattened (Liver shaped), leafy members with leaf like appendages.</p> <p>2. Asexual reproduction by fragmentation , gemmae formation.</p> <p>3. Sexual reproduction - antheridia and archegonia produced.</p> <p>4. Antherozoids fuse with egg to form zygote which give rise to Sporophyte.</p> <p>5. Sporophyte - with foot, seta &amp; capsule.</p> <p>6. Spores give rise to new plant (gametophyte). eg. <i>Riccia, Marchantia</i> etc.</p> <p style="text-align: center;"><i>Marchantia</i></p>	<p>1. <b>Thallus</b> : Two stages (gametophyte) – (a) Thread like Protonema (b) erect Leafy stage.</p> <p>2. <b>Reproduction</b> : Vegetative by Fragmentation of protonema &amp; Sexual by antherozoids &amp; egg.</p> <p>3. Zygote forms Sporophyte with foot, seta &amp; capsule.</p> <p>4. Sporophyte forms spores which germinate to form protonema. eg. <i>Funaria, Polytrichum</i> etc.</p> <p style="text-align: center;"><i>Funaria</i></p>

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# PTERIDOPHYTA

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Group of first terrestrial plants having vascular tissue viz. Xylem & Phloem.

True stem, root & leaf.

Found on damp, shady places. Sporophyte makes main plant body.

Sporophylls of Sporophyte bear sporangia (sori) on ventral side producing haploid spores.

spores give rise to Prothallus which is leafy & autotrophic.

Prothallus bears sex organs – male – Antheridium and female- Archegonium.

Fertilisation leads into zygote formation which produces diploid Sporophyte.

## **Heterospory and Seed habit:**

Two types of spores Microspore and Megaspore are produced in some members viz. *Selaginella*, *Salvinia*.

called Heterospory.

Heterospory is considered as beginning of seed habit in terrestrial plants.

eg. *Pteris*, *Dryopteris* etc.

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## **References**

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1. NCERT. BIOLOGY TEXTBOOK FOR CLASS XI
2. CONCEPTS OF BIOLOGY (R.L. KOTPAL / BENDRE/TYAGI)

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