COURSE OUTCOMES (CO'S)

SEMESTER I

Course Code: CHC 100

Title of the Course: Fundamentals of Chemistry

Number of Credits: Theory - 3, Practical - 1

Course outcomes (Theory)

1. Identify the properties of liquids and gases.
2. Explain the applications of liquid and gas.
3. Elucidate the atomic structure based on Quantum Theory.
4. Identify the use of curved arrow notation's inorganic reaction mechanisms.
5. Understand various methods of preparation and reactions of alkanes, alkenes and alkynes.

Course outcomes (Practical)

1. To acquire the knowledge and skill of basic volumetric and gravimetric estimations.
2. The students will be able to get hands-on experience on the purification techniques for organic compounds.
3. The students will be able to get hands on experience on the identification of chemical nature of organic compounds.

Course Code: MIC-100

Title of the Course: Basics of Microbiology

Number of Credits: Theory - 3, Practical - 1

Course outcomes

1. Understand different types of microorganisms and apply the knowledge of different classification systems for grouping microorganism.
2. Explain the cellular organisation of prokaryotic and eukaryotic cells.

3. Apply the techniques for obtaining and preserving pure cultures of bacteria.

4. Elaborate on physical and chemical methods of microbial control

Course Code: BOT-111

Title of the Course: Plants in Everyday Life

Number of Credits: Theory - 4

Course outcomes

1. Recall various economically and medicinally important plant species used in day-to-day life.

2. Explain the uses of economically important plants and illustrate the processing of various plant parts.

3. Analyse the utilization of various plant resources in day-to-day life.

4. Apply theoretical knowledge in utilization, and report generation of economical and medicinal plants. Create awareness on conservation of medicinal plants and use of natural plant products as alternatives to synthetic products.

Course Code: MAT-112

Title of the Course: Elementary Statistics

Number of Credits: Theory - 3, Practical - 1

Course outcomes

1. Interpret data and graphically represent it.

2. Calculate measures of central tendencies and variations.

3. Analyze correlation and regression.

4. Solve problems in Probability theory.

5. Understand different data sampling techniques.

6. Apply statistical quality control.

Course Code: POL-131

Title of the Course: Contemporary Issues in India

Number of Credits: Theory - 3

Course outcomes

1. Understand the dynamics of important national and local events.
2. Develop conceptual understanding linked to events.
3. Know about the trend of functioning of state agencies in India.
4. Critically analyze various events in the news in India.
5. Learn to articulate various events in India.
6. Understand the interrelation between various events in India.

Course Code: BOT-141

Title of the Course: Nursery and Gardening

Number of Credits: Theory - 3, Practical - 1

Course outcomes

1. Explain the objective and scope of a plant nursery and garden.
2. Describe the different types of gardens and their features.
3. Analyze the different routine operations in nursery management and gardening.
4. Develop skills in designing a plant nursery and different types of gardens, routine operations in gardening and nursery management, cultivation practices for entrepreneurial opportunities.

Course Code: VAC-104

Title of the Course: Constitutional Values and Obligations

Number of Credits: Theory - 2

Course outcomes

1. Understand the world, country, society and have awareness of ethical problems, social rights, values and responsibility to the self and to others.

2. Understand and follow changes in patterns of political behaviour, ideas and structures.

3. It will develop skills such as confidence in negotiation, public speaking, and a good understanding of political system.

4. It will foster critical thinking skills. It encourages students to question assumptions, evaluate evidence, and think logically about complex issues. These skills are valuable in a variety of careers, from law and journalism to business and public service.

Course Code: VAC-116

Title of the Course: Life Skills

Number of Credits: Theory - 2

Course outcomes

1. Explain the importance of Life Skills: Emotional, Social, Critical thinking, and Creative thinking.

2. Understand the connection between emotional, social and thinking skills.

3. Use life skills in their own personal lives as well as in their profession.

4. Develop their critical and creative thinking skills.

Course Code: ENG -151

Title of the Course: Communicative English: Spoken And Written

Number of Credits: Theory - 2

Course outcomes

1. Elicit and show respect for the views of others as well as be culturally sensitive.

2. Display emotional stability and self-confidence.

3. Apply critical thinking skills through decision-making and problem-solving.

4. Demonstrate effective written communication for an intended purpose and audience that follows genre/disciplinary conventions that reflect creation, organisation, precision and revision.

SEMESTER II

Course Code: POL-132

Title of the Course: Introduction to Human Rights

Number of Credits: Theory - 3

Course outcomes

1. Students will understand the evolution of the concept of Human Rights
2. They will know the origin and significance of International Human Rights Conventions
3. They are equipped with the knowledge of the Fundamental Rights enshrined in the Indian Constitution and the working of the National Human Rights Commission
4. They are familiarized with the contribution of Civil Society in the field of Human Rights.

Course Code: MAT-142

Title of the Course: Statistical Methods Using R/SPSS/PSPP

Number of Credits: Theory - 1, Practical - 2

Course outcomes

1. Calculate measures of central tendencies and variations.
2. Interpret correlation and regression.
3. Solve problems in Probability theory.
4. Demonstrate and Infer based on various statistical tests using statistical software.

Course Code: VAC-102

Title of the Course: Environmental Practices in Goa

Number of Credits: Theory - 2

Course outcomes

1. Develop respect for rich Heritage of Goa and also work towards protection of Nature.

2. Promote and inculcate intrinsic values toward Biodiversity by replacing human-centered approach with bio-centric values.

Course Code: VAC-112

Title of the Course: Green Energy Systems

Number of Credits: Theory - 2

Course outcomes

1. Explain the importance of solar energy collection and storage.

2. Apply the principles of wind energy and biomass energy.

3. Analyse knowledge of geothermal and ocean energy.

4. Learn about energy efficient systems.

5. Discuss the concepts of green manufacturing systems.

Course Code: ENG -152

Title of the Course: Digital Content Creation in English

Number of Credits: Theory - 2

Course outcomes

1. Create and deliver individual presentations using a variety of digital software.

2. Compose and present a digital story.

3. Identify and distinguish between different genres of writing.

4. Write a book/ film review.

5. Interpret graphic data to arrive at an informed conclusion

SEMESTER III

Course Code: CHC-200

Title of the Course: Concepts in Inorganic and Physical Chemistry

Number of Credits: Theory - 3, Practical - 1

Course outcomes (Theory)

1. Understand the origin of the periodic table and study various periodic properties and their trends.
2. Learn the postulates of Valence Bond Theory, Molecular Orbital Theory and Valence Shell Electron Pair Repulsion Theory and study the general characteristics of covalent and ionic compounds through theories of bonding.
3. Study the structures of cubic crystals and the laws governing them.
4. Introduce colligative properties and study the distribution law.

Course outcomes (Practical)

1. Explain the trend of periodic properties of elements, geometry of molecules, and stability of ionic solids.
2. Construct and interpret the molecular orbital diagram of homonuclear and heteronuclear molecules.
3. Predict the colligative properties of different systems.
4. Calculate the distribution coefficient of binary systems.
5. Prepare normal and molar solutions of a substance.
6. Calculate the amount of substance in given solutions.
7. Carry out volumetric and gravimetric experiments for the estimation of unknown substances.
8. Deduce the lattice parameters of crystalline solids.

Course Code: CHC-201

Title of the Course: Concepts in Organic and Analytical Chemistry

Number of Credits: Theory - 3, Practical – 1

Course outcomes (Theory)

1. Understand the preparation of aromatic compounds, organic halides, alcohols, phenols and carbonyl compounds.

2. Study the reactions of aromatic compounds, organic halides, alcohols, phenols and carbonyl compounds.

3. Understand scope and importance of analytical chemistry and interpret steps involved in chemical analysis.

4. Study concepts of data analysis for determining central tendency and dispersion.

5. Study classical methods of analysis inclusive of principles and instrumentation of UV - Visible spectrophotometry and solvent extraction.

Course outcomes (Practical)

1. Write the mechanism for substitution reactions of alkyl and aryl halides.

2. Write reactions for preparation and reactivity effects in case of alcohols, phenols, aldehydes, ketones and benzene.

3. Explain the Scope and importance of analytical chemistry and principles involved in Classical methods of analysis, UV-Visible spectrophotometric and Solvent extraction.

4. Synthesize simple organic compounds.

5. Analyze and identify organic compounds using classical qualitative analysis.

6. Solve numerical based on statistical data obtained from experimental results.

7. Compare different methods of quantitative and qualitative analysis.

8. Perform extraction and separation of chemical mixtures

Course Code: MIC-200

Title of the Course: Microbial Biochemistry

Number of Credits: Theory - 3, Practical -1

Course outcomes

1. Identified structures of carbohydrates, proteins and lipids and explain their biological importance.

2. Explained structure and function of enzymes with reference to lock- and-key and induce-fit models.

3. Analyzed the factors affecting enzyme activity and apply the kinetics of enzymes such as Michaelis-Menten and LB plot.

4. Applied the techniques involved in biochemical methods for isolation and analysis of biomolecules

Course Code: MIC-201

Title of the Course: Molecular Biology

Number of Credits: Theory - 3, Practical - 1

Course outcomes

1. Understood the structure of nucleic acids and the processes of replication, transcription, and translation in prokaryotes and eukaryotes.

2. Explained the role of DNA, RNA, and proteins in life processes in microorganisms at molecular level.

3. Applied the techniques of molecular biology in replication, transcription, and translation in bacteria.

4. Designed the experiments to demonstrate effect of biomolecules on molecular processes in bacteria.

Course Code: BOT-212

Title of the Course: Soil and Water Analysis

Number of Credits: Theory - 3, Practical - 1

Course outcomes

1. Recall the tools and techniques employed in sampling of soil and water.
2. Understand the properties of soil and water and methods of their analysis.
3. Analyze the parameters influencing soil and water quality and its effect on plant growth and human welfare.
4. Develop skills in testing of soil and water and interpretation of results

Course Code: POL-231

Title of the Course: Contemporary Global Issues

Number of Credits: Theory - 3

Course outcomes

1. The students will develop a fundamental understanding of contemporary global issues
2. The students will be able to assess various dimensions of global concerns critically
3. The students will be able to develop the interrelation between global and national issues
4. The students will be able to learn how global issues affects individuals and society

Course Code: MAT-241

Title of the Course: Technical Typesetting Using LaTeX

Number of Credits: Theory - 1, Practical - 2

Course outcomes

1. Create and typeset a LaTeX document.
2. Build documents containing Mathematics.
3. Experiment with pictures and graphics in LaTeX.
4. Prepare impressive beamer presentations and typeset question papers using the exam class.

Course Code: KON-251

Title of the Course: संभाशण कौशल्य (Communication Skills)

Number of Credits: Theory - 2

Course outcomes

1. वयाक शाब्दीक, अशाब्दीक आनी लखीत संभाशणाचे महत्व कळटले.
2. वदियार्थी संभाशणाची साबार कौशल्यां शकितले.
3. संभाशण कौशल्य एक कला म्हण आपणावन त्या मळार काम करपाक शकतले.
4. परणामकारक संभाशण करपाक वद्यार्थी तयार जातले.

SEMESTER IV

Course Code: CHC 202

Title of the Course: Organic Chemistry I

Number of Credits: Theory - 3, Practical - 1

Course outcomes (Theory)

1. Understand the preparation and reactions of carboxylic acids and amines.
2. Apply knowledge of UV-Visible spectroscopy in calculating absorption values.
3. Understand stereochemistry of organic compounds.

Course outcomes (Practical)

1. Explain the preparation and reactions of carboxylic acids and amines.
2. Identify conjugation and calculate Amax of organic compounds.
3. Draw stereoisomers of organic compounds.
4. Assign E/Z and R/S configuration to organic compounds.
5. Estimate the organic compounds.
6. Acquire hands on training in organic chemistry preparation methods.
7. Analyse and identify organic compounds using classical qualitative analysis.
8. Apply theoretical knowledge in understanding laboratory skills.

Course Code: CHC 203

Title of the Course: Inorganic Chemistry I

Number of Credits: Theory - 3, Practical - 1

Course outcomes (Theory)

1. Understand the theoretical aspects related to inorganic qualitative analysis.
2. Study the comparative chemistry of s, p and d block elements.
3. Learn the chemistry of coordination compounds and understand their role in the biological systems.

4. Study the properties, structure and bonding in noble gases compounds.

Course Outcome (Practical)

1. Explain the principles underlying inorganic qualitative analysis.

2. Explain the characteristics of s, p and d-block elements and postulates of Werner's theory of coordination compounds.

3. Write IUPAC nomenclature and identify different types of isomers of coordination compounds.

4. Describe the structure and bonding in noble gas compounds.

5. Perform a qualitative analysis of inorganic mixtures.

6. Prepare coordination compounds of transition elements.

7. Determine unknown concentration of analytes using volumetric and gravimetric procedures.

Course Code: CHC 204

Title of the Course: Physical Chemistry I

Number of Credits: Theory - 3, Practical - 1

Course outcomes (Theory)

1. Study the laws of thermodynamics and various state functions.

2. Understand rates of chemical reactions of zero, first and second order.

3. Introduce the composition of nucleus and study the applications of radioisotopes.

4. Know the photo-physical processes and their significance.

Course outcome (Practical)

1. Calculate and explain various thermodynamic parameters of chemical reactions.

2. Differentiate between different nuclear counters.

3. Estimate quantum yields of photochemical reactions.

4. Compare the strength of the acids.

5. Determine graphically order of reaction and estimate the energy of activation.

6. Estimate the stability constant of various complexes.

Course Code: CHC 205

Title of the Course: Pharmaceutical Chemistry

Number of Credits: Theory - 3, Practical - 1

Course outcomes

1. Explain the terminologies in pharmaceutical chemistry.
2. Write the structures of selected drugs.
3. Write the mechanism of action of drugs.
4. Present structure activity relationship analysis of drugs.

Course Code: MIC-202

Title of the Course: Cell Biology

Number of Credits: Theory - 3, Practical - 1

Course outcomes

1. Demonstrate a comprehensive understanding of the fundamental concepts, structures, and functions of cells and their organelles.
2. Utilize laboratory techniques and methodologies effectively to conduct experiments, analyze results, and draw evidence-based conclusions.
3. Gain in depth knowledge of different types of cancers and their occurrence.
4. Understand the concept of protein sorting and transport in eukaryotic cells.

Course Code: MIC-203

Title of the Course: Microbial Physiology

Number of Credits: Theory - 3, Practical -1

Course outcomes

1. Gain knowledge of energy transfers and biomolecular transformations.

2. Comprehend metabolic pathways of carbohydrate, protein and lipid metabolism.

3. Understand the distinct groups of phototrophic microorganisms and the differences between anoxygenic and oxygenic photosynthesis.

4. Apply the techniques to understand the physiology of microorganisms.

Course Code: MIC-204

Title of the Course: Microbial Genetics

Number of Credits: Theory - 3, Practical - 1

Course outcomes

1. Understand the mechanism of gene expression and regulation in prokaryotes.

2. Learn of the discovery of the various mechanisms of gene transfer and understood the mechanisms and applications of horizontal gene transfer.

3. Comprehend the molecular mechanisms of genetic recombination.

4. Describe various types of mutations, determined their in microbial genetics and detect mutants in a population.

Course Code: MIC 205

Title of the Course: Basic Biostatistics

Number of Credits: Theory - 2

Course outcomes

1. Understand the meaning of data and its types.

2. Understand the different tools for data analysis.

3. Apply and use appropriate tool for data processing.

4. Interpret statistical information

Course Code: BOT-222

Title of the Course: Ecotourism

Number of Credits: Theory - 2, Practical - 2

Course outcomes

1. Understand the concepts and principles of ecotourism.
2. Identify the potential areas to be utilized for recreational activities in ecotourism generating entrepreneurial opportunities.
3. Analyze the problems associated with ecotourism and design a sustainable solution.
4. Create opportunities for locals to develop ecotourism areas and conservation of natural resources

Course Code: KON-252

Title of the Course: कोंकणी भाशेचे मुळावें गन्यान (Basic Knowledge of Konkani)

Number of Credits: Theory – 2

Course outcomes

1. वदियाक कोंकणी भाशेचे मुळावे गन्यान मेळटा.
2. कोकणी भाशेची मौखीक आनी लखीत कौशल्यां आत्मसात जाता.
3. दसिपट्टे जणित कोकणी भाशेचो प्रभावी वापर करपाक कळटा.
4. कोकणी भाशेच्या व्याकरणा वश म्हायती मेळटा.

SEMESTER V

Course Code: CHC-300

Title of the Course: Organic Chemistry II

Number of Credits: Theory - 3, Practical - 1

Course outcomes (Theory)

1. Analyze aromaticity and formulate mechanisms for electrophilic aromatic substitution of benzene.
2. Explain the principles governing stereochemical reactions.
3. Apply knowledge of carbohydrate and amino acid chemistry to solve problems.
4. Interpret Infrared spectra and solve problems based on spectroscopic data.
5. Apply principles of enolate chemistry to predict reaction outcomes.
6. Illustrate mechanisms of various name reactions and rearrangements.

Course outcomes (Practical)

1. Classify compounds as aromatic, antiaromatic, or non-aromatic and explain the stereochemistry of organic reactions.
2. Utilize enolate chemistry in designing reaction mechanisms.
3. Construct mechanisms for named reactions and rearrangements.
4. Analyze Infrared spectra to identify organic compounds.
5. Synthesize various organic compounds following established protocols.
6. Determine functional groups present in organic compounds using Infrared spectroscopy.
7. Quantify organic compounds using appropriate estimation techniques.
8. Integrate theoretical knowledge with practical laboratory skills.

Course Code: CHC - 301

Title of the Course: Inorganic Chemistry II

Number of Credits: Theory - 3, Practical - 1

Course outcomes (Theory)

1. Analyze the preparations, chemical properties, structure, and bonding of halogen compounds.
2. Differentiate between and apply Valence Bond Theory (VBT) and Crystal Field Theory (CFT) to describe metal-ligand bonding.
3. Evaluate concepts of acid-bases and non-aqueous solvents.
4. Explain the fundamentals of solid-state chemistry.
5. Discuss the applications of superconductivity.

Course outcomes (Practical)

1. Demonstrate the preparations, chemical properties, structure, and bonding in halogen compounds.
2. Compare and contrast VBT and CFT approaches for metal-ligand bonding.
3. Relate the fundamentals of solid-state chemistry and superconductivity to their applications.
4. Correlate the concepts of acid-bases and non-aqueous solvents to practical scenarios.
5. Execute redox and complexometric titrations accurately.
6. Justify the chemical strategies employed for the removal of interfering ions in gravimetric estimations.
7. Develop proficiency in inorganic preparations.

Course Code: CHC - 302

Title of the Course: Physical Chemistry II

Number of Credits: Theory - 3, Practical - 1

Course outcomes (Theory)

1. Explain the fundamentals of electrochemistry.
2. Apply the concepts of quantum mechanics to solve problems.
3. Interpret the principles of vibrational and rotational spectroscopy.

Course outcomes (Practical)

1. Distinguish between different types of cells used in electrochemistry.
2. Utilize quantum operators for solving numerical problems.
3. Deduce and predict molecular structures using vibrational and rotational spectra.
4. Perform conductometric and potentiometric measurements.
5. Determine standard oxidation potentials of various metal/metal ion electrodes.
6. Calculate internuclear distances of molecules from vibrational-rotational spectra.

Course Code: CHC - 303

Title of the Course: Green Chemistry Techniques

Number of Credits: Theory - 2

Course outcomes (Theory)

1. Design organic compound syntheses utilizing safer solvents.
2. Demonstrate the critical role of catalysis in organic synthesis.
3. Implement modern green techniques in organic synthesis.

Course Code: MIC-300

Title of the Course: Industrial Microbiology

Number of Credits: Theory - 3, Practical - 1

Course outcomes

1. Gained proficiency about the fundamental principles of Industrial microbiology including microbial diversity, physiology and metabolism.
2. Examined the role of microorganisms in various industrial processes such as fermentation.
3. Developed practical skills in laboratory techniques relevant to industrial microbiology, including microbial isolation, cultivation and strain improvement.
4. Explored significance of industrially important microorganisms and their metabolites.
5. Understood fermentation processes and product recovery.

Course Code: MIC-301

Title of the Course: Virology

Number of Credits: Theory - 3, Practical - 1

Course outcomes

1. Understand viral nature and properties.
2. Analyse the relationship between viruses and human health.
3. Apply knowledge of viruses in molecular biology, therapy and agriculture.
4. Identify viruses, their vectors, cytopathic effects caused by them as well as learn preventive and control measures.

Course Code: MIC-302

Title of the Course: Mycology and Protista

Number of Credits: Theory - 3, Practical - 1

Course outcomes

1. Demonstrate proficiency in analysing fungal morphology and physiology.
2. Classify protists based on morphological and molecular characteristics.
3. Describe algal diversity and adaptations using taxonomic keys.
4. Apply practical skills in microscopy, culture techniques and taxonomic identification of fungi, protist and algae.

Course Code: MIC-303

Title of the Course: Introduction to Bioinformatics

Number of Credits: Theory - 2

Course outcomes

1. Understand the different tools for data analysis.
2. Apply the appropriate tool for biological data processing.
3. Analyse the biological data.
4. Interpret the biological data.

Course code: BOT-321

Course title: Mushroom Cultivation Technology (VET)

Number of Credits: Theory - 3, Practical -1

Course outcomes

1. Identify important cultivated edible mushroom species available in India.

2. Develop basic skills in spawn production, substrate preparation and mushroom cultivation.

3. Recognize and manage mushroom diseases and pests.

4. Create employment opportunities through mushroom cultivation and motivate them for research.

Course Code: CHC - 361

Title of the Course: Internship

Number of Credits: 2

Course outcomes

1. Operate specialized instruments for chemical analysis applications.

2. Develop experimental plans and protocols based on recent advancements in the field.

3. Compile analysis reports and present scientific documents effectively.

Course Code: MIC - 361

Title of the Course: Internship

Number of Credits: 2

Course outcomes

1. Evaluate the use of specialized instruments for application in microbiological analysis.

2. Carry out planning of experiments on the basis of recent advancements in the field.

3. Develop protocols required in analysis using specified instrument.

4. Comply analysis reports.

SEMESTER VI

Course Code: CHC-304

Title of the Course: Advanced Organic Chemistry I

Number of Credits: Theory - 3, Practical - 1

Course outcomes (Theory)

1. Analyze the chemistry of heterocyclic compounds.
2. Interpret NMR spectra and elucidate structures of organic compounds.
3. Explain mechanisms of various name reactions and rearrangements.
4. Discuss the chemistry of natural products.

Course outcomes (Practical)

1. Explain the synthesis and reactions of simple heterocyclic compounds.
2. Analyze NMR spectra to determine the structure of organic compounds.
3. Describe the chemistry of selected natural products.
4. Formulate mechanisms for selected name reactions and rearrangements.
5. Utilize NMR spectroscopy to identify and confirm the structure of Organic compounds.
6. Separate unknown organic mixtures and identify their components.
7. Integrate theoretical concepts with practical laboratory procedures.

Course Code: CHC-305

Title of the Course: Advanced In006Frganic Chemistry I

Number of Credits: Theory - 3, Practical - 1

Course outcomes (Theory)

1. Evaluate the theories of metal-ligand bonding in coordination compounds.
2. Describe the synthesis, structure, and reactivity of organometallic compounds.

3. Calculate and interpret electronic transitions, ground state terms, and term symbols for coordination compounds.

4. Examine the role of metal complexes in biological systems.

5. Analyze the properties and applications of nanomaterials.

Course outcomes (Practical)

1. Explain the electronic spectra, magnetism, and thermodynamic/kinetic stability of coordination compounds, and their biological significance.

2. Compare the properties of nanomaterials with their bulk counterparts.

3. Construct molecular orbital diagrams for coordination compounds.

4. Apply the Effective Atomic Number (EAN) and 18-electron rule to predict the stability of organometallic compounds.

5. Prepare normal and molar solutions of substances accurately.

6. Calculate the amount of substance in given solutions.

7. Execute volumetric experiments to determine unknown concentrations.

8. Quantify metal ion contents from given samples.

Course Code: CHC-306

Title of the Course: Advanced Physical Chemistry I

Number of Credits: Theory - 3, Practical - 1

Course outcomes (Theory)

1. Explain heterogeneous catalysis and its industrial significance.

2. Apply advanced physical chemistry principles to industrial applications.

3. Evaluate the principles and applications of various energy sources.

Course outcomes (Practical)

1. Select appropriate catalysts for specific industrial and environmental applications.

2. Predict the behavior of colloidal systems relevant to the surfactant industry.

3. Compare the efficiencies of different energy sources.

4. Distinguish between different halides based on their solubility characteristics.

5. Determine the pH of various solutions using different electrodes.

6. Classify the type of colloid formed in a given system.

Course Code: MIC-304

Title of the Course: Agricultural Microbiology

Number of Credits: Theory - 3, Practical - 1

Course outcomes

1. Studied the different types of microorganisms present in soil and understood their role in soil fertility.

2. Investigated the relationships between plants and microorganisms and examined their impact on plant growth.

3. Explored the role of plant growth promoting bacteria in enhancing soil fertility and plant growth.

4. Learnt about microbes as agents of plant diseases and examined strategies for its control.

5. Formulated biofertilizers and analysed plant response.

Course Code: MIC-305

Title of the Course: Immunology

Number of Credits: Theory - 3, Practical - 1

Course outcomes

1. Perceived the overview of human immune system.

2. Explained the structure and functions of immune cells and organs.

3. Understood the concepts of antigens and antibodies and MHC and their correlation.

4. Comprehended the mechanisms of Immune response and Complement system.

5. The ability to compare and contrast between various Hypersensitivity reactions

6. Designed the experiments to demonstrate immunological reactions and gain hands on experience in Immuno-techniques

Course Code: MIC-306

Title of the Course: Taxonomy and Systematics of Prokaryotes

Number of Credits: Theory - 3, Practical - 1

Course outcomes

1. Apply knowledge of the standard rules of classification systems to categorize microorganisms.

2. Understand the distinguishing features of bacteria and archaea and the techniques of identification of prokaryotes.

3. Appreciate and explain the dynamic and ever developing nature of the field of microbial taxonomy and systematics.

4. Explain the salient features of different microbial groups.

Course code: BOT-322

Course title: Post-Harvest Technology of Fruits and Vegetables

Number of Credits: Theory - 3, Practical - 1

Course outcomes

1. Recall post-harvest processes and factors influencing post-harvest quality.

2. Identify microbial spoilage of fruits and vegetables and use effective methods for preservation and maintaining the quality of fruits and vegetables.

3. Utilize effective harvesting, handling and storage strategies for marketing of fruits and vegetables ensuring minimal post-harvest losses.

4. Develop skills in processing and preparation of different value-added products using fruits and vegetables.

Course Code: CHP-307

Title of the Course: Project

Number of Credits: 4

Course outcomes

1. Identify novel research areas for a scientific project.
2. Design a discipline-specific research methodology.
3. Analyze raw data and formulate sound conclusions.
4. Develop analytical skills and master scientific writing conventions.

Course Code: MIC-307

Title of the Course: Project

Number of Credits: 4

Course outcomes

1. Upon successful completion of project work, students will be able to: Design and conduct an original research project in order to address research problem.
2. Design a discipline specific research methodology
3. Analyze the raw data for drawing interpretations
4. Develop scientific and analytical skills.