**BSc** MICROBIOLOGY (Semester: I)

## Introduction to Microbiology And Microbial Diversity

**Course outcomes**

Up on completion of the course students able to

1. Explain relationship and apply appropriate terminology relating to the structure, Genetics, metabolism and ecology of prokaryotic microorganisms, Algae, viruses and Fungi.
2. Students will get basics and importance of Microbiology.
3. Demonstrate appropriate laboratory skill and techniques related to isolation, staining, identification and control of microorganisms.

**(Semester: II)**

## Microbial Physiology and Biochemistry

**Course outcomes**

Up on completion of this course students should able to:

1. Explain working principle and applications of Colorimetry, Chromatography, Spectrophotometry, Centrifugation and Gel Electrophoresis.
2. Knowledge on Microbial nutrition, bacterial growth, metabolism and Respiration.
3. The student will get first-hand experience on separation methods

**(Semester: III)**

## Molecular Biology and Microbial Genetics

**Course outcomes**

Up on completion of this course students should able to:

1. Understand the nature of genetic material, process of DNA replication and the role of DNA and RNA.
2. Understand gene structure, genetic code and the process of transcription, translation and regulation of gene expression in bacteria.
3. Define and classify mutations, understand their molecular basis.
4. Familiarize with genetic recombination in bacteria, and Genetic engineering technology

**(Semester: IV)**

**Paper4: Immunology and Medical Microbiology**

**Course outcomes**

Up on completion of the course students able to

1. Explain No-specific body defence and the immune response
2. Develop knowledge on disease transmission and control
3. Demonstrate on collection and handling of laboratory specimens
4. Develop information making personal health decision in regard to infectious diseases.
5. Student can safeguard himself & society and can work diagnostics and hospitals

**(Semester: IV)**

**Paper5: Microbial Ecology and Industrial Microbiology**

**Course outcomes**

Up on completion of the course students able to

1. Understand fundamental concept in soil microbial diversity, basic concept of biogeochemical cycles and plant growth promotion and plant diseases
2. Understands the role of microorganisms in treatment of solid and liquid waste.
3. Acquire knowledge on application of microorganisms in agro – environmental fields.
4. Get basic information design of fermenter, fermentation processes and Single cell proteins.
5. Self-reliance in the industrial application of Microbiology in life and industry.
6. Entrepreneurship can be established with the gained knowledge.

**III BSc: Semester: V**

**A1: Food, Agriculture and Environmental Microbiology**

**Course outcomes**

Up on completion of the course students able to

1. **CO1:** Demonstrate with the wide diversity of microbes and their spoilage food, food intoxication and food born infections
2. **CO2:** Able to understand principles of food preservation, fermented foods and microbes as food.
3. **CO3:** The student will acquire knowledge on application of microorganisms in agro – environmental fields
4. **CO4:** Get fundamental concepts in principles of plant disease control an industrial application of Microbiology
5. **CO5:** The student will have fundamental concepts in soil microbiology and soil water and aero microbial diversity and microbial interactions Basic concepts in treatment of drinking water.
6. **CO6:** Understands the role of microorganisms in treatment of solid and liquid waste.

**III BSc: Semester: V**

**A2: Management of Human Microbial Diseases and Diagnosis**

**Course outcomes**

Up on completion of the course students able to

**CO1:** Develop knowledge and skills on microbiological laboratory skills for identification of pathogens

**CO2:** Students will demonstrate the collection of clinical samples

**CO3:** Students will get knowledge on staining techniques

**CO4:** Students able to perform diagnostic techniques

**CO5:** To understand drug resistance

Signature of Lecturer In-charge

Principal

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