

# Yashwantrao Chavan College of Science Karad

## Department of Microbiology (PG)

### Course Outcomes (COs)

#### MMT-101: Microbial Systematics

After completion of this course, students will be able to,

CO 1	To gain knowledge of systematics of bacteria
CO 2	To understand new trends in systematics of bacteria
CO 3	To learn different approaches bacterial systematics

#### MMT 102: Immunology

After completion of this course, students will be able to,

CO 1	Understand classes of immunoglobulin, organization and expression of immunoglobulin genes.
CO 2	Know details of major histocompatibility complex and disease susceptibility.
CO 3	Understand cytokines, hypersensitivity and their medical significance.
CO 4	Know immunodeficiencies and auto immunity.





### **MET 103 A: BIOCHEMISTRY**

After completion of this course, students will be able to,

CO 1	Understand basic concepts in biochemistry.
CO 2	Understand structural features and chemistry of macromolecules..
CO 3	Know membrane transport mechanism in bacteria.

### **MET-103 B MICROBIAL METABOLISM**

After completion of this course, students will be able to,

CO 1	Understand basic concepts of metabolism.
CO 2	Understand bioenergetics, aerobic respiration and anaerobic respiration.
CO 3	Know metabolism of carbohydrates, lipids and nucleic acids.

### **MET 103-C : ENVIRONMENTAL MICROBIOLOGY**

After completion of this course, students will be able to,

CO 1	Understand concept of aeromicrobiology, biosafety and waste water management.
CO 2	Understand bioremediation and biodegradation processes.
CO 3	Know environmental laws.





### **RM-106 Research Methodology**

After completion of this course, students will be able to,

CO 1	Understand basics of research methodology
CO 2	Apply knowledge in project or research work
CO 3	Analyse the data qualitatively and quantitatively
CO 4	Be aware about research ethics and misconduct
CO 5	Know the process of publishing research work

### **MMPR- 104 PRACTICAL COURSE-1**

After completion of this course, students will be able to,

CO 1	Operate high end laboratory instruments
CO 2	Know basic practical skills in Biochemistry
CO 3	Know basic practical skills in Immunology

### **MEPR- 105 PRACTICAL COURSE-II**

After completion of this course, students will be able to,

CO 1	Use basic software's for bacterial systematics
CO 2	Cultivate extremophiles.
CO 3	Conduct experiment for detection of pollution strength





## **MMT 201 GENETICS AND MOLECULAR BIOLOGY**

After completion of this course, students will be able to,

CO 1	Understand the basic concepts of microbial genetics
CO 2	Understand the process of inheritance
CO 3	Know the role of genes in cancer biology
CO 4	Know the molecular process of protein synthesis and recombination

## **MMT 202 FERMENTATION TECHNOLOGY**

After completion of this course, students will be able to,

CO 1	Understand the basic concepts of fermentation
CO 2	Know about different types of fermentors & fermentation processes and problems
CO 3	Understand specific fermentations of industrially important products
CO 4	Know about role of computer in fermentation technology

## **MET 203-A TECHNIQUES IN MICROBIOLOGY**

After completion of this course, students will be able to,

CO 1	Understand the basic concepts of techniques used in microbiology
------	--





CO 2	Know, how to preserve industrially important microorganisms.
CO 3	Understand good microbiological laboratory practices
CO 4	Know about general principles and working of analytical techniques

**MET 203-B QUALITY ASSURANCE AND VALIDATION IN PHARMACEUTICAL SECTOR**

After completion of this course, students will be able to,

CO 1	Understand the role of microbiologist pharmaceutical sector
CO 2	Know the basics of drug designing and development
CO 3	Understood microbial synthesis and standard operating processes in pharma industry
CO 4	Understand the role of regulatory affairs in pharma

**MET 203-C Microbial Ecology**

After completion of this course, students will be able to,

CO 1	Understand the basics of microbial ecology
CO 2	Study different microbial interactions and their significance
CO 3	Know emerging techniques used in microbial ecology
CO 4	Explore the applications of microbial ecology





### **MMPR 204- Practical Course I**

After completion of this course, students will be able to,

CO 1	Perform common molecular biology methods
CO 2	Understand practical aspects of fermentation processes
CO 3	Understand microbial ecology of different environments
CO 4	Calibrate colorimeter

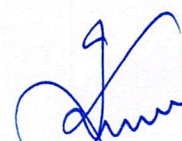
### **MEPR 205- Practical Course II**

After completion of this course, students will be able to,

CO 1	Perform different separation techniques
CO 2	Know about methods used to preserve microbial culture
CO 3	Perform environmental monitoring and microbial limit test



**HEAD**  
DEPARTMENT OF MICROBIOLOGY



**Principal**  
Yashwantrao Chavan College  
of Science, Karad.