



"Education for Knowledge, Science and Culture"

-Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur
(Empowered Autonomous)



Department of Microbiology (UG)

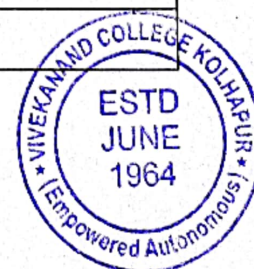
Academic Year 2023-24

Course Outcomes (COs): Microbiology

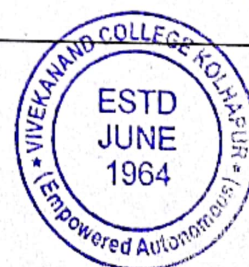
B.Sc. Part III Microbiology	
Semester V	
DSE-1010E1: Paper IX - IMMUNOLOGY	
CO No.	On completion of the course, student will be able to:
CO1	Understand the overall organization of the Immune system.
CO2	Explain the salient features of antigen antibody reaction & its use in diagnostics and in various other studies
CO3	Understand various viral, bacterial & fungal diseases, their causative agent, mode of infection, epidemiology lab diagnosis, treatment and prophylaxis
CO4	Explain different antimicrobial agents with respect to their mode of action uses
DSE-1010E2: Paper X - MEDICAL MICROBIOLOGY	
CO No.	On completion of the course, student will be able to:
CO1	Correlate disease symptoms with causative agent, isolate and identify pathogens.
CO2	Understand mechanism of action of antimicrobial drugs and their uses as prophylactic agents.
CO3	Explain pathogenicity of organisms associated with human infections.
CO4	Explain different antimicrobial agents with respect to their mode of action uses.



DSE-1010E3: Paper XI - INDUSTRIAL MICROBIOLOGY	
CO No.	On completion of the course, student will be able to:
CO1	Know methods used for industrial production of various products using microorganisms
CO2	Explain various techniques for product recovery after fermentation
CO3	Understand the cause of spoilage of food and methods for preservation of food
CO4	Explain various methods of preservation of industrially important microorganism
DSE-1010E4: Paper XII - MICROBIAL BIOCHEMISTRY	
CO No.	On completion of the course, student will be able to:
CO1	Explain Metabolic pathways and Bioenergetics
CO2	Understand Various downstream processing
CO3	Understand Basic concept related to enzyme
CO4	Determine enzyme production and its activity
SEC-SE: SEC 3-MANAGEMENT OF HUMAN MICROBIAL DISEASES	
CO No.	On completion of the course, student will be able to:
CO1	Explain the causes of immune deficiency diseases
CO2	Understand the cause and transmission of diseases
CO3	Design the diagnostic test and therapeutic agents
CO4	Apply their knowledge to prevent diseases
Semester VI	
DSE-1010F1: PAPER XIII - VIROLOGY	
CO No.	On completion of the course, student will be able to:
CO1	Describe various stages involved in multiplication cycle of viruses
CO2	Understand methodological approaches in isolation, cultivation & purification of viruses.
CO3	Distinguish characteristics of normal cell and cancerous cell



CO4	Explain various methods for enumeration of viruses
DSE-1010F2: PAPER XIV- MICROBIAL GENETICS	
CO No.	On completion of the course, student will be able to:
CO1	Understand molecular mechanism involved in gene regulation
CO2	Understand the basic concept of operon and mutation
CO3	Discuss the principle, working and applications of molecular biology techniques including PCR and DNA sequencing
CO4	Explain techniques used to manipulate genes & formation of clones
DSE-1010F3: PAPER XV- AGRICULTURAL MICROBIOLOGY	
CO No.	On completion of the course, student will be able to:
CO1	Understand various plant microbe interactions especially rhizosphere, phyllosphere and mycorrhizae and their applications especially the biofertilizers and their production techniques
CO2	Understand various biogeochemical cycles - C,N,P cycle and microbes involved
CO3	Perform isolation of agriculturally important microorganisms and formulate biofertilizers
CO4	Explain role of microorganisms and common symptoms of plant diseases
DSE-1010F4: PAPER XVI - ENVIRONMENTAL MICROBIOLOGY	
CO No.	On completion of the course, student will be able to:
CO1	Understand the basic principle of environment microbiology and be able to apply these principles to understanding and solving environmental problems
CO2	Know the Microorganisms responsible for water pollution and their transmission
CO3	Describe classification of lakes, sources, consequences and control of eutrophication
CO4	Explain various bioburden tet and clean room concepts



SEC-SF: SEC 4- FOOD FERMENTATION TECHNIQUES

CO No.	On completion of the course, student will be able to:
CO1	Understand the role of microorganisms in fermentation process
CO2	Start small scale food industry
CO3	Apply their knowledge in designing techniques for food processing
CO4	Explain the role and health benefits of microorganism in probiotic food




HEAD
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