

CBSE TEST PAPER-02
CLASS - XI BIOLOGY (Plant Kingdom)

General Instruction:

- All questions are compulsory.
 - Question No. 1 to 3 carry one marks each. Question No. 4 to 6 carry two marks each. Question No. 7 and 8 carry three marks each. Question No. 9 carry five marks.
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1. Give an example for a unicellular algae.
2. Why are some bryophytes called liverworts?.
3. Define rhizoids?
4. List the four different classes of plants belonging to fern group.
5. How will you differentiate red algae from green algae?.
6. Write any two important characteristic features of gymnosperms?
7. Comment on the main distinguishing features of pteridophytes?
8. “Algae & Bryophytes are different from each other.” Substantiate your answer by Pointing out the main differences between them?
9. Explain briefly the phenomenon of alternation of generation in bryophytes?

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[ANSWERS]

1. *Chlamydomonas*

2. Some bryophytes are called liverworts as their plant body or the thalli are flattened and liver shaped eg. *Marchantia*.

3. Rhizoids are slender, unicellular or multicellular hair like structure, which penetrate in the moist soil & absorb the water for plants. They are also the organs of anchorage.

4. Pteridophytes or fern group are divided into four classes:-

i) Class 1: psilopsida eg. *Psilotum nudum*.

ii) Class 2: Lycopsidea eg. *Lycopodium phlegmaria*.

iii) Class 3: Sphenopsida eg. *Equisetum pennisetum*

iv) Class 4: Pteropsida eg. *Adiantum* & *Pteridium*

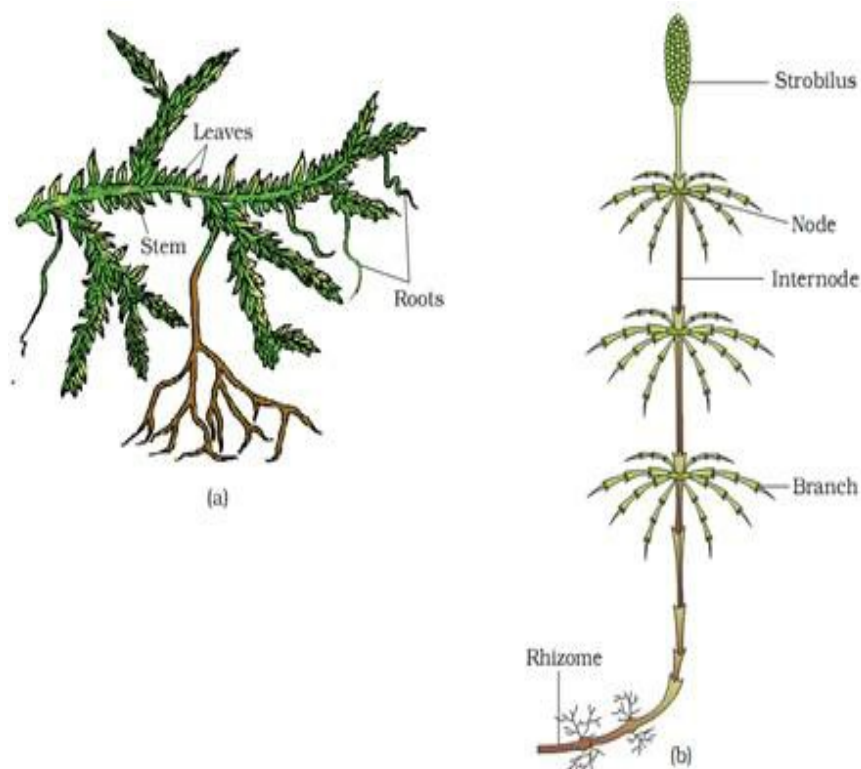
5.

RED ALGAE	GREEN ALGAE
i) It belongs to Rhodophyta	i) It belongs to Chlorophyta
ii) Possess Phycoerythrin, phycocyanin, phycobilin & chlorophyll 'a'	ii) Possess Chlorophyll 'a' & 'b' with β -carotene & carotenoids.
iii) Reserve food material is Floridian starch	iii) Reserve food material is starch.
iv) Wide range of thallus organisation from Unicellular & microscopic to filamentous & heterotrichous and Macroscopic	iv) Unicellular or multicellular may be motile & flagellated
v) eg. <i>Gelidium</i> , <i>Porphyra</i> .	v) eg. <i>Spirogyra</i> , <i>Volvox</i>

6. i) It is a group of vascular plant which possess naked seeds attached to surface of megasporophyll

ii) Megasporophyll is not folded to form an ovary so there is no fruit formation

7. i) They are small sized & occur in humid & tropic climate mostly growing as epiphytes.



ii) The major plant body is sporophyte and is divided into root, stem & leaves.

iii) Some ferns appear like small trees.

iv) *Lycopodium*, *Selaginella* & *Equisetum* are some members of pteridophytes.

v) The leaves are of two types compound leaves & sporophylls.

vi) Plant body is sporophytic and upon maturity produce sporangia as *Psilotum* or strobili as in *Equisetum*

vii) They are vascular cryptogams as they have stele

viii) heteromorphic Alternation of generation is present.

ix) Prothallus represents the gametophytic phase.

x) Pteridophyta is divided into 4- classes :- psilopsida, lycopsida, sphenopsida & pteropsida

8.

ALGAE	BRYOPHYTES
i) Mostly aquatic	i) mostly terrestrial, found in damp, shady places.

ii) Thallus single celled to branched filaments	ii) Thallus is leaf like flattened and made of parenchymatous cells.
iii) No tissue differentiation	iii) Tissue differentiation is well marked
iv) Stomata absent	iv) Stomata present
v) Rhizoids absent	v) Rhizoids present
vi) Asexual reproduction by aplanospores or zoospores.	vi) Asexual reproduction absent
vii) Sexual reproduction takes place through isogamous anisogametes or oogamous modes	vii) Sexual reproduction is of oogamous type
viii) No embryo formed after fertilisation	viii) Embryo formed after fertilization
ix) Eg. <i>Ulothrix</i> , <i>Volvox</i> , <i>Ulva</i> , <i>Chladophora</i>	ix) Eg. <i>Riccia</i> , <i>Marchantia</i> , <i>Funaria</i> ,

9. The life cycle of moss represents two distinct generations GAMETOPHYTIC & SPOROPHYTIC. The Primary Moss plant is an independent autotrophic gametophyte. Spore is the beginning of gametophytic generation. It develops into protonema which give rise to male & female gametophytes. Gametophyte consists of green thallus and upon maturity it develops archegoniophores & antheridiophores which bear sex organs. The gametophyte may be monoecious or dioecious. The male sex organ, club shaped antheridium bears biflagellate sperms or antherozoids while the female sex organ which is flask shaped called archegonium encloses the female egg. Zygote is formed after the fertilization of male & female gametes with the help of water. Repeated divisions of the zygote give rise to the embryo (2N) which soon develops into sporophyte. The sporophyte of moss gets differentiated into three parts foot seta & capsule. Inside the capsule single celled spores are produced after meiosis. After the dehiscence, they begin to germinate & give rise to protonema to start the cycle again. Gametophytic Generation alternates the sporophytic generation.

