

3-1-103

Subject: BOTANY  
SEMESTER- I

Paper-I :Microbial Diversity, Algae and Fungi

**UNIT- I: Origin and Evolution of Life, Microbial diversity**

1. Origin of life -theories
2. Geological time scale
3. Microbial diversity-Mycoplasma - Chlamydia -Archaeobacteria -Actinomycetes

**UNIT- II: VIRUSES AND BACTERIA**

1. Viruses: General account of Viruses, structure, replication and transmission of plant diseases Caused by Viruses.
2. Bacteria: Structure, nutrition, reproduction and economic importance. Outline of plant diseases of important crop plants caused by Bacteria and their control.

**UNIT III: CYANOBACTERIA AND LICHENS**

1. Cyanobacteria: General account of cell structure, thallus organization and their uses as Biofertilizers
2. Structure and reproduction and life history of Nostoc and Scytonema
3. Lichens - Morphology -Anatomy -Reproduction -Economic importance

**UNIT -IV Algae**

1. General account, Fritsch classification of Algae and economic importance.
2. Structure, reproduction, life history of Oedogonium, Ectocarpus and Polysiphonia

**UNIT V: FUNGI**

1. General characters, classification(Alexopolous) and economic importance
2. Structure, reproduction and life history of *Albugo*, *Penicillium*, *Puccinia*
3. General account of plant diseases caused by Fungi and their control

**Suggested Readings:**

1. Alexopolous, J. and W.M Charles.1988 introduction to mycology.Wiley Eastern, New Delhi.
2. Ananthanarayan&Panikers ; Microbiology 9<sup>th</sup> edition.
3. Pandey, B.P 2001. College Botany Vol. I: Algae, Fungai, Lichens, Bacteria, Viruses, Plant pathology, Industrial Microbiology and Bryophyta. S. Chand & company Ltd, New Delhi.
4. Pandey, B.P 2007. Botany for Degree students: Diversity of microbes, Cryptogams, Cell biology and Genetics. S. Chand & company Ltd, New Delhi.
5. Sambamurthy, A.V.S.S 2006. A textbook of Algae. I.K. International Pvt. Ltd., New Delhi.
6. Sambamurthy, A.V.S.S 2006. A textbook of Plant Pathology. I.K. International Pvt. Ltd., New Delhi
7. Sharma, O.P 2006. A text book of Thallophyta, McGraw Hill Publishing. Co. New Delhi.
8. Thakur, A.K. and S.K. Bassi. 2008, A text book of Botany: Diversity of Microbes and Cryptogams. S. Chand & company Ltd, New Delhi.
9. Vashishta, B.R., A.K. Sinha and V.P.Singh. 2008. Botany for Degree Students: Algae. S. Chand & company Ltd, New Delhi
10. Vashishta, B.R.1990. Botany for Degree Students: Fungi. S. Chand & company Ltd, New Delhi.

Signature of the  
Chairman (B.O.S.)  
(20.....Exams)

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I B.Sc - BOTANY  
PAPER-I; SEMESTER- I  
THEORY MODEL PAPER

*Paper-I- I T: Microbial Diversity, Algae and Fungi*

Time: 3 Hours

Max. Marks: 75

SECTION-A (Short Answer Questions)

*(Instructions to the paper setter: Set minimum ONE question from each unit, max Eight from all.)*

Answer any *five* of the following questions    5x5=25M

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

SECTION-B (Essay Questions)

*(Instructions to the paper setter: Set minimum two questions from each unit, either or internal choice)*

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Answer **All** of the following questions

5x10=50M

9. a)

Or

from unit I

b)

10. a)

Or

from unit II

b)

11. a)

Or

from unit III

b)

12. a)

Or

from unit IV

b)

13. a)

Or

from unit V

b)

INTERNAL EXAMS

- 25Marks

15 marks for unit tests, 5 marks for assignments and remaining 5 marks for seminar etc.

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(20.....Exams)