



"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)**

**Course Outcomes (COs): Microbiology**

**Academic Year 2023-24**

| <b>B.Sc. Part I Microbiology</b>                |  |
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| <b>Semester I</b>                               |  |
| <b>DSC03MIC11: INTRODUCTION TO MICROBIOLOGY</b> |  |
| <b>CO No.</b>                                   | <b>On completion of the course, student will be able to:</b>   |
| CO1   | Acquire knowledge of the diversity, distribution & significance of different types of microorganisms.        |
| CO2   | Understand the structure & functions of various cell organelles of bacteria.                                 |
| CO3   | Explain bacterial taxonomy & systems for classification of microorganisms.                                   |
| CO4   | Understand the basic microbial structure & study the comparative characteristics of prokaryotes & eukaryotes |
| <b>DSC03MIC12: BACTERIOLOGY</b>                 |  |
| <b>CO No.</b>                                   | <b>On completion of the course, student will be able to:</b>   |
| CO1   | Get insight into working & importance of compound microscope   |
| CO2   | Use different techniques for sterilization of microbiological culture media & glassware                      |
| CO3   | Learn about principle, construction , working & applications of electron microscope                          |
| CO4   | Comprehend various staining methods for identification of unknown microorganism                              |
| <b>OEC03MIC11: GENERAL MICROBIOLOGY</b>         |  |
| <b>CO No.</b>                                   | <b>On completion of the course, student will be able to:</b>   |
| CO1   | Acquire knowledge of the diversity, distribution & significance of different types of microorganisms.        |

|   |   |
|---|---|
| CO2   | Understand the structure & functions of various cell organelles of bacteria.                                  |
| CO3   | Explain bacterial taxonomy & systems for classification of microorganisms.                                    |
| CO4   | Understand the basic microbial structure & study the comparative characteristics of prokaryotes & eukaryotes. |
| <b>OEC03MIC12: TECHNIQUES IN MICROBIOLOGY</b>         |   |
| <b>CO No.</b>   | <b>On completion of the course, student will be able to:</b>  |
| CO1   | Get insight into working & importance of compound microscope  |
| CO2   | Use different techniques for sterilization of microbiological culture media & glassware                       |
| CO3   | Learn about principle, construction, working & applications of electron microscope.                           |
| CO4   | Comprehend various staining methods for identification of unknown microorganism.                              |
| <b>Semester II</b>                                    |   |
| <b>DSC03MIC21 : BASIC BIOCHEMISTRY</b>                |   |
| <b>CO No.</b>   | <b>On completion of the course, student will be able to:</b>  |
| CO1   | Understand building blocks of proteins & formation of polypeptides.   |
| CO2   | Explain structure of carbohydrates & it's types with key properties.  |
| CO3   | Learn about basic concepts of enzyme biochemistry including it's structure & functions.                       |
| CO4   | Understand how nucleic acids are organized & their types.   |
| <b>DSC03MIC22: MICROBIAL NUTRITION AND TECHNIQUES</b> |   |
| <b>CO No.</b>   | <b>On completion of the course, student will be able to:</b>  |
| CO1   | Know general bacteriology & microbial techniques for isolation of pure culture of bacteria                    |
| CO2   | Learn aseptic techniques & be able to perform routine culture handling task safely & effectively.             |
| CO3   | Classify microorganisms based upon their nutritional requirements.  |
| CO4   | Know about different culture collection centres & their importance.   |
| <b>OEC03 MIC21: MICROBIAL NUTRITION AND CONTROL</b>   |   |
| <b>CO No.</b>   | <b>On completion of the course, student will be able to:</b>  |
| CO1   | Classify microorganisms based upon their nutritional requirements.  |
| CO2   | Design the suitable growth medium for cultivation of microorganisms   |
| CO3   | Learn aseptic techniques & be able to perform routine culture handling task safely & effectively.             |
| CO4   | Use different techniques for sterilization of microbiological culture media & glassware                       |



| OEC03 MIC22: WATER AND AIR MICROBIOLOGY |   |
|---|---|
| CO No.                                  | On completion of the course, student will be able to:   |
| CO1                                     | Analyze the bacteriological quality of water  |
| CO2                                     | Understand the various water purification processes   |
| CO3                                     | Explain the role of organism in spoilage of milk.   |
| CO4                                     | Use the various test to check the quality of milk   |
| SEC03MIC29: DAIRY MICROBIOLOGY          |   |
| CO No.                                  | On completion of the course, student will be able to:   |
| CO1                                     | Understand the concepts, technicalities and computational procedures developed by great Indian Astronomers over the past 2000 years   |
| CO2                                     | Understand the nature of Contribution Made by Indian mathematicians   |
| CO3                                     | This course aims to provide students with a comprehensive understanding of the historical progression of chemistry in India. Covering key periods from the pre-Harappan era to the Iatrochemical period |
| CO4                                     | Understand the importance of Ayurveda in everyday life and enable to advise the constitutional method of diet and Ayurveda life style.  |



*FM*  
**HEAD**  
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