

3 (Sem-1) BOT M 1

2 0 1 4

BOTANY

(Major)

Paper : 1.1

Full Marks : 60

Time : 2½ hours

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

1. Fill in the blanks with appropriate words : 1×7=7
- (a) Mutual association between phycobiont and mycobiont represents the group —.
- (b) The hypha having many nuclei without any septation is called —.
- (c) Reserved food material in fungi is mainly —.
- (d) Movement of flagellated algae in response to light is called —.

(2)

- (e) In Bacillariophyceae, cells are surrounded by a rigid two-part box-like cell wall composed of silica, called —.
- (f) Pyrenoid is a dense body observed within the cell organelle —.
- (g) — is a long colorless part of a carpogonium that receives the spermatium in the Rhodophyceae.

2. Define the following terms : $2 \times 4 = 8$

- (a) Dimorphic fungi
- (b) Photoheterotrophs
- (c) Symbiosis
- (d) Heterocysts

3. Write on any *three* of the following : $5 \times 3 = 15$

- (a) Mycorrhiza
- (b) Fungi as food
- (c) Algae as a source of SCP
- (d) Nitrogen-fixing blue-green algae
- (e) Role of pigments in the classification of algae

(3)

4. What are the different systems of plant classification? Note down the different taxonomic ranks accepted by the International Code of Botanical Nomenclature and arrange them in a hierarchical order. What do you understand by polyphasic approach of classification?

$4 + 4 + 2 = 10$

Or

Who proposed the five-kingdom system of classification? Outline the five-kingdom system of classification, citing major groups of organisms included in different kingdoms. Comment on the merits and demerits of five-kingdom system in the light of recent trends in classification.

$1 + 5 + 4 = 10$

5. What are the distinguishing features of Rhodophyceae? Give an illustration of life cycle of *Polysiphonia*, giving suitable diagrammatic representations.

$4 + 6 = 10$

Or

Explain the different types of life cycles observed in Chlorophyceae. Compare and contrast between the life cycle of *Volvox* and *Chara*.

$5 + 5 = 10$

(4)

6. Define heterothalism, sexuality and parasexuality in fungi, giving suitable examples. Illustrate degeneration of sex in fungi. 5+5=10

Or

- Give a comparative account of Ascomycetes and Basidiomycetes group of fungi with suitable diagrams and examples. 10
