2025

(NEP—2020)

(1st Semester)

BOTANY (MAJOR)

(Phycology and Mycology)

(Revised)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(SECTION : A—OBJECTIVE)

(*Marks* : 10)

Tick (✓) the correct answer in the brackets provided : 1×10=10

1. Prokaryotic cell organization is found in

(a) Chlorophyceae ( ) *(b)* Rhodophyceae ( )

(c) Cyanophyceae ( ) *(d)* Phaeophyceae ( )

2. The life cycle of *Polysiphonia* is best described as

(a) haplontic ( ) *(b)* diplontic ( )

(c) diplohaplontic ( ) *(d)* triphasic ( )

3. Isomorphic type of alternation of generation is found in

(a) *Ectocarpus* ( ) *(b)* *Chara* ( )

(c) *Polysiphonia* ( ) *(d)* *Nostoc* ( )

4. The reserved food product of Rhodophyceae is

(a) leucosin ( ) (b) laminarin ( )

(c) chrysolaminarin ( ) (d) floridean starch ( )

5. Brown algae are characterized by the presence of

(a) carotene ( ) (b) fucoxanthin ( )

(c) phycoerythrin ( ) (d) chlorophyll e ( )

6. The fungi in Mastigomycotina are commonly called as

(a) sac fungi ( ) (b) false fungi ( )

(c) zoosporic fungi ( ) (d) club fungi ( )

7. Clamp connections are characteristics of

(a) Ascomycotina ( ) (b) Basidiomycotina ( )

(c) Mastigomycotina ( ) (d) Deuteromycotina ( )

8. The fusion of two compatible haploid mycelia to form a dikaryotic mycelium is called

(a) fragmentation ( ) (b) karyogamy ( )

(c) meiosis ( ) (d) plasmogamy ( )

9. Mycorrhizae are symbiotic association between

(a) plant root and algae ( )

(b) plant root and fungi ( )

(c) plant root and bacteria ( )

(d) plant root and *Cycas* ( )

10. Crustose lichens have

(a) erect thallus ( ) (b) shrubby thallus ( )

(c) flattened thallus ( ) (d) leafy thallus ( )

(SECTION : B—SHORT ANSWERS)

(*Marks* : 15)

Write short notes on *five* of the following taking at least *one* from each Unit : 3×5=15

UNIT—I

1. Heterocyst
2. Economic importance of algae

UNIT—II

3. General characteristics of Phaeophyceae
4. Globule of *Chara*

UNIT—III

5. General features of fungi
6. Fruiting body of *Agaricus*

UNIT—IV

7. Vesicular-arbuscular mycorrhizae (VAM)
8. Economic importance of Lichen

(SECTION : C—DESCRIPTIVE)

(*Marks* : 50)

Answer *five* questions, taking at least *one* from each Unit : 10×5=50

UNIT—I

1. Write the Fritsch system of classification of Algae. 10
2. Write short notes on the following : 5+5=10
   (a) Haplontic life cycle
   (b) Cell structure of *Nostoc*

UNIT—II

3. Describe with labelled diagram the reproduction and life cycle of *Ectocarpus*. 10

4. Write short notes on the following : 5+5=10

(a) Asexual reproduction in *Polysiphonia*

(b) General characteristics of Chlorophyceae

UNIT—III

5. Write the classification of fungi by Ainsworth system. 10

6. Write short notes on the following : 5+5=10

(a) General characteristics of Basidiomycota

(b) Sexual reproduction in Rhizopus

UNIT—IV

7. Describe the types and reproduction in Lichens. 10

8. Write short notes on the following : 5+5=10

(a) General characteristics of mycorrhizae

(b) Economic importance of fungi

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