

## Shivaji University, Kolhapur

**Name of Department: Agrochemicals & Pest Management**

**Name of Programme: M. Sc Agrochemicals & Pest Management**

Vision - Innovate advanced methods of farming and to cater the need of the Agrochemical Industries		
Mission-1. Development of Pesticide Residue Testing Laboratory. 2. Development of New Lead molecules with Agricultural Importance. 3. Rearing of Bio-control agents for controlling Insects Pests		
Program Outcomes		
<p>The M.Sc in agrochemicals and pest management program includes the four semesters with each semester have four papers. In addition to theory papers, there is also 200 marks practical in each semester. The first and second semester is general one giving significant importance to all to make a good theoretical background of students.</p> <p>The semester third and fourth totally assigned on entomology, pathology and it deeply covered most of the aspects of modern pest management and control views. In this program, students trained in such a way that they can gain good knowledge of theoretical and practical skill of experimentation. It helps to build their career in various fields like development of pest control, rearing of pest, synthesis of pesticides and fertilizers.</p>		
Program Specific Outcomes		
1. Synthesis of new lead molecules as pesticides 2. Development of the methods for Agrochemical residue analysis 3. Development of new Bio pesticides 4. Rearing of Bio control agents for Insect Pest Management Micronutrient Research		
Course Outcomes		
Part-I Semester-I		
Course code CC-101	Course title CHEMISTRY OF	CO1. Chemistry of Pesticides: Students will be able to understand the basic

	<p><b>PESTICIDES AND THEIR FORMULATIONS – I</b></p>	<p>chemistry of pesticides, Introduction: History of pesticides, Innovation in pesticide Chemistry, Development of Pesticides. Chemical and Botanical pesticides, Classification of pesticides</p> <p>CO2. Recent advances in pest control This course introduce Recent insect attractants and their different types like Chemosterilants and Repellents, Applications of Neem in plant protection: Introduction, Chemical constituents and Mode of action, Bioefficacy of neem Preparations.</p> <p>CO3 This course includes chemistry of Organophosphates and basics physical and chemical properties.</p> <p>CO4 Introduction of pesticide formulations: Definition, History, Purpose, Types and Codes, Brief account of main types</p>
<p>Course code CC-102</p>	<p>Course title <b>SOIL SCIENCE, FERTILIZERS AND MICRONUTRIENTS</b></p>	<p>CO5. Soil Science Students will be able to understand the basic nature and properties of soil, Importance of Soil formation, Properties and Composition of Soils, Effects of modern agro-technology and pesticides on soil,</p> <p>CO6. Fertilizers This course includes Classification and types of fertilizers, Essential fertility requirements:</p> <p>CO7. Micro nutrients Student able to understand Definition, Types, Properties and Uses of micronutrients, Deficiency and Reclamation.</p> <p>CO8. Manures In this includes the basic concept of manures and bio fertilisers</p>
<p>Course code CC-103</p>	<p>Course title <b>INTRODUCTORY AND INDUSTRIAL ENTOMOLOGY</b></p>	<p>CO9 Introduction to Insects This course include basic concepts of General characters, General description and morphology of the Insect, General life cycle patterns</p>

		of insect pests, Insects of Industrial Importance.
Course code CC-104	Course title BASIC CONCEPTS IN PLANT PATHOLOGY	CO10. This course includes Science of plant Pathology, Plant disease, Pathogen,
Part-I Semester-II		
Course code CC-201	Course title CHEMISTRY OF PESTICIDES AND THEIR FORMULATIONS-II	CO11. Carbamate Pesticides In this paper various pesticides likes Inorganic pesticides, Pyrethroids and Other Natural Pesticides ncludes their synthesis and various properties. CO12. Important parameters of pesticides formulations contain Factors affecting quality of pesticides CO13. Controlled release pesticides fertilizers and their formulations, Formulations in seed treatment
Course code CC-202	Course title ANALYTICAL TECHNIQUES FOR AGROCHEMICALS	CO14. Various separation methods like solvent extraction, chromatographic and electrochemical are discussed in detail along with their applications.
Course code CC-203	Course title ECONOMIC ENTOMOLOGY	CO14. In this course Study of the major and minor pests. Biology, Nature of Damage and Control Measures
Course code CC-204	Course title AGRONOMY, SEED TECHNOLOGY, PATHOLOGY, WEED SCIENCE AND BIOSTATISTICS	CO15. As the name indicates this course deals with the seed technology, plant pathology and weed science.
Part-II Semester-III		
Course code CC-301	Course title PESTICIDE RESIDUES AND TOXICOLOGY	CO16. In this course includes PESTICIDE RESIDUES AND TOXICOLOGY

Course code CC-302	Course title PESTS OF CROP PLANTS AND THEIR CONTROL- I	CO17. This course deals with morphology of pest and their controls
Course code CC-303	Course title ANALYSIS OF AGROCHEMICALS	CO18. Introduction of characterization methods used in agrochemicals.
Course code CC-304	Course title Diseases of Vegetables, Fruit trees, Plantation trees, Forest trees and Ornamental Plants.	CO19. As the name indicates this course deals with various plant diseases.
Part-II semester-IV		
Course code CC-401	Course title AGRO-BASED MARKETING MANAGEMENT	CO20. This course includes the basics concept of marketing strategy of agro products.
Course code CC-402	Course title PESTS OF CROP PLANTS AND THEIR CONTROL – II	CO21 It includes Bio-control in Agro-ecosystem through management & Entomophagous insects
Course code CC-403	Course title MANUFACTURES OF AGROCHEMICALS	CO22. In this course, industrially related topics like various methods used for manufacturing agrochemicals are include.
Course code CC-404	Course title Agricultural Biotechnology and Integrated Disease Management	CO23. This course include tissue culture, Genetic Engineering and Integrated disease management