

“Dissemination of Education for Knowledge, Science and Culture”

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Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Microbiology

Content with Focus on Employability, Entrepreneurship, Skill Development

Academic Year 2022-23 and 2023-24

Sr. No.	Name of the Course	Course Code	Year of Introduction	Content with focus on employability	Content with focus on entrepreneurship	Content with focus on skill development
M.Sc. Microbiology (Newly Introduced from 2022-23)						
1.	Taxonomy and Microbial Diversity	CC- 2400	2022-23	-	-	Classify newly discovered organism
2.	Virology	CC- 2401	2022-23	Explain therapy and prophylaxis of viral diseases	-	-
3.	Genetics and Molecular Biology	CC- 2402	2022-23	Know basic and advanced techniques used in molecular genetics	-	-
4.	Immunology	CC- 2403	2022-23	Describe Cancer immunology and treatment and prevention of cancer	-	Narrate various serodiagnostic techniques of diseases



5.	Techniques in Microbiology	CC-2406	2022-23		Understand various traditional and advanced techniques used in life science laboratory	Understand different applications of the techniques in the research work
6.	Microbial Physiology, Biochemistry and Metabolism	CC-2407	2022-23	Understand mechanisms of macromolecules degradation		Understand basic concepts and some recent developments in biochemistry
7.	Medical Microbiology	CC-2408	2022-23	Understand various bacterial, fungal, and viral diseases in humans	Understand medical applications of microbial metabolites	
8.	Microbial Ecology	CC-2409	2022-23	Understand the effect of environmental factors on the microbial life	Know interactions of microbes with other microbes and other living systems like plants and animals.	Know control of pest with biological way
9.	Genetics and Molecular Biology	DSC20MIC11	2023-24			Know basic and advanced techniques used in molecular genetics



10.	Immunology	DSC20MIC12	2023-24	Describe Cancer immunology and treatment and prevention of cancer	-	Narrate various serodiagnostic techniques of diseases.
11.	Taxonomy and Microbial diversity	DSE20MIC11	2023-24	Describe various characteristics of different types of microorganisms	-	Classify newly discovered organism
12.	Virology	DSE20MIC12	2023-24	Explain therapy and prophylaxis of viral diseases	-	Describe the methods of destruction of viruses
13.	Biomolecules	DSE20MIC13	2023-24	Know functions of macromolecules of cell	-	Understand regulation of different metabolic pathways
14.	Research Methodology	RMD20MIC11	2023-24	Understand fundamentals of research methodology	Understand bioinformatics and its applications	-
15.	Techniques in Microbiology	DSC20MIC21	2023-24	Explain the working and mechanism of the techniques used in the life science research	-	Understand different applications of the techniques in the



						research work
16.	Microbial Physiology, Biochemistry and Metabolism	DSC20MIC22	2023-24		Know biosynthesis of macromolecules	Explain basic concepts and some recent developments in biochemistry
17.	Medical Microbiology	DSE20MIC21	2023-24	Understand mechanisms of disease development		Explain medical applications of microbial metabolites
18.	Microbial Ecology	DSE20MIC22	2023-24	Explain interactions of microbes with other microbes and other living systems like plants and animals		Know control of pest with biological way
19.	Microbial Biotechnology	DSE20MIC23	2023-24	Explain production of various microbial products through gene engineering	Narrate various applications of microbial biotechnology in agriculture	Know various applications of microbial biotechnology in food and pharmaceutical industry
20.	Biostatistics, Bioinformatics And Scientific Writing	CC-2412	2023-24			Construct scientific documents, present and publish



						research papers, acknowledge legal aspects of scientific authorship
21.	Enzymology And Enzyme Technology	CC-2413	2023-24		Narrate various applications of enzymes	
22.	Fermentation Technology	CC-2414	2023-24		Produce vitamins, organic acids, beverages and vaccines	fermentation economics and patents
23.	Quality Control Microbiology I	CC-2415	2023-24	Explain good microbiological laboratory techniques		Describe various techniques of microbial control
24.	Food And Dairy Microbiology	CC-2418	2023-24	Explain role of enzymes in food processing, various applications of enzymes, and laws regarding food safety	Prepare various Indian and western fermented foods	
25.	Industrial Waste Management	CC-2419	2023-24	Write Microbiology and biochemistry of wastewater treatment		Explain biological methods of industrial waste
26.	Recombinant DNA Technology	CC-2420	2023-24		Explain various applications of DNA technology	Explain basic tools of recombinant DNA technology



27.	Quality Control Microbiology II	CC-2421	2023-24	Explain quality management systems in pharmaceutical products	Explain cleanrooms classification, contamination, testing and microbiological environmental monitoring	
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