



WEST BENGAL STATE UNIVERSITY
B.Sc. Honours 1st Semester Examination, 2022-23

BOTACOR01T-BOTANY (CC1)

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.*

GROUP-A

1. Answer **all** questions from the following: 1×3 = 3
 - (a) What is lag phase? Mention its significance.
 - (b) What do you mean by 'viroids'?
 - (c) What is pilus?

2. Answer any **four** questions from the following: 3×4 = 12
 - (a) Draw and label the ultrastructure of bacterial flagella.
 - (b) Write a short note on *Mycoplasma*.
 - (c) Mention the difference between lytic cycle and lysogenic cycle.
 - (d) Write a short note on 'Prion'.
 - (e) Describe the structure of T-phage with labelled diagram.
 - (f) Calculate the total number of bacteria after 4 hours of incubation of 100 cells, where the generation time is 30 min.

3. Answer any **one** question from the following: 5×1 = 5
 - (a) Write down the industrial importance of bacteria citing suitable examples.
 - (b) Discuss bacterial conjugation mechanism with suitable illustrations.

GROUP-B

4. Answer **all** questions from the following: 1×3 = 3
 - (a) What is coenobium? Give an example.
 - (b) Name the pigments of Xanthophyceae.
 - (c) What is coenozoospore?

5. Answer any *four* questions from the following:

4 × 12

- (a) Diagrammatically represent the life cycle of *Fucus*.
- (b) Mention the general characters of Xanthophyta.
- (c) Draw the life cycle of *Oedogonium* (macrandrous type).
- (d) How *Prochloron* differs from Cyanophyta and Chlorophyta? Why it is called obligate symbiont?
- (e) Write down the various reserve food materials of algae.
- (f) Discuss the role of algae in agriculture.

6. Answer any *one* question from the following:

5 × 1 = 5

- (a) Illustrate the post-fertilization changes found in *Polysiphonia*.
- (b) Draw and label the T.S. of sexual reproductive structures of *Chara*.

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