

FIRST YEAR B.Sc.**MYCOLOGY, MICROBIOLOGY AND PLANT PATHOLOGY****Unit-1**

Characteristics and broad classification of fungi with special reference to system proposed by Alexopolous and Mims. Recent developments in molecular systematics of fungi. Structure and life history of *Albugo*, *Penicillium*, *Phyllactinia* and *Peziza*. Elementary knowledge of Mycorrhizae and their symbiotic significance.

-10 hours**Unit-2**

Structure and life history of *Puccinia*, *Ustilago*, *Agaricus* and *Alternaria*. Economic importance of fungi: food, industries, medicine and biological controls.

-10 hours**Unit-3**

Characteristics, classification, structure and reproduction of bacteria. Isolation and pure culture of bacteria, Gram's staining. Salient features of Microbiology of water, soil and food. Bacterial identification through molecular techniques.

-10 hours**Unit-4**

Characteristics, classification, structure and economic importance of Mycoplasma, Viruses: Nature, classification, structure, transmission and multiplication of plant viruses.

-10 hours**Unit-5**

Principles of plant pathology, Methods of plant disease management, Study of symptoms, causal organism, perpetuation, etiology and control measures of following plant diseases: Green ear disease of Bajra. Loose smut of Wheat, Black Rust of Wheat, Citrus canker, Little leaf of *Solanum melongena* (Brinjal). Yellow vein mosaic of Bhindi, Tikka disease of groundnut.

-10 hours

Note:

The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A**- 10 questions, **Section B**- 10 questions and **Section C**- 4 questions) from the 5 units of each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These questions have to be answered in one word or a few words only. Each question will be of half mark. All the questions in **Section A** are compulsory. In **Section B**, 10 questions will be set from the 5 units, i.e., 2 questions from each unit. Students are required to attempt at least 1 question from each unit. Each question will carry 5 marks. The answers of each question should be given in about 250 words. In **Section C** there will be 4 descriptive type questions set from all the 5 units, not more than 1 question from each unit. These questions may also have sub-divisions. The students are required to answer 2 questions, each in approximately 500 words. Each question will carry 10 marks.

In short, pattern of question paper and distribution of marks for UG classes will be as under:

- **Section A:** 10 questions, 2 questions from each unit, short answer, all questions compulsory. Total marks : **05**
- **Section B:** 10 questions, 2 question from each unit, 5 question to be attempted, at least 1 from each unit, answer approximately in 250 words. Total marks : **25**
- **Section C:** 04 questions (question may have sub-division), not more than 1 question from each unit, descriptive type, answer in about 500 words, 2 questions to be attempted. Total marks : **20**