

Bachelor of Science (B.Sc.) Semester—I (C.B.S.) Examination

BOTANY (New & Old)
(Viruses, Prokaryotes and Algae)

Compulsory Paper—1
(New Course)

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory and carry equal marks.

(2) Illustrate your answers with suitable examples and diagrams wherever necessary.

1. Write on :

- | | |
|--|---|
| (a) Lytic cycle in T_4 Bacteriophage. | 5 |
| (b) Nature of viruses (Living and non-living). | 5 |

OR

Write short notes on :

- | | |
|---------------------------------------|----|
| (c) Structure of <i>Mycoplasma</i> . | 2½ |
| (d) Structure of Bacteriophage. | 2½ |
| (e) Properties of <i>Mycoplasma</i> . | 2½ |
| (f) Economic importance of viruses. | 2½ |

2. Write on :

- | | |
|---------------------------------------|---|
| (a) Ultrastructure of Bacterial cell. | 5 |
| (b) Reproduction in <i>Nostoc</i> . | 5 |

OR

Write short notes on :

- | | |
|---|----|
| (c) Conjugation in bacteria. | 2½ |
| (d) Flagella. | 2½ |
| (e) Useful aspects of Bacteria. | 2½ |
| (f) Economic importance of cyanobacteria. | 2½ |

3. Write on :
- (a) Classification of Algae (Fritsch, 1954). 5
 - (b) Sexual Reproduction in Nannandrous species of *Oedogonium*. 5

OR

Write short notes on :

- (c) General characteristics of Algae 2½
- (d) Vegetative Reproduction in *Chara*. 2½
- (e) Globule in *Chara* (Diagram only) 2½
- (f) Thallus of *Chara*. 2½

4. Write on :
- (a) Sexual reproduction in *Vaucheria*. 5
 - (b) Asexual reproduction in *Ectocarpus*. 5

OR

Write short notes on :

- (c) Thallus of *Vaucheria*. 2½
- (d) Thallus of *Ectocarpus*. 2½
- (e) Useful aspects of Algae. 2½
- (f) *Gongrosira* stage in *Vaucheria*. 2½

5. Write in **two** or **three** lines only (any **ten**). Diagrams are not necessary :

- (a) Capsomere
- (b) Prophage
- (c) TMV
- (d) Binary fission
- (e) Heterocyst
- (f) Prokaryote
- (g) Dwarf male
- (h) Corona
- (i) Reticulate chloroplast
- (j) Synzoospore
- (k) Clump formation
- (l) Water blooms. 1×10=10

Bachelor of Science (B.Sc.) Semester—I (C.B.S.) Examination

BOTANY

(Viruses, Prokaryotes and Algae)

Compulsory Paper—1

(Old Course)

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory and carry equal marks.

(2) Illustrate your answer with suitable examples and diagrams wherever necessary.

1. Write on :

- | | |
|--|---|
| (a) Living and non living nature of viruses. | 5 |
| (b) Lytic cycle of T ₄ bacteriophage. | 5 |

OR

Write short notes on :

- | | |
|--|----|
| (c) Structure of mycoplasma. | 2½ |
| (d) Economic importance of viruses. | 2½ |
| (e) Ultra structure of TMV. | 2½ |
| (f) Structure of T ₄ bacteriophage. | 2½ |

2. Write on :

- | | |
|--------------------------------------|---|
| (a) Reproduction in cyanobacteria. | 5 |
| (b) Economic importance of bacteria. | 5 |

OR

Write short notes on :

- | | |
|---|----|
| (c) Ultrastructure of cyanobacterial cell (Diagram only). | 2½ |
| (d) Economic importance of cyanobacteria. | 2½ |
| (e) Ultrastructure of bacterial cell (Diagram only). | 2½ |
| (f) Conjugation in bacteria. | 2½ |

3. Write on :

- (a) Nannandrous type of sexual reproduction in *Oedogonium*. 5
- (b) Structure of globule in *Chara*. 5

OR

Write short notes on :

- (c) Economic importance of Algae. 2½
- (d) Thallus of *Chara*. 2½
- (e) Nucule in *Chara*. 2½
- (f) Cell structure in *Oedogonium*. 2½

4. Write on :

- (a) Sexual reproduction in *Vaucheria*. 5
- (b) Sexual reproduction in *Batrachospermum*. 5

OR

Write short notes on :

- (c) Plurilocular sporangia. 2½
- (d) Chantransia stage in *Batrachospermum*. 2½
- (e) Thallus of *Ectocarpus*. 2½
- (f) Thallus of *Vaucheria*. 2½

5. Write in **two** or **three** lines only (any **ten**). Diagrams are not necessary :

- (a) Capsomere
- (b) Obligate parasite
- (c) PPLO
- (d) Bacillus
- (e) Sex pili
- (f) Polar nodules
- (g) Reticulate chloroplast
- (h) Cap cell
- (i) Stipulodes in *Chara*
- (j) Unilocular sporangia
- (k) Cystocarp
- (l) Synzoospore. 1×10=10