

Reg. No. : .....

Name : .....

**First Semester M.Sc. Degree Examination, August 2021**

**Botany**

**BO 211 : PHYCOLOGY, MYCOLOGY, MICROBIOLOGY AND  
PLANT PATHOLOGY**

**(2019 Admission Onwards)**

Time : 3 Hours

Max. Marks : 75

Instruction : Draw diagrams and illustrate with examples wherever necessary.

I. Answer the following questions.

1. What are prions?
2. What are mycofungicides?
3. Which red pigment is present in Rhodophyceae?
4. What is nucleoid?
5. What is a Dikaryon?
6. What is the protective protein coat of a virus called?
7. What is 'water net'?
8. Give the name of a thermophilic bacterium.
9. What is rhizosphere effect?
10. What is induced systemic resistance?

**(10 × 1 = 10 Marks)**

P.T.O.



II. Answer the following questions in **not** more than **50** words.

11. (a) How do people get infected with anthrax?

OR

(b) What are virusoids?

12. (a) List out the contributions of M O P Iyengar to Indian phycology.

OR

(b) What makes *Acetabularia* an excellent model organism for studying cell biology?

13. (a) Clamp connection formation in Basidiomycetes ensures that the dikaryotic condition is propagated in the daughter cells during cell division. Explain how.

OR

(b) Distinguish between holobasidium and phragmobasidium.

14. (a) What is the use of a chemostat?

Or

(b) What are mesokaryotes? Give examples.

15. (a) What are the common symptoms of the disease, quick wilt of pepper?

Or

(b) How can we control the bacterial wilt of Tomato?

**(5 × 2 = 10 Marks)**



III. Answer the following questions in **not** more than **150** words.

16. (a) 'Koch's postulates are still a useful benchmark in judging whether there is a cause-and-effect relationship between a bacteria (or any other type of microorganism) and a clinical disease.' Substantiate.

OR

- (b) Explain the epidemiology of HIV.

17. (a) Write a brief account on VBNC bacteria.

Or

- (b) How is 16S rRNA gene sequencing used to identify bacteria? What are the advantages of this method?

18. (a) Discuss about the diversity of thallus structures lichens.

OR

- (b) 'Lichens are nature's biological monitors of pollution and air quality.' Substantiate.

19. (a) Write an account on the major contributions made by Indian mycologists.

OR

- (b) Write an account on Parasexuality and its significance in Deuteromycetes.

20. (a) Briefly describe the vegetative body of Nitella.

OR

- (b) Describe the diversity in the thallus organization among members of chlorophyceae.



21. (a) Describe the structure of the thallus in *Turbinaria*.

OR

(b) Write an account on the scope and possibility of using algae as a source of biofuel.

22. (a) Write an account on the host-parasite interactions leading to diseases in plants.

OR

(b) Write a brief note on soft rot of ginger.

**(7 × 5 = 35 Marks)**

IV. Answer the following questions in **not** more than **250** words.

23. (a) Describe the algal classification proposed by F.E Fritsch. Write the distinguishing characters of each class.

OR

(b) Microbial communities in their natural environment are responsible for energy nutrient and organic matter cycling and are massively involved in the planet's sustainability. We exploit such microbial processes in various fields of applied environmental biology Discuss.

24. (a) Give an Outline of the classification of Fungi by Alexopoulos, Mims and Blackwell (1996).

OR

(b) Write an essay on the different strategies and techniques adopted to control plant diseases.

**(2 × 10 = 20 Marks)**

