

Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Microbiology

Content with Focus on Employability, Entrepreneurship, Skill Development

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
B.Sc. Microbiology (Newly Introduced between 2018-19 and 2020-21)						
1	Introduction to Microbiology and Microbial diversity	DSC-1010A	2018-19	Apply various physical and chemical methods for sterilization of different materials		Identify microorganisms using staining techniques
2	Bacteriology & applied microbiology	DSC-1010B	2018-19	Explain techniques of preservation of microbial culture.	Analyze the milk microbiologically	Analyze the milk microbiologically
3	Microbial Physiology , Metabolism and Applied Microbiology	DSC- 1010C	2019-20	Design and control bioreactor for maximizing the production.	Design and control bioreactor for maximizing the production.	Apply their knowledge to control microbial load present in the air at various industrial work places as well as for preservation of food.
4	Microbial Genetics, Molecular Biology , Basics in Medical Microbiology &	DSC- 1010D	2019-20	Explain various terms used in medical microbiology, different modes of transmission, prevention		



	Immunology			and control of microbial diseases.		
5	Immunology and Medical Microbiology	DSC-1019E1	2020-21		Understand various viral, bacterial & fungal diseases , their causative agent , mode of infection , epidemiology lab diagnosis , treatment and prophylaxis.	Understand various viral, bacterial & fungal diseases , their causative agent , mode of infection , epidemiology lab diagnosis , treatment and prophylaxis.
6	Industrial Microbiology and Microbial Biochemistry	DSC-1019E2	2020-21	Various downstream processing	Various downstream processing	Various downstream processing
7	Management of Human Microbial Diseases	SEC-SE	2020-21	Design the diagnostic test and therapeutic agents.		Design the diagnostic test and therapeutic agents.
8	Virology and Microbial Genetics	DSE – 1019 F 1	2020-21		Methodological approaches in isolation , cultivation & purification of viruses.	Methodological approaches in isolation , cultivation & purification of viruses.

9	Agricultural and Environmental Microbiology	DSE – 1019 F2	2020-21			Know the Microorganisms responsible for water pollution and their transmission
10	Food fermentation techniques	SEC-SE	2022-23		Small scale food industry	Designing techniques for food processing
11	Introduction to microbiology and microbial diversity	DSC 1010 A	2021-22	Apply various physical and chemical methods for sterilization of different materials.		Identify microorganisms using staining techniques
12	Basic techniques in Microbiology	DSC 1010 B	2021-22	Explain techniques of preservation of microbial culture.	Analyze the milk microbiologically.	Identify different kinds of microorganisms on the basis of their morphological, cultural & biochemical characters.
13	Microbial Physiology and Metabolism	DSC 1010 C1	2022-23	Explain the microbial physiology , patterns of growth and various methods of bacterial growth measurement .		
14	Industrial and Applied Microbiology	DSC- 1010C2	2022-23	1. Basic fermentation process, design of fermenters and their types. 12Understand principle and working of various		1. Understand principle and working of various instruments used in laboratory. 2. Understand and design



				instruments used in laboratory. 3. Understand and design sampling methods for microbial examination of air.		sampling methods for microbial examination of air.
15	Microbiological analysis of air and water	SEC-SE	2022-23	Techniques for microbiological examination of water		Techniques for microbiological examination of water
16	Microbial Genetics and Molecular Biology	DSC 1010 D1	2022-23	Various gene transfer mechanisms in bacteria		
17	Basics in Medical Microbiology and Immunology	DSC 1010 D2	2022-23	Various ways of prevention and control of microbial diseases		
18	Microbial diagnosis in health clinics	SEC-SE	2022-23	laboratory diagnosis of pathogen.	laboratory diagnosis of pathogen.	laboratory diagnosis of pathogen.
19	Immunology	DSE: 1010E1	2022-23			
20	Medical Microbiology	DSE:1010E1	2022-23	Disease symptoms with causative agent, isolate and identify pathogens		
21	Industrial Microbiology	DSE-1010E2	2022-23	Techniques for product recovery after fermentation		Techniques for product recovery after fermentation Methods for preservation of food.
22	Microbial Biochemistry	DSE-1010E2	2022-23		Extraction and purification of enzymes from microorganisms	Extraction and purification of enzymes from microorganisms
23	Management of Human Microbial Diseases	SEC-SE	2022-23	Design diagnostic test and therapeutic agents		Design diagnostic test and therapeutic agents

24	Virology	DSE-1010F1	2023-24	Methodological approaches in isolation, cultivation and purification of viruses		Methodological approaches in isolation, cultivation and purification of viruses
25	Microbial Genetics	DSE-1010F1	2023-24	Principle, working and applications of molecular biology techniques including PCR and DNA sequencing		Principle, working and applications of molecular biology techniques including PCR and DNA sequencing
26	Agricultural Microbiology	DSE - 1010 F 2	2023-24	Isolation of agriculturally important microorganisms and formulate biofertilizers	Isolation of agriculturally important microorganisms and formulate biofertilizers	Isolation of agriculturally important microorganisms and formulate biofertilizers
27	Environmental Microbiology	DSE - 1010 F 2	2023-24			Know microorganisms responsible for water pollution and their transmission.
28	Food fermentation techniques	SEC-SE	2023-24		Small scale food industry	Designing techniques for food processing
29	Introduction to Microbiology	DSC03MIC11	2023-24			Identify microorganisms using staining techniques



30	Bacteriology	DSC03MIC12	2023-24			1. Compound Microscope 2. Sterilization of culture media and glasswares
31	Introduction to Microbiology	MIN03MIC11	2023-24			Identify microorganisms using staining techniques
32	Bacteriology	MIN03MIC12	2023-24			1. Compound Microscope 2. Sterilization of culture media and glasswares
33	General Microbiology	OEC03MIC11	2023-24			Staining techniques
34	Techniques in Microbiology	OEC03MIC12	2023-24			1. Compound Microscope 2. Sterilization of culture media and glasswares
35	Basic Biochemistry	DSC03MIC21				
36	Microbial nutrition and techniques	DSC03MIC22				Aseptic techniques
37	Basic Biochemistry1	MIN03MIC21				
38	Microbial nutrition and techniques	MIN03MIC22				Aseptic techniques
39	Microbial nutrition and control	OEC03MIC21				Aseptic techniques



40	Water and air Microbiology	OEC03MIC22		Analysis of bacteriological quality of water	Analysis of bacteriological quality of water	Analysis of bacteriological quality of water
----	-------------------------------	------------	--	--	--	--

G. K. Sontakke

Dr. G. K. Sontakke

HEAD
DEPARTMENT OF MICROBIOLOGY
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

