

## UG 1<sup>st</sup> Semester Examination 2021

### BOTANY (Honours)

Paper: DC-1  
(CBCS)

Full Marks: 25

Time: Two Hours

**1. Answer any *five* of the following:**

**1×5=5**

- (a) Name one alga having coenocytic thallus.
- (b) What is physiological anisogamy?
- (c) Differentiate between plasmid and episome.
- (d) Define frustule.
- (e) Name unique heat-resistant chemical present in bacterial endospore.
- (f) What is algin? Mention its sources.
- (g) What is a prion?

**2. Answer any *four* of the following:**

**3×4=12**

- (a) Write in brief the utilization of algae as a bio-fertilizer with examples.
- (b) Write a comparative account on the photosynthetic pigments of the Cyanophyta, Chlorophyta and Rhodophyta.
- (c) Describe with a suitable diagram the structure of the female sex organ of *Chara* sp.
- (d) Describe with a suitable diagram the nodulation process in legumes.
- (e) Discuss the chemistry of peptidoglycan of Gram-positive bacteria.
- (f) State the difference between lytic and lysogenic cycles.
- (g) Describe with a suitable diagram the T-even phage.

**3. Answer any *one* of the following:**

**1×8= 8**

- (a) What is the triphasic alternation of generation? Enumerate the post-fertilization changes in the life cycle of *Polysiphonia* with a suitable diagram. 2+(4+2)
- (b) Write down the ultrastructure of Gram-negative bacterial flagellum with a suitable diagram. State the significance of teichoic acid in the Gram-positive bacteria. (4+2)+2