

2021
BOTANY
[HONOURS]
Paper : I

Full Marks : 75

Time : 4 Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer all the questions.

GROUP-A

(Algae)

(Marks: 25)

1. Answer any **three** of the following: $1 \times 3 = 3$
 - a) Mention the role of pyrenoid in algal cell.
 - b) Name one plant parasitic alga.
 - c) Name one alga from which agar agar is produced.
 - d) Name one algal toxin.
 - e) Name one edible alga.
2. Answer any **three** of the following: $2 \times 3 = 6$
 - a) What is amyllum star?

[Turn over]

- b) What is pseudoraphe?
 - c) What is hormogone?
 - d) Write two similarities between Cyanophyceae and Rhodophyceae.
 - e) What is diatomite?
3. Answer any **one** of the following: $6 \times 1 = 6$
 - a) Describe sexual reproduction of nannandrous *Oedogonium*.
 - b) Give a concise account on evolution of sex in algae.
 4. Answer any **one** of the following: $10 \times 1 = 10$
 - a) What is auxospore? Describe with neat sketches different types of auxospore formation in pennate diatoms.
 - b) Describe the ultrastructural features of a cyanophycean cell with sketches.

GROUP-B

(Fungi)

(Marks : 25)

5. Answer any **three** of the following: $1 \times 3 = 3$
 - a) Name a fungus yielding organic acid.

- b) What is Ectendomycorrhiza?
- c) What is spawn?
- d) Name a fungus with tinsel type of flagellum.
- e) Name a fungus producing spores on phialides.
6. Answer any **three** of the following: $2 \times 3 = 6$
- a) Define Buller phenomenon.
- b) What is Rhizomorph?
- c) Differentiate between Crozier connection and clamp connection.
- d) What is Dolipore septum?
- e) What are Woronin bodies?
7. Answer any **one** of the following: $6 \times 1 = 6$
- a) Describe with sketches the life cycle of *Saccharomyces*.
- b) Give the Ultrastructure of Fungal cell.
8. Answer any **one** of the following: $10 \times 1 = 10$
- a) What are fungi imperfecti? Describe the characteristic features of this group. $4 + 6$
- b) Define mycotoxin. Explain how aflatoxins are characterized. What is the effect of aflatoxin on animals? $2 + 2 + 6$

GROUP-C

(Bryophyta)

(Marks: 25)

9. Answer any **three** of the following: $1 \times 3 = 3$
- a) What is retort cell?
- b) Name one Indian species of *Riccia*.
- c) Where do you find filamentous protonema?
- d) What is pseudopodium?
- e) Name one xerophytic bryophyte.
10. Answer any **three** of the following: $2 \times 3 = 6$
- a) What do you mean by diplolepidous arthrodontous moss?
- b) What is nurse cell? State its function.
- c) Mention characteristic features of leaf of *Sphagnum*.
- d) Distinguish between elater and pseudoelater.
- e) Distinguish between scales and rhizoids.
11. Answer any **one** of the following: $6 \times 1 = 6$
- a) Enumerate the methods of vegetative propagation found in Hepaticopsida.

b) Draw and describe the photosynthetic tissues in *Riccia* and *Marchantia*.

12. Answer any **one** of the following: 10×1=10

a) Distinguish between sporophytes of *Sphagnum* and *Funaria* with figures.

b) Draw and describe the T.S. of gametophyte of *Anthoceros*. Mention its algal characters.

8+2
