

U.G. 2nd Semester Examination - 2022

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 lytic cycle?
 - b) What is spheroplast?
 - c) What is the function of capsule?
 - d) What is merozygote?
 - e) Why Cyanophycean members are called as Cyanobacteria?
 - f) Name two pigments found in brown algae.
 - g) Mention the source of agar agar.
 - h) What is cystocarp?

2. Answer any **two** questions : 5×2=10
 - a) Draw and describe the structure of TMV.

- b) Write a short note on the bacterial flagella.
 - c) Mention the salient features of Charophyta.
 - d) Write down the roles of algae in environment and agriculture.

3. Answer any **two** questions : 10×2=20
 - a) What is peptidoglycan? With suitable diagram illustrate the chemical structure of peptidoglycan found in the bacterial cell wall. 2+8=10

 - b) What is macrandrous and nanandrous species of *Oedogonium*? Illustrate the sexual reproduction in a macrandrous species of *Oedogonium* with suitable diagram. 3+7=10

 - c) Mention the salient features of Xanthophyta. With suitable labelled diagram describe the reproduction of *Vaucheria*. 4+6=10

 - d) What is conjugation? Who discovered conjugation in bacteria? What is plasmid? What is Hfr? Describe with sketch the conjugation process of a F⁺ and F⁻ strain. 1+1+1+1+6=10

[Turn over]