

UNIT I: DIVERSITY IN THE LIVING WORLD

4. PLANT KINGDOM

1 SAQ [4M]

ROOT POINTS

1. **Plant kingdom** consists of all eukaryotic, multicellular chlorophyll plants.
2. Plant kingdom includes **Algae, Bryophytes, Pteridophytes, Gymnosperms, Angiosperms.**
3. It is divided into (i) **Cryptogams** (non-flowering plants) (ii) **Phanerogams** (flowering plants).
4. **Cryptogams (non-flowering plants):** Algae, Bryophytes, Pteridophytes
5. **Phanerogams (flowering plants):** Gymnosperms, Angiosperms
6. **Algae** are **chlorophyll** bearing, **thalloid**, autotrophic, **aquatic** organisms.
7. Depending on the types of pigments and stored food, algae are classified into
(i) chlorophyceae, (ii) Rhodophyceae (Red algae) (iii) Phaeophyceae (Brown algae). **[IPE]**
8. **Fixation of carbondioxide** on Earth is mainly carried out by **algae**. **[IPE]**
9. **Bryophytes** are the **amphibious** of plant kingdom. They live on moist soil but require water for sexual reproduction.
10. **Bryophytes are divided into three Classes:**
(i) Hepaticopsida (Liverworts), (ii) Anthocerotopsida (Hornworts) (iii) Bryopsida (Mosses)
11. **Mosses** provide **food for herbivorous** mammals and birds. **[IPE]**
12. The plant body of **liverworts** and hornworts is **Thallus** whereas **mosses** have up right **Slender axes** bearing spirally arranged leaves. **[IPE]**
13. **Homosporous pteridophytes:** The plants which produce only **one kind of spores** are called **homosporous** pteridophytes. **Ex:** Psilotum, Lycopodium **[IPE]**
14. **Heterosporous pteridophytes:** The plants which produce **two kinds of spores** on the same plant are called **heterosporous** pteridophytes. **Ex:** Selaginella, Salvinia. **[IPE]**
15. Zygote meiosis is characteristic of **Chlamydomonas**. **[NEET-2017]**
16. An example of colonial alga is **Volvox**. **[NEET-2017]**
17. Conifers are adapted to tolerate extreme environmental conditions because of **thick cuticle** **[NEET-2016]**

18. In bryophytes and pteridophytes, transport of male gametes requires **water**. [NEET-2016]
19. Male gametes are flagellated in **Ectocarpus**. [NEET-2015]
20. **Sphagnum** is responsible for peat formation. [NEET-2014]
21. A prokaryotic autotrophic nitrogen fixing symbiont is found in **Cycas**. [2011 PMT]
22. Algae have cells made up of **cellulose, galactans and mannans**. [2010 PMT]
23. Floridian starch has structure similar to amylopectin and glycogen. [NEET-2020]
24. Ectocarpus contains mannitol as reserve food material. [NEET-2021]
25. Gemmae are present in some liverworts. [NEET-2021]
26. In **bryophytes**, the **gemmae** help in asexual reproduction. [NEET-2025]