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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2024 ONLY)

24PBY101

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI
END-OF-SEMESTER EXAMINATIONS : NOVEMBER-2024
COURSE NAME: M.Sc.- BOTANY **MAXIMUM MARKS: 75**
SEMESTER: I **TIME : 3 HOURS**

PLANT DIVERSITY- I
(PHYCOLOGY, MYCOLOGY,LICHENOLOGY AND BRYOLOGY)

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.
MULTIPLE CHOICE QUESTIONS. **K1**

1. What is the role of pyrenoids in algae?
   a) Photosynthesis b) Storage of starch c) Reproduction d) Movement
2. What type of life cycle is typically found in the genus *Caulerpa*?
   a) Diplontic b) Haplodiplontic c) Haploid d) Sporophyte only
3. Which structure is commonly associated with the reproduction of Zygomycetes?
   a) Ascospores b) Basidiospores c) Zygospores d) Conidia
4. In lichens, what role does the mycobiont play?
   a) Photosynthesis b) Nutrient absorption c) Protection and structure d) Water storage
5. The earliest known fossil Bryophytes are from which geological period?
   a) Cambrian b) Ordovician c) Silurian d) Devonian

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES. **K2**

6. Define the term "algal bloom".
7. What are the key features used to identify fossil algae?
8. Name one key difference between ectomycorrhizae and endomycorrhizae.
9. List the two types of reproductive structures found in lichens.
10. Give one distinguishing feature of Hepaticopsida.

SECTION – B (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. K3

11. a) Discuss the significance of Fritsch's classification of algae.

(OR)

b) Explain the range of thallus organization in algae

12.a) How do the structural features of *Caulerpa* differ from those of *Vaucheria*?

(OR)

b) Explain the ecological and economic importance of cultivating marine algae and provide examples of their applications.

(CONTD…….2)

13.a) Explain the role of VAM (Vesicular-Arbuscular Mycorrhizae) in plant nutrition.

(OR)

b) Compare and contrast the cell wall composition and nutritional modes of fungi and algae

14.a) Outline the classification of lichens as described by Miller (1984).

(OR)

b) Examine the interrelationship between phycobionts and mycobionts in lichens and their significance for the lichen's survival.

15.a) Explain the economic importance of Bryophytes.

(OR)

b) Analyze the gametophyte and sporophyte stages in Anthocerotopsida.

SECTION – C (5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

16. a) Evaluate the economic importance of algae in the context of food - bio-fuels .

(OR)

b) Describe the different modes of reproduction in Algae.

17.a) Explain the reproductive methods of Bacillariophyceae (diatoms) and Rhodophyceae (red algae)

(OR)

b) Outline the life cycle variations and reproductive methods of Nostoc, and Padina.

18. a) What are the key differences in the characteristics, reproduction, and ecological roles of Myxomycetes, Oomycetes, and Basidiomycetes?

(OR)

b) Discuss the economic importance of fungi.

19.a) Compare and contrast the different thallus types in lichens and their ecological significance.

(OR)

b) How do the structure and reproduction of Ascolichens differ from those of Basidiolichens?

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20.a) Describe the life cycle of Bryophytes

(OR)

b) Give an outline of the classification of Bryophytes by Proskauer

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