



"Education for Knowledge, Science and Culture"

-Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur
(An Empowered Autonomous Institute)



(स्वायत्त) कोल्हापूर

Department of Microbiology (UG)

Academic Year 2025-26

Course Outcomes (COs): Microbiology

B.Sc. Part II Microbiology	
Semester III	
Paper V 2DSC03MIC31: Applied Microbiology - I	
CO No.	On completion of the course, student will be able to:
CO1	Understand the basic understanding of industrial microbiology
CO2	Determine potability of water
CO3	Understand and design sampling methods for microbial examination of air.
CO4	Understand principle and working of various instruments used in laboratory
Paper VI 2DSC03MIC32: Microbial Physiology	
CO No.	On completion of the course, student will be able to:
CO1	Explain various phases of growth in bacteria and various environmental factors affecting it.
CO2	Explain the microbial physiology, patterns of growth and various methods of bacterial growth measurement
CO3	Understand metabolic pathways & mode of energy generation.
CO4	Understand nutrient uptake and transport across the cell membrane
2 OEC 03MIC 31 Milk Microbiology	
CO No.	On completion of the course, student will be able to:
CO1	Learn about applied microbiology techniques related to milk

	microbiology
CO2	Perform and demonstrate different methods used to determine the quality of milk
CO3	Learn about role of microbes in milk
CO4	Determine role of microbes in spoilage of milk.

2VSC 03 MIC 39 Analytical Microbiology

CO No.	On completion of the course, student will be able to:
CO1	Prepare buffer solutions
CO2	Use and explain principle and working of spectrophotometer and pH meter
CO3	Estimate the various macromolecules like DNA, RNA & carbohydrates in given sample.
CO4	Explain various analytical methods used for separations

Semester IV

Paper VII 2 DSC03 MIC 41: Medical Microbiology -

CO No.	On completion of the course, student will be able to:
CO1	Understand basic principles of medical microbiology & infectious disease.
CO2	Explain various ways of prevention and control of microbial diseases.
CO3	Describe the types of organs involved in immune system.
CO4	Understand the salient features of Ag-Ab reaction & its uses.

Paper VIII 2 DSC03 MIC 42: Microbial Genetics - I

CO No.	On completion of the course, student will be able to:
CO1	Understand basic concepts of gene, mutation and DNA repair and recombination.
CO2	Describe the importance of genetic code & discuss molecular mechanism underlying mutation
CO3	Understand & explain the various gene transfer mechanisms in bacteria.
CO4	Understand Natural and artificial plasmids

2 OEC 03MIC 41 Water Microbiology

CO No.	On completion of the course, student will be able to:
CO1	Learn about applied microbiology techniques related to water microbiology
CO2	Perform and demonstrate different methods used to determine the quality of water
CO3	Learn about role of microbes in water
CO4	Determine potability of water.

2 VSC 03 MIC 39 Water and Milk Microbiology

CO No.	On completion of the course, student will be able to:
CO1	Learn about applied microbiology techniques related to milk & water microbiology
CO2	Perform and demonstrate different methods used to determine the quality of milk
CO3	Learn about role of microbes in milk & water
CO4	Describe methods used to determine the quality of water.



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