

U.G. 2nd Semester Examination - 2023**BOTANY****[HONOURS]****Course Code : BOT-H-CC-T-03****(Diversity of Microbes and Algae)****Full Marks : 40****Time : 2½ Hours***The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any five questions: 2×5=10
- a) What is glycocalyx?
 - b) What is algin? What is its economic importance?
 - c) What is pseudomurein?
 - d) What is nannandrium?
 - e) What are gonimoblast filament?
 - f) Is it correct to say blue green algae as cyanobacteria? Justify.
 - g) What is replicon?
 - h) What is prion?

[Turn over]

2. Answer any two questions: $5 \times 2 = 10$

- a) Differentiate between generalized and specialized transduction. 5
- b) Mention salient features of phaeophyta. 5
- c) Define virion. Mention the living and non-living properties of virus. 2+3
- d) Give an illustrated account of evolutionary significance of Prochloron. 5

3. Answer any two questions: $10 \times 2 = 20$

- a) Describe with suitable sketches the life history of *chara*. Write down the diagnostic characters of cyanophyta. 7+3
- b) Describe the Baltimore scheme of virus classification with examples. 10
- c) What is meant by "alternation of generation"? Explain it with reference to the life history of *Polysiphonia*. How are the spores dispersed in this plant? 2+8
- d) Define growth in relation to microbiology. Prove that $K = 1/g$, where g = mean generation time and K = mean growth rate constant. Why does stationary phase appear in bacterial growth curve? 1+7+2