

Devchand College, Arjunnagar
P.G. Department of Microbiology

Program Specific Outcome (PSOs)

1. Learn about characters and classification of microbes
2. Study physiology and reproduction in microbes
3. Learn techniques of isolation ,culture and preservation of clinical microbes
4. Get knowledge of disease development stages and control of diseases
5. Become skilled at techniques of Chromatography ,Microscopy, Spectroscopy, electrophoresis and so on
6. Understand concepts in microbial ecology

Course Outcome (COs)

M.Sc.- I ,Semester –I

Paper I Taxonomy and Microbial Diversity (MIC-101)

1. Understand general characteristics of different groups of microbes
2. Study classification and Morphology of some Fungi
3. Learn about characters and physiology oxygenic and anoxygenic photosynthetic bacteria
4. Well versed with isolation of Magnetotactic bacteria
5. Understand Bergeys manual, classification of prokaryotic organisms and modern trend in prokaryote taxonomy

Paper II – Virology (MIC-102)

1. Study reproductive cycle and interactions of phages
2. Get Knowledge of transmission of plant viruses and its effects on plants
3. Students could study reproductive cycle of animal viruses and differentiate genetic material
4. Understand slow viruses, DI particles, inhibition and inactivation of bacteriophages, animal and plant viruses and antiviral chemotherapy

Paper III- Immunology (MIC-103)

1. Understanding of Major histocompatibility complex, T cells, T cell signaling by cytokines and its role in immune response
2. Get knowledge of complement system, Antibodies and its diversity, immune modulation, potential, tolerance and suppression along with vaccines

3. Learn about transplantation and tumor immunology
4. Learn techniques of serological tests used for disease diagnosis

Paper IV- Genetics and molecular biology(MIC-104)

1. Collect information about origin and evolution of economically important microbes
2. Understand Principles of mendelian inheritance
3. Learn about molecular basis of mitosis and meiosis
4. Study molecular mechanism of recombination and restriction and modification of DNA
5. Get knowledge about teratogenesis, cancer and oncogenesis,
6. Learn practical procedures of techniques in molecular genetics

M.Sc.- I, Semester –II

Paper –V, Techniques in Microbiology (MIC-201)

1. Learn Techniques of microbial culture and their preservation
2. Study different methods of isolation and culture of microbes
3. Get knowledge about human and animal pathogenic fungi
4. comprehend principles and working mechanism and applications of various microscopy and spectroscopy techniques
5. Become skilled at principles, mechanism and applications of Chromatography
6. Students will be trained for techniques such as electrophoresis and centrifugation

Paper-VI , Microbial physiology, Biochemistry and metabolism (MIC-202)

1. Know the mechanism of carbohydrate metabolism in microbes
2. Get Knowledge of mechanism of respiration
3. Students will acquire knowledge about drug metabolism in microbes
4. Get hold on mechanism of protein and lipid metabolism
5. Study microbial hormones

Paper-VII, Medical Microbiology (MIC-203)

1. Get knowledge about disease development stages
2. Study microbial attributes that enable them to develop diseases
3. Learn the mechanism of pathogen survival
4. Adopt knowledge about clinical specimen collection , processing and transport
5. Study bacterial ,fungal and viral diseases with respect to pathogen morphology, biochemical ,antigenic characters
6. Get knowledge about transmission ,prevention and control of diseases
7. Learn about different methods and techniques of diseases diagnosis

Paper –VIII, Microbial Ecology(MIC-204)

1. Understand Concepts of microbial ecology
2. Get knowledge of microbial community and ecosystem
3. Study physiological ecology
4. Understand microbe-microbe, microbe-plant and microbe –animal interactions
5. Learn ecological control of pests and diseases