

2023

Time - 3 hours

Full Marks - 60

Answer all groups as per instructions.

Figures in the right hand margin indicate marks.

Draw labelled diagrams wherever necessary.

GROUP - A

1. Answer all questions and fill in the blanks as required. [1 × 8]
- (a) Who began the first experimental form of vaccination with cow pox infection to prevent the small pox disease ?
- (b) Latin word virus means _____.
- (c) The viruses which are neither harmful to the plants nor to the animals and human beings are used as biological agent against pests called _____.
- (d) Who is regarded as father of microbiology ?
- (e) Rod shaped bacteria is called _____.
- (f) Name the nitrogen fixing bacteria.

[2]

(g) Name the male reproductive organ of Vaucheria.

(h) Cells of Phacophyta contain a carbohydrate called _____.

GROUP - B

2. Write notes on any eight of the following within two or three sentences each. [1½ × 8

(a) Algin

(b) Plurilocular sporangia

(c) Carpogonia

(d) Spermatangia of Polysiphonia

(e) Globule of Chara

(f) Zoospores of Vaucheria

(g) Lysogenic cycle of virus

(h) Capsid of viruses

(i) Vaccine production by virus

(j) Capsule of bacteria

[3]

GROUP - C

3. Explain any eight of the following within 75 words each. [2 × 8]
- (a) Lytic life cycle
 - (b) Role of virus in cancer
 - (c) Replication of viroid
 - (d) Cell wall of Archaeobacteria
 - (e) Thallus structure in algae
 - (f) Prokaryotic cell
 - (g) Thallus structure of Chara
 - (h) Pigments in cyanophyceae
 - (i) Akinetes
 - (j) Role of blue green algae in biotechnology.

GROUP - D

Answer **any four** questions within 500 words each.

4. Give an account of range of thallus organisation in chlorophyta. [8]
5. Describe briefly about the reproduction in Bacteriophage [8]

6. Describe about the sexual reproduction of Chara. [6]
7. Explain the life cycle of Fucus. [6]
8. Explain the life cycle of Volvox. [6]
9. Describe about the economic importance of bacteria with reference to their role in agriculture and industry. [6]
10. Explain the life cycle of Polysiphonia. [6]