

COURSE OBJECTIVES AND COURSE OUTCOMES

F. Y. B. Sc. (MICROBIOLOGY) SEMESTER - I

MICROBIOLOGY PRACTICAL

SUBJECT: FUNDAMENTALS OF MICROBIOLOGY AND BASIC TECHNIQUES IN MICROBIOLOGY (USMBP1)

Sr. No.	Course Objectives	Course Outcomes
1)	To describe the basic concept of microbiology	The student will be able to perform basic experiments to study microorganisms in the laboratory
2)	To illustrate the safety measures and rules and regulations to be followed while working in the laboratory	The student will be competent enough to use microbiology knowledge and skills
3)	To explain the principle and working of Microscope	Students will able to handle Microscope
4)	To analyse and categorize the principle and procedures of simple, differential and special staining	Basic techniques of staining and characterization of microbes based on morphology will be known to them
5)	To analyse and investigate various physical and chemical methods of controlling microorganisms	Students will gain the knowledge of different physical and chemical methods of control of microorganism
6)	To examine macromolecules like protein, DNA, RNA in the given sample	Student will able to detect macromolecules like protein, DNA, RNA in the given sample

COURSE OBJECTIVES AND COURSE OUTCOMES

F. Y. B. Sc. (MICROBIOLOGY) SEMESTER - II

MICROBIOLOGY PRACTICAL BASED ON PAPER 1 AND 2

SUBJECT: BASICS OF MICROBIOLOGY AND EXPLORING MICROBIOLOGY (USMBP2)

Sr. No.	Course Objectives	Course Outcomes
1)	Explain the basic structure and characteristics of different fungi and actinomycetes	Students will be able to identify and characterize fungi and actinomycetes
2)	To identify and categorize different methods of enumerating microorganisms from a given sample	Students will be able to find out the number of bacteria present in a given sample viz. air, water, food or soil
3)	To describe the growth cycle of a bacterium	Students will understand the growth cycle of an organism
4)	To give a brief outline of Micrometry for measuring the size of microorganisms	Students will be able to measure the size of the microorganism
5)	To discuss the symbiotic association of microbes with human (Normal flora), plants (Rhizobia) and other organisms(lichen)	They will understand the importance of symbiotic association like nitrogen fixing bacteria (Azotobacter and rhizobia)
6)	To describe the virulence factors of a pathogens	The importance of the Virulence factor in causing disease will be known to them
7)	To discuss the principle and working of colorimeter and pH meter	The basic concept of colorimeter will be known to them and will be able to handle pH meter to find the pH of a given solution
8)	To discuss the importance of SOPs of an instrument	They will be able to write SOPs of important instruments like Autoclave and Hot air oven used in the microbiology laboratory