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: 3×4 = 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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