**Balasaheb Desai College Patan**
**Department of Microbiology**
**Course outcomes**
**Year -2023-24**

| **Department of Microbiology:** | |
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| Programme Outcome | Students will be able to acquire, and apply knowledge relevant to Microbiology. |
| | Students will acquire and demonstrate competency in laboratory safety and in routine and specialized microbiological laboratory skills applicable to microbiological research or clinical methods, including accurately reporting observations and analysis. |
| | Students will communicate scientific concepts, experimental results and analytical arguments clearly and concisely, both verbally and in writing. |
| | Students will demonstrate engagement in the Microbiology discipline through the field visit and Microbiology Student Association (MSA) and outreach activities specific to microbiology. |
| Programme Specific Outcome | A general course emphasizing distribution, morphology and physiology of microorganisms in addition to skills in aseptic procedures, isolation and identification. This course also includes material covering immunology, virology, epidemiology and fermentation technology. Recommended for all allied health students. Five theory lecture and four hours lab per week for B.Sc. part I and six theory lecture and eight hours lab per week for B.Sc. part II. |
| **B.Sc. Part I - Course Outcomes** | |
| **Courses** | **Outcomes** |
| DSC - 25 A Introduction to Microbiology | On successful completion of this paper the students will gain basic knowledge about Microbiology starting from history, Basic laboratory techniques like microscopy and basic knowledge about the Staining. |
| DSC - 26 A Microbial Diversity | This paper will provide a complete picture about the taxonomical classification of microbes. Enable the student to get sufficient knowledge in principles of sterilization and Nutrition of bacteria. |
| DSC - 25 B Bacteriology | To inculcate knowledge in cell structure and their function. On successful completion of this paper the students should have Knowledge on cultivation of microorganisms. |
| DSC - 26 B Biochemistry | Enable the student to get sufficient knowledge about Biomolecules and Microbial Metabolism. |
| Practical course ( I and II ) | The aim of this is to deliver practical knowledge and the implementation of the concepts studied. |
| **B.Sc. Part II - Course Outcomes** | |
| **Courses** | **Outcomes** |
| DSC-25 C Microbial physiology and Metabolism | To inculcate knowledge in basics in microbial physiology. On successful completion of the paper the student should have understood basic Structure and metabolism of Biomolecules |
| DSC - 26 C Applied microbiology | Enable the student to get sufficient knowledge in relationship between microbes and milk, air and water. Enable the student to get sufficient knowledge in techniques used in to check Microbial quality. |
| DSC 25 D Microbial Genetics and Molecular | On successful completion of the paper the student should have understood: Basic genetics and their role. On successful completion of the subject the |

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| biology | student should have understood the molecular aspects of genetics |
| DSC 26D Medical Microbiology and Immunology | To inculcate knowledge in human immune response towards micro organisms and different aspects about disease. |
| Practical Course | To inculcate knowledge in student about microbiological techniques required to handle micro organisms. |
| **B.Sc. Part III - Course Outcomes** | |
| **Courses** | **Outcomes** |
| Course IX (DSE E 49) Virology | To inculcate knowledge about virus, their life cycle ,cultivation and their role in causing disease like cancers. |
| Course X (DSE E 50) Immunology | To inculcate knowledge in human immune response towards micro organisms. |
| Course XI (DSE E 51) Food and industrial Microbiology | Enable the student to get sufficient knowledge in relationship between food and microbes, techniques used in food processing.<br>Focus on food processing, nutrition , food science& food processing technology. And also study methods of refrigeration, material handling and food preservation. |
| Course XII(DSE E 52) Agriculture Microbiology | To inculcate knowledge in role of micro organisms in eco system and impact created by microbes in agricultural development. |
| Course XIII(DSE F49) Microbial Genetics | On Successful Completion of this subject the students should have a sound knowledge about the Recombinant DNA Techniques used in microbiological research.<br>This subject deals with genome sequencing, microarray analysis, nucleic acid purification, real-time PCR, and cell analysis. |
| Course XIV(DSE F50) Microbial Biochemistry | To inculcate knowledge in cell divisions, functions and microbial physiology and also biochemical properties of molecules |
| Course XV (DSE F 51) Environmental Microbiology | To inculcate knowledge in role of micro organisms in eco system and impact created by microbes in agricultural development. |
| Course XVI(DSE F 52 ) Medical Microbiology | To inculcate knowledge in relationship between human disease and micro organisms, pathogenicity, laboratory diagnosis and treatment methods. |
| Practical I,II,III,IV | On Successful Completion of this subject the students should have a sound knowledge and hands on training of bioassay, estimation , enrichment and isolation ,serological techniques<br>Enable the student to get sufficient knowledge in principles and applications of bio instruments.<br>To inculcate knowledge in basic techniques implemented to the analysis of human samples. |

Balasaheb Desai College, Patan Estd. 1969 Dist.- Satara

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