"Dissemination of Education for Knowledge, Science and Culture"

-Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (An Empowered Autonomous Institute)

Department of Microbiology (PG)

Academic Year 2025-26

M. Sc. I Course outcomes

	M. Sc. I Semester I
Paper I DSC20MIC11	GENETICS AND MOLECULAR BIOLOGY
	On completion of the course, the students will be able to: CO 1 Know the mechanism of DNA replication in prokaryotes and eukaryotes CO 2 Understand the concept of unique and repetitive DNA sequences CO 3 Explain the modes of cell division with respect to mitosis and meiosis CO 4 Know basic and advanced techniques used in molecular genetics
Paper II DSC20MIC12	IMMUNOLOGY
	On completion of the course, the students will be able to: CO 1 Explain functioning of immune system CO 2 Describe regulatory mechanisms of immune system CO 3 Describe Cancer immunology and treatment and prevention of cancer CO 4 Narrate various serodiagnostic techniques of diseases.
Paper III E1 DSE20MIC11	TAXONOMY AND MICROBIAL DIVERSITY
	On completion of the course, the students will be able to: CO 1 Explain the diversity of microorganisms CO 2 Describe the concept of classification of microorganisms CO 3 Describe various characteristics of different types of microorganisms CO 4 Classify newly discovered organism
Paper III E2 DSE20MIC12	VIROLOGY
	On completion of the course, the students will be able to: CO 1 Illustrate life cycles of plant, animal and bacterial viruses CO 2 Describe plant virus transmission, effects of viruses on plant growth, and different plant diseases

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	CO 3 Explain therapy and prophylaxis of viral diseases. CO 4 Describe the methods of destruction of viruses
Paper III E3 DSE20MIC13	BIOMOLECULES
	On completion of the course, the students will be able to: CO 1 Understand different types of macromolecules of cell CO 2 Describe structure and synthesis of macromolecules of cell CO 3 Know functions of macromolecules of cell CO 4 Understand regulation of different metabolic pathways
Paper IV RMD20MIC11	RESEARCH METHODOLOGY
	On completion of the course, the students will be able to: CO 1 Understand fundamentals of research methodology CO 2 Know the importance of research interpretation and report writing CO 3 Understand bioinformatics and its applications CO 4 Know in detail about biostatistics
	Semester II
Paper V DSC20MIC21	TECHNIQUES IN MICROBIOLOGY
	On completion of the course, the students will be able to: CO 1 Differentiate various traditional and advanced techniques used in life science laboratory CO 2 Explain the working and mechanism of the techniques used in the life science research CO 3 Know regarding the ethics that have to follow in research studies CO 4 Understand different applications of the techniques in the research work
Paper VI DSC20MIC22	MICROBIAL PHYSIOLOGY, BIOCHEMISTRY AND METABOLISM
	On completion of the course, the students will be able to: CO 1 Understand various chemical reactions occurring during growth of organisms CO 2 Know biosynthesis of macromolecules CO 3 Describe mechanisms of macromolecules degradation CO 4 Explain basic concepts and some recent developments in biochemistry
Paper VII E1 DSE20MIC21	MEDICAL MICROBIOLOGY
	On completion of the course, the students will be able to: CO 1 Understand various bacterial, fungal, and viral diseases in

	humans CO 2 Understand mechanisms of disease development CO 3 Explain medical applications of microbial metabolites CO 4 Narrate immunological disorders.
Paper VII E2 DSE20MIC22	MICROBIAL ECOLOGY
	On completion of the course, the students will be able to: CO 1 Understand concept of microbial ecosystem CO 2 Describe the effect of environmental factors on the microbial life CO 3 Explain interactions of microbes with other microbes and other living systems like plants and animals. CO 4 Know control of pest with biological way
Paper VII E3 DSE20MIC23	MICROBIAL BIOTECHNOLOGY
	On completion of the course, the students will be able to: CO 1 Describe scope of biotechnology for betterment of human life CO 2 Explain production of various microbial products through gene engineering CO 3 Narrate various applications of microbial biotechnology in agriculture CO 4 Know various applications of microbial biotechnology in food, and pharmaceutical industry

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