

**2020**

**BOTANY — HONOURS**

**Paper : CC-1**

**Full Marks : 50**

*The figures in the margin indicate full marks.*

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

1. Answer the following questions : 2×5
- (a) Why members of archaebacteria are termed 'extremophiles'?
  - (b) Why prions are important?
  - (c) What is F-factor? How does it differ from F-prime?
  - (d) What is phytoplankton? Cite one example.
  - (e) Name an alga with chlorophyll d.
2. (a) State the salient features of xanthophyta with examples. 5
- Or,**
- Comment on the criteria and basis of Fritsch's classification. 5
- (b) Illustrate the process of natural transformation in bacteria. 5
- Or,**
- Mention the physicochemical structure of TMV with labelled sketches. 5
3. Describe the ultrastructure of algal plastids with labelled sketches. What is CER? Mention its significance. 6+2+2
- Or,**
- Describe Auxospore formation in Pennales. Write a note on ecology of Cyanobacteria and its importance. 6+4
4. (a) Explain the formation and structure of bacterial endospore.
- (b) Write a note on one-step growth curve of virus. 4+3+3
- Or,**
- (a) Compare firmicutes and mollicutes with suitable examples.
- (b) Briefly explain the different modes of transmission of plant virus. 5+5

**Please Turn Over**

5. Write a note on origin and evolution of sex in algae. Enumerate the post fertilization changes in *Polysiphonia*. 5+5

**Or,**

- (a) Compare and contrast the characters of Archaeobacteria and Eubacteria.  
(b) Enumerate the ultrastructure of a bacterial flagellum with labelled sketches. 5+5
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