

Each question from 1 to 7 carries 1 score.

- 1) What are kelps?
- 2) In which class of algae flagella are absent?
- 3) Asexual motile spores of algae are called as _____.
- 4) Point out a notable importance of the unicellular algae Chlorella.
- 5) Name any two filamentous algae.
- 6) Bryophytes are called amphibians of the plant kingdom. Why?
- 7) Laminarin and Mannitol are the stored food found in an algal class known as _____.

Each question from 8 to 19 carries 2 scores.

- 8) Comment on the nature of flagella in chlorophyceae.
- 9) Comment on the vegetative reproduction in Algae.
- 10) What are rhizoids?
- 11) Name two algae from which Agar is commercially produced.
- 12) The plant body of bryophyte is a gametophyte. What does the term “gametophyte” means?
- 13) What is the role of algae in an aquatic environment?
- 14) Point out two economic importance of Mosses.
- 15) Which are the two divisions of Bryophytes.
- 16) Name the two algae which reproduce by oogamous type of sexual reproduction.
- 17) Comment on the nature of flagella in Phaeophyceae.
- 18) Name a unicellular and a colonial form of algae.
- 19) Name two hydrocolloids (water holding substances) produced commercially from algae.

Each question from 20 to 25 carries 3 scores.

- 20) Mention the three types of sexual reproduction seen in algae.
- 21) Name the three main classes of Algae based on the pigments present on it.
- 22) Fill in the blanks in the table with the correct options given below.

(Starch, Rhodophyceae, Phaeophyceae, Green algae, Floridean starch, Mannitol)

Classes	Common name	Stored Food
Chlorophyceae	<u>A</u>	<u>B</u>
<u>C</u>	Brown algae	<u>D</u>
<u>E</u>	Red algae	<u>F</u>

- 23) Bryophytes are of great ecological importance. Give reasons.
- 24) Nature of cell wall of three algal classes are given below. Assign them to their respective classes.
 a) Cellulose, pectin and poly sulphate esters, b) Cellulose, c) Cellulose and algin,

Class	Composition of cell wall
Chlorophyceae	
Pheophyceae	
Rhodophyceae	

- 25) Fill in the blanks with the correct options given below.
 (Gametophyte, Archegonium, Sporophyte, Antherozoids, Antheridium, Egg)

In Bryophytes, the male sex organ is called A. They produce biflagellate B.
 The female sex organ is called C it is flask-shaped and produces a single D.
 An antherozoid fuses with the egg to produce the zygote. It develops into a E which undergo reduction division (meiosis) to produce haploid spores. These spores germinate to produce F.

ANSWERS

Each question from 1 to 7 carries 1 score.

- 1) Kelps are massive marine algal plant bodies.
- 2) Rhodophyceae.
- 3) Zoospores.
- 4) Chlorella is a unicellular alga rich in proteins is used as food supplement even by space travellers.
- 5) Ulothrix , Spirogyra.
- 6) Because Bryophytes can live in soil but are dependent on water for sexual reproduction.
- 7) Phaeophyceae.

Each question from 8 to 19 carries 2 scores.

- 8) Flagella are 2-8, equal and apical.
- 9) Vegetative reproduction is by fragmentation. Each fragment develops into a thallus.
- 10) The plant body of bryophytes is attached to the substratum by unicellular or multicellular root like structures called rhizoids.
- 11) Gelidium and Gracilaria
- 12) The main plant body of bryophyte is haploid and it produces gametes, hence is called as a gametophyte.
- 13) -A half of the total carbon dioxide fixation on earth is carried out by algae through photosynthesis.
-They Increase the level of dissolved oxygen in their immediate environment.
-They are primary producers of aquatic animals.
- 14) -Mosses provide food for herbaceous mammals, birds and other animals.
-*Sphagnum* provide peat which is used as fuel, and also as packing material.
- 15) The bryophytes are divided into two - Liverworts and Mosses.
- 16) Volvox, Fucus.
- 17) Flagella are two, unequal and lateral.
- 18) Unicellular algae - Chlamydomonas, Colonial algae - Volvox
- 19) Algin (from brown algae) , Carrageen (from red algae) ,Agar

Each question from 20 to 25 carries 3 scores

- 20) 1) Isogamous - Fusion of two gametes similar in size.
E.g. These gametes can be flagellated (as in Ulothrix) or non-flagellated (as in Spirogyra).
- 2) Anisogamous - Fusion of two gametes dissimilar in size. E.g. Eudorina.
- 3) Oogamous - Fusion between one large, non-motile female gamete and a smaller, motile male gamete. e.g., Volvox, Fucus.
- 21) Chlorophyceae – Chlorophyll a,b
Phaeophyceae - Chlorophyll a,c , Fucoxanthin
Rhodophyceae - Chlorophyll a,d , Phycoerythrin
- 22) A- Green algae, B- Starch, C-Pheophyceae , D-Mannitol, E-Rhodophyceae, F-Floridean starch
- 23) Bryophytes play an important role in plant succession on bare rocks or soil.
-Mosses along with lichens are the first organisms to colonise rocks and they decompose rocks making the substrate suitable for the growth of higher plants.
-Mosses form dense mats on the soil, they reduce the impact of falling rain and prevent soil erosion.
- 24)

Class	Composition of cell wall
Chlorophyceae	Cellulose
Pheophyceae	Cellulose and Algin
Rhodophyceae	Cellulose, Pectin and Polysulphate esters

- 25) A-Antheridium, B-Antherozoids, C-Archegonium, D-Egg, E-Sporophyte, F-Gametophyte