

I-UG-C1-Maj—BOT-I

2025

BOTANY

Full Marks : 100

Time : 3 hours

Answer all questions

The figures in the right-hand margin indicate marks

SECTION — A

1. Fill in the blanks :

1 × 10

(a) Genetic material of Bacteriophage T-Phage is _____.

(b) The double stranded RNA virus is called _____.

(c) Conjugation without sexpili occurs in _____ bacteria.

(Turn Over)

(2)

- (d) The type of Archaeobacteria present inside the cattle's rumen is _____.
- (e) Algal Cell Wall is made up of _____.
- (f) _____ are the photosensitive organ of *chlamydomonas*.
- (g) The colonial form of green algae is _____.
- (h) Iodine is extracted from _____ algae.
- (i) Polysiphonia belongs to the class _____.
- (j) Heterocyst occurs in _____.

SECTION - B

2. Answer the following questions : 2 × 9

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(Continued)

(3)

- (a) What is prions ?
- (b) Justify Viruses-living ?
- (c) What is binary fission ?
- (d) Describe the vegetative reproduction of Bacteria.
- (e) Describe role of algae in agriculture.
- (f) Discuss the types of sexual reproduction found in algae.
- (g) Globule of *Chara*.
- (h) What is spermatocarp ? Where do they present ?
- (i) Define isogamous reproduction.

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(Turn Over)

(4)

SECTION - C

3. Write notes on any *eight* of the following :
5 × 8

- (a) Lytic life cycle of virus
- (b) TMV
- (c) Spheroplast
- (d) Genetic recombination
- (e) Plurilocular sporangia
- (f) Economic important of Bacteria
- (g) Thallus organisation of *Vaucheria*
- (h) Carposporophytes
- (i) Cyanobacteria
- (j) Pigment system of Algae.

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(Continued)

(5)

SECTION - D

4. Answer any *four* of the following : 8 × 4

- (a) Describe the structure of DNA and RNA viruses. Explain the economic important of viruses.
- (b) Describe the ranges of thallus organisation in algae.
- (c) Describe the morphology and life-cycle of *Nostoc*.
- (d) Write the structure and life cycle of *Coleochaete*.
- (e) Describe the morphology and reproduction of *chara*.

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BFM-1,300

2024

Full Marks - 100

Time - 3 hours

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Answer *all* questions

Part-I

1. Fill in the blanks : 1 × 10
- a) The protein coat that encloses the viral genes is called as _____.
 - b) The bacteria which have a group of flagella at one end only are called _____.
 - c) The bacterial cell wall is made up of _____.
 - d) In algae, akinetes are formed under _____ condition.
 - e) The principal pigment of blue green algae (cyanophyceae) is _____.
 - f) _____ is the type of sexual reproduction of order conjugates of chlorophyceae.
 - g) The colony of volvox is termed as _____.
 - h) Palmelloid stage is seen in _____ algae.

[2]

- i) In Rhodophyceae the tip of the carpogonium is prolonged into a structure called _____.
- j) The non motile male gamete in Rhodophyceae is called _____.

Part-II

2. Answer the following :

2 × 9

- a) What is lysogenic cycle ?
- b) Name a rod shaped bacterium which has the capacity to produce endospores.
- c) Name bacterium responsible for botulism disease.
- d) What is the function of eye spot in algal cell ?
- e) Name the reserve food material found in the cells of Rhodophyceae.
- f) What is the range of sexual reproduction in green algae ?
- g) In which alga is found plaque stage ?
- h) Name the structure which develops into a dwarf male in oedogonium.
- i) In ectocarpus what is the role of diploid zoospores.

[3]

Part-III

3. Write notes on any *eight* of the following : 5 × 8

- a) Structure of Prions
- b) Viroids
- c) Endospores of Bacteria
- d) Mycoplasma
- e) Heterocyst
- f) Economic importance of B.G.A
- g) Thallus structure of *Volvox*
- h) Cap cell of *Oedogonium*
- i) Globule of Chara
- j) Alternation of generation.

Part-IV

4. Answer any *four* of the following : 8 × 4

- a) Draw the labelled diagram of Bacteriophage. Describe the method of its replication.
- b) What is a genetic recombination ? Explain transduction in bacteria.

- c) Describe the structure and reproduction of *Chlamydomonas*.
- d) Give the structure and life cycle of *Polysiphonia*.
- e) Give an account of the economic importance of Bacteria.

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