

Department of Botany
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B.Sc. (HONS WITH RESEARCH) / B.Sc. BOTANY
I SEMESTER EXAMINATION JANUARY 2025

Paper Name: **Diversity of Microbes, Algae and Fungi**Paper Code: **BBO-DSC101**Time: **2½ hours**Maximum Marks: **60**

Note: This paper has 3 sections A, B, and C.

Section A: Answer all the questions. **Section B:** Attempt any 5 out of 6.**Section C:** Attempt any 2 out of 3.

Abbreviations used:

CO-Course Outcomes

CO1: : develop an understanding of microbes, algae, fungi and lichens and appreciate their adaptive strategies (understand);**CO2:** classify microbes, algae, fungi and lichens (understand);**CO3:** compare and contrast the general characteristics of viruses, bacteria, algae, fungi and lichens. (analyze and evaluate); and**CL4:** assess the economic importance of viruses, bacteria, algae, fungi and lichens (evaluate).**BTL-Bloom's Taxonomy Levels**

1- Remembering, 2-Understanding, 3-Applying, 4-Analyzing, 5-Evaluating, 6-Creating

SECTION A

Very Short Type Question (15 questions)

15 x 1 = 15 marks

Q.No.	Questions	Marks	CO	BTL
1	What are plasmids?	1	1	2
2	Name the viral particles occurring in nature without capsid.	1	1	2
3	Name one fungus which is edible.	1	4	2
4	What are members of class chlorophyceae commonly known as?	1	3	2
5	Write one difference between viroids and prions.	1	2	1
6	Define conjugation in one sentence.	1	1	2
7	Define cap cells citing example of the genus they are present in.	1	3	1
8	Give the botanical name of the genus which possesses gongrosira stage.	1	3	2
9	Give one example of algae producing biofuels.	1	4	1
10	Define hartig net giving example.	1	2	1
11	Define nannadium giving example.	1	2	1
12	Give the generic name of the genus which bears conidia.	1	2	1
13	Name one bacterium which converts alcohol into acetic acid during fermentation.	1	4	1
14	Give one major difference between eubacteria and archaeobacteria.	1	3	1
15	Give the scientific name of alga producing carrageenan.	1	4	2

Please turn over

SECTION B

Short Type Question. (Attempt any five out of six)

5 x 5 = 25 marks

Q.No.	Question	Marks	CO	BTL
1	Describe different modes of nutrition in fungi citing examples.	5	1	4
2	Discuss sexual reproduction in <i>Chara</i> with the help of diagrams.	5	3	2
3	Draw well labelled ultrastructure of a bacterial cell. Write the differences between gram positive and gram negative bacteria based on cell wall structure.	5	3	1
4	Describe the life cycle of Puccinia.	5	3	2
5	What are lichens? Give a brief account of morphological forms and internal structure of lichen thallus.	5	1	2
6	Discuss lytic and lysogenic cycles with the help of diagrams.	5	3	4

SECTION C

Long type Question (Attempt any two out of three)

2 x 10 = 20 marks

Q.No.	Question	Marks	CO	BTL
1	Discuss in detail the algal classification proposed by F. E. Fritsch. Write the characteristic features and examples of each class proposed by him.	10	2	2
2	What is mycorrhiza? Differentiate between endomycorrhiza and ectomycorrhiza. How mycorrhizal fungi help in sustainable agriculture?	10	2	4
3	How are viruses classified based on their genetic material and morphology: Give examples. Write the economic importance of viruses in biotechnology.	10	4	4

END OF QUESTION PAPER