

## COURSE OBJECTIVES AND COURSE OUTCOMES

### F. Y. B. Sc. SEMESTER - I

### MICROBIOLOGY PAPER - I

### SUBJECT: FUNDAMENTALS OF MICROBIOLOGY (USMB 101)

Sr. No.	Course Objectives	Course Outcomes
1)	To explain History, Introduction and Scope of Microbiology	Understanding the discovery of microorganism with the help of various experiments conducted and also observations made by common people, scientists, doctors etc.  Understanding the scope and future of microbiology
2)	To explain Procaryotic Cell structure and Functions	Understanding the structure and function of each component of a bacterial structure (the simplest organism)
3)	To explain eucaryotic Cell structure and Functions	Understanding the difference between procaryotic and eucaryotic structure of cell
4)	To explain and prepare students to apply 'Biosafety in Microbiology'	Understanding and applying various bio-safety measures in microbiology laboratory by getting acquainted with laboratory infections  Understanding the hazardous procedures, risk assessment
5)	To discuss Properties and functions of Carbohydrate, lipids, proteins, amino acids and Nucleic acid	Basic concepts of chemical foundation, types of bonds and their importance in bio-molecules (proteins, carbohydrates, lipids and nucleic acid)
6)	To discuss and analyze the water-structure and properties	Understanding the unique properties of water that makes water an universal solvent and important for lives

## COURSE OBJECTIVES AND COURSE OUTCOMES

### F. Y. B. Sc. SEMESTER - II

### MICROBIOLOGY PAPER - I

### SUBJECT: BASICS OF MICROBIOLOGY (USMB 201)

Sr. No.	Course Objectives	Course Outcomes
1)	To explain and identify General properties, structure and reproduction of Viruses and bacteriophages	Understanding the structure of the different type of viruses and bacteriophages and the life cycle of viruses
2)	To explain and identify General properties and medical significance of Rickettsia, Coxiella, Chlamydia and Mycoplasma	To explain and identify General properties and importance of Nocardia and Streptomyces
3)	To explain and identify General properties and importance of Nocardia and Streptomyces	Students gain knowledge of antibiotic producing bacteria
4)	To explain and identify General properties and ecological importance of Archaea	Understanding mechanisms possessed by certain bacteria that can survive in extreme conditions
5)	To explain and identify general properties, life cycle, medical, economic and biological importance of Protozoa, Algae, Cyanobacteria, Fungi and Slime molds	Understanding structure and significance of photosynthetic and non-photosynthetic micro-organisms(algae, fungi and protozoa)
6)	To illustrate Different phases in Growth of bacterial cells and find Mathematical expression of bacterial growth  To evaluate direct and indirect methods to measure growth To explain the influence of environmental factors on growth	Understanding different phases in the growth of bacteria Students learn to calculate the generation time of bacteria  Students learn various methods of measurement of bacterial growth  Understanding the influence of environmental factors on the number and kind of bacteria