M.V.R. DEGREE COLLEGE
(UG And PG Courses)
(Affiliated to Andhra University)
An Institution of Priyadarshini Educational Academy
NAAC ACCREDITED COLLEGE

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DEPARTMENT OF MICROBIOLOGY

Bachelor of Science (B.Sc. MB BC BT)
APSCHE, Revised Syllabus of Microbiology under **CBCS** Frame Work
w.e.f 2020 – 21 (Revised in April, 2020)
Course Out Comes (Cos) for Microbiology

CODE	TITLE OF THE PAPER	OUTCOMES
MBT-1 (TH)	**INTRODUCTION TO MICROBIOLOGY AND MICROBIAL DIVERSITY**	**CO1:** The main objective of the course to know the students about contributions of scientists and to know the general characteristics of microorganisms. **CO2:** This course introduces to know the different methods of sterilization and concepts of microbial culture. **CO3:** The main objective of the course to make the students aware of Principles, Instrumentation and Handling of Microscopy and also the students understand about different staining techniques and culture medias. **CO4:** Students get the knowledge about microbial growth methods and steps in cultivation of microbes. **CO5:** The main objective of this course is to understand the students and get the

		knowledge about the structure of cell organelle of different prokaryotic and eukaryotic species.
MBP 1 (PR)	**INTRODUCTION TO MICROBIOLOGY AND MICROBIAL DIVERSITY**	**CO1:** To learn how to determine types of bacteria by using staining techniques. **CO2:** Able to acquire the techniques and inoculation methods. **CO3:** Preservation of bacterial cultures by various techniques. **CO4:** Microscopic observation of bacteria (Gram positive bacilli and cocci, Gram negative bacilli).
MBT II (TH)	**MICROBIAL PHYSIOLOGY AND BIOCHEMISTRY**	**CO1:** Describe the chemistry of carbohydrates, lipids, proteins and amino acids. **CO2:** Describe the classification and structural organization of proteins. **CO3:** Describe the primary, secondary, tertiary structure in proteins and identify the types of interactions important in each case.

		Describe and recognize the structure of nucleic acids compare and contrast – DNA and RNA. **CO4:** Describe the metabolic pathways of aerobic and anaerobic respiration pathways. To understand the oxygenic and anoxygenic photosynthesis in bacteria. **CO5:** The ability in classifying enzymes and also understand the mechanism of catalysis employed by the most well characterized enzymes. Explain how the enzyme activity is regulated and affected by temperature, Ph and concentration.
MBP II (PR)	**MICROBIAL PHYSIOLOGY AND BIOCHEMISTRY**	**CO1:** Able to acquire a knowledge about the analysis of carbohydrates and amino acids. **CO2:** To determine and estimate the DNA and RNA methods. **CO3:** Determination of immobilization

		of enzyme activity. **CO4:** Effect of temperature / Ph on enzyme activity.
MBT III (TH)	**MEDICAL MICROBIOLOGY AND IMMUNOLOGY**	**CO1:** Identify normal micro-flora of humans. General methods of laboratory diagnosis – cultural, biochemical, serological and molecular methods. **CO2:** Identify epidemiology of general bacterial diseases, fungal and protozoal diseases. Describe the life cycle, pathogenesis, laboratory diagnosis of viral diseases. **CO3:** Identify the pathology of diseases caused by Aspergillus, Penicillium and also Hemoflagellates. Students get the knowledge about antibacterial, antifungal and antiviral drugs. **CO4:** The main objective of this course study of the immune system cells and organs.

		CO5: Discuss diagnostic application of immunology: Practical aspects of antigen-antibody interaction: Precipitation and agglutination.
MBP III (PR)	**MEDICAL MICROBIOLOGY AND IMMUNOLOGY**	**CO1:** Identification of human blood groups and separate serum from the blood sample. **CO2:** To estimate the blood hemoglobin, and also differential the leucocyte count. **CO3:** Identify bacteria- *E. coli*, Pseudomonas, Staphylococcus, Bacillus, using laboratory strains on the basis of cultural, morphological and biochemical characteristics: IMVIC, Urease production and catalase tests. **CO4:** Study symptoms of the diseases with the help of photographs: Anthrax, Polio, Herpes, Chicken pox, HPV warts, Dermatomycoses (ring worms).
MBT IV (TH)	**INDUSTRIAL MICROBIOLOGY**	**CO1:** The main objective of this course to understand students how the

		microorganisms have the importance in industry. **CO2:** Have developed an understanding of different types of reactors or fermenters. **CO3:** Students get the knowledge about the role of microorganisms in pharma and therapeutic enzymes. **CO4:** Have acquired a detailed knowledge of number of products which are produced by industrial fermentation process. **CO5:** Students get the knowledge about bioreactors and it concepts.
MTP IV (PR)	**INDUSTRIAL MICROBIOLOGY**	**CO1:** To determine the production and estimation of alcohol. **CO2:** To isolate the amylase producing microorganisms from soil. **CO3:** Demonstration of fermenter. **CO4:** Microbial fermentation for the production and estimation of ethanol

		from grapes. **CO5:** Growth curve and kinetics of any two industrially important microorganisms.

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