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**63(FY)SEM-1/MAJ/BOTMAJ1014**

**2025**

**BOTANY**

(Major)

Paper : BOTMAJ1014

**(Phycology, Mycology  
and Lichenology)**

Full Marks : 50

Pass Marks : 20

Time : Two hours

***The figures in the margin indicate  
full marks for the questions.***

1. Choose the correct answer : 1×5=5
- (i) Floridean starch has in structure similar to
- (a) Amylopectin and glycogen
  - (b) Laminarin and cellulose
  - (c) Starch and cellulose
  - (d) None of the above

(ii) Globule and nucule as male and female sex organs crosspenetrating are found in

(a) *Nostoc*

(b) *Spirogyra*

(c) *Chara*

(d) *Ectocarpus*

(iii) Which of these are in Kingdom fungi?

(a) Mold, algae, yeast

(b) Mushroom, mold, yeast

(c) Mold, mushroom, lichen

(d) Mold, yeast, bacteria

(iv) Which of the following is the etiologic agent of white grain eumycetoma?

(a) *Curvularia lunata*

(b) *Madurella grisea*

(c) *Aspergillus nidulans*

(d) *Actinomyces madurae*

(v) The relationship between algae and fungus in lichen is—

(a) parasitic

(b) commensal

(c) symbiotic

(d) saprophytic

2. Answer the following questions : (**any five**)  
2×5=10

(a) Name the two types of 'Diatoms'.

(b) Why are lichen called "good pollution Indicators"?

(c) How do fungi act as decomposers in ecosystems?

(d) Write *two* harmful effects of algae.

(e) Explain the term heterothallism with an example.

(f) What is the relationship between alga and fungus in a lichen?

(g) What is VAM?

3. Answer the following questions : (**any five**)  
5×5=25

(a) Describe the role of algae in the environment, agriculture and biotechnology.

- (b) With neat and clean diagram, describe the structure of globule and nucleole.
- (c) Explain the process of sexual reproduction in Zygomycetes.
- (d) Explain the role of Mycorrhiza in plant growth and ecosystem balance.
- (e) What is lichen? Discuss the significance of their symbiotic relationship.
- (f) Discuss the role of lichens as bioindicators of air pollution.
- (g) Discuss the ecological role of fungi and how it is influenced by plant and animal-like characteristics.
- (h) Write a note on classification of Algae.

4. Answer the following : (**any one**)  $10 \times 1 = 10$

- (a) With neat and clean diagram, describe the structure, reproduction and life cycle of Phytophthora.
  - (b) Explain the ecological significance and adaptive features of Rhodophyta.
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