

1st Semester Examination, 2020

Time : 3 hours

Full Marks : 60

Answer any one Group as per your Syllabus.

Answer from all the sections as per direction.

The figures in the right-hand margin indicate marks.

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

**GROUP—A
(MODEL SYLLABUS)
(MICROBIOLOGY AND PHYCOLOGY)**

(SECTION—I)

1. Fill in the blanks with suitable words : 1 × 8
- (a) Genetic material of t-phage is ———.
 - (b) Viruses are 1st discovered by ———.
 - (c) ——— is the wall-less forms of microorganism.
 - (d) A specialized cell of cyanobacteria which helps in N₂ fixation is ———.
 - (e) ——— algae is used for SCP production.
 - (f) ——— no of flagella is present in *Chlamydomonas*.
 - (g) ——— is the coenocytic algae.
 - (h) Agar agar is extracted from ——— algae.

(SECTION—II)

2. Answer any *eight* of the following in two to three sentences : 1.5 × 8
- (a) What is Viroids ?

- (b) Vaccine
- (c) Fermentation
- (d) Prochloron
- (e) Reserve food in algae
- (f) Colonial algae
- (g) Cell structure of Chara
- (h) Red algae
- (i) Prions
- (j) Role of bacteria

(SECTION—III)

3. Answer any *eight* of the following in about 75 words : 2 × 8

- (a) Economic importance of virus
- (b) Microbial nutrition and metabolism
- (c) Role of bacteria in industry
- (d) PPLO
- (e) General characteristics of prochlorophyceae
- (f) Pigmentation in algae
- (g) Role of algae in the environment
- (h) Brief idea about classification of algae
- (i) Evolutionary significance of *Chara*
- (j) Morphology of red algae

(SECTION—IV)

Answer *all* the following questions in 500 words : 6 × 4

4. Write briefly about the discovery physiochemical and biological characteristics of viruses.

Or

Describe the economic importance of viruses with reference to vaccine production, role in research and medicine.

5. Describe the discovery general characteristics, types and cell structure of bacteria.

Or

Describe the ecology occurrence cell structure and reproduction of cyanobacteria.

6. Discuss the range of thallus organisation in algae.

Or

Describe the structure and reproduction of *Oedogonium*.

7. Describe the life cycle of *Ectocarpus*.

Or

Discuss the morphology and life cycle of Polysiphonia.

GROUP—B
(OLD SYLLABUS)
(MICROBIOLOGY AND PHYCOLOGY)

SECTION—A

1. Answer *all* questions :

2 × 6

(a) What is lysogeny ?

(b) What are plasmids ?

(c) What are phycobillins ?

(d) What is oogamy ?

(e) Significance of *Chara*

(f) What is Phytoplankton ?

SECTION-B
Answer *all* questions :

12 × 4

2. Give an account of different methods of reproduction in bacteria.

Or

Write notes on :

- (i) TMV
- (ii) Structure of bacteriophage

3. Describe the morphology and life cycle of Nostoc.

Or

Write notes on :

- (i) Economic importance of algae
- (ii) Classification of algae

4. Describe the life cycle of Fucus.

Or

Write notes on :

- (i) Carposporophyte of *Polysiphonia*
- (ii) Sea weeds

5. Describe the morphology and sexual reproduction in *Vaucheria*.

Or

Write notes on :

- (i) Coleochaete
 - (ii) Sex organs of *Chara*
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