



PRINCE SHRI VENKATESHWARA ARTS AND SCIENCE COLLEGE

Gowrivakkam, Chennai-600073.

Affiliated to University of Madras, ISO 9001:2015 Certified Institution
Recognized by UGC under section 2(f) of UGC Act 1956

DEPARTMENT OF BIOTECHNOLOGY

2022-2023

COURSE OUTCOMES

YEAR/ SEM: I/ I – LA11A - TAMIL I

NO.	COURSE OUTCOME
C101.1	நாட்டுப்புற மக்களின் வாழ்வியல் பயன்பாடுகளை அறிகிறார்கள்
C101.2	புதுக்கவிதைகளின் வாயிலாகப் புதுமைக் கருத்துகளையும், சமூக சிக்கல்களையும் உணர்கின்றனர்
C101.3	சிறுகதைகளின் வாயிலாக சமூக மக்களின் வாழ்க்கை நிலையை அறிகிறார்கள்.
C101.4	சந்திரஹரி நாடகம் வாயிலாக பொய் என்றும் துன்பமே என்று அறிகிறார்கள்
C101.5	இலக்கிய வரலாற்றின் வாயிலாக நாட்டுப்புறவியல், சிறுகதை, புதினம், நாடகம், கவிதை ஆகியவற்றில் உள்ள சமூக நீதிகளையும், சிறப்புகளையும் அறிகிறார்கள்

YEAR/ SEM: I/ I – LE11A - HINDI I

NO.	COURSE OUTCOME
C102.1	To develop Communicating, Reading and Writing skills in Hindi
C102.2	To understand the vision of Premchand about the poor people
C102.3	To learn the literary work on the basis of foundation the laid by the Scholars
C102.4	To understand the meaning and concept of Functional Hindi
C102.5	To understand the various forms of Functional Hindi according to its area of application



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YEAR/ SEM: I/I – LZ11A – COMMUNICATIVE ENGLISH

NO.	COURSE OUTCOME
C103.1	To develop the knowledge of skilful learning
C103.2	Ability to write coherent paragraphs with wide range of vocabulary to teach the aspects of grammar
C103.3	To learn word power and vocabulary skills other aspects of Communicative skill
C103.4	Ability to participate in short group conversations.
C103.5	Ability to use collocations, fixed and semifixed expressions.

YEAR/ SEM: I/I – SC21A – CELL AND MOLECULAR BIOLOGY

NO.	COURSE OUTCOME
C104.1	To understand about the structural design of Prokaryotic and Eukaryotic cells.
C104.2	Understand the structure and functions of biomolecules, cell organelles, and their primary roles in cellular processes.
C104.3	To gain knowledge about the synthesis, structure, importance and the inter-relationships between the DNA, RNA and Proteins.
C104.4	To know about the major molecular processes this governs all the cellular activities and their regulations.
C104.5	Understand the metabolic pathways and the process of transmission of extracellular signals

YEAR/ SEM: I/I – SN31A – FUNDAMENTALS OF MICROBIOLOGY

NO.	COURSE OUTCOME
C105.1	To know about the Taxonomy, nomenclature and classification of microbes.
C105.2	To gain information about Staining and sterilization and Characterization of microbes



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C105.3	To give basic knowledge Characterization of eukaryotic cells and virus particle.
C105.4	To gain an understanding of Parasites and protozoan studies in terms of medical microbiology.
C105.5	To study and understand the role of microbes in industrial production

YEAR/ SEM: I/I – SS52B – HERBAL MEDICINE

NO.	COURSE OUTCOME
C106.1	Gain comprehensive understanding of herbal cultivation principles.
C106.2	Identify major herbs along with their botanical names and chemical constituents,
C106.3	Assess drug adulteration via biological testing and formulate value-added processing and quality control methods for herbal medicine, enhancing their utilization.
C106.4	Formulate the value-added processing / storage / quality control for the better use of herbal medicine from roots.
C106.5	Develop the skills for cultivation of plants and their value-added processing/storage/ quality control.

YEAR/ SEM: I/I – NLT1C – BASIC TAMIL

NO.	COURSE OUTCOME
C107.1	தமிழ் எழுத்துகளைத் தெரிந்து கொள்ளுதல்.
C107.2	தமிழ் ஒலியன்களை உச்சரிக்கக் கற்றுக்கொள்ளுதல் எழுத்துக்களைக் கொண்டு சொற்களை உருவாக்குதல்
C107.3	அன்றாடப் பயன்பட்டு சொற்களைப் பயிற்றுவித்தல்
C107.4	தமிழ் மொழியை அறிந்து கொள்ளுதல்
C107.5	எழுத்துக்களைக் கொண்டு சொற்களை உருவாக்குதல்



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YEAR/ SEM: I/I – PZ1SB – ENGLISH FOR LIFE SCIENCE

NO.	COURSE OUTCOME
C108.1	Recognize their own ability to improve their own competence in using the language
C108.2	Use language for speaking with confidence in an intelligible and acceptable manner understand the importance of reading for life.
C108.3	To read independently unfamiliar texts with comprehension
C108.4	To understand the importance of writing in academic life
C108.5	To Write simple sentences without committing errors of spelling or grammar.

YEAR/ SEM: I/II — LA12A – TAMIL II

NO.	COURSE OUTCOME
C109.1	சங்க இலக்கியங்களின் வாயிலாக அக்கால மக்களின் வாழ்வியலை அறிகின்றனர்
C109.2	புறநானூற்றின் வாயிலாக மன்னர்களின் போர்ச்சமூக அமைப்பை அறிகின்றனர்
C109.3	முல்லைப்பாட்டின் வாயிலாக முல்லைநில மக்களின் வாழ்வியல், பண்பாடு ஆகியவற்றை அறிகின்றனர்
C109.4	திருக்குறள் மற்றும் நாலடியார் வாயிலாக ஈகை மற்றும் ஒழுக்கத்தை அறிகின்றனர்
C109.5	மொழிப்பயிற்சி வாயிலாக தமிழைப் பிழையில்லாமல் எழுதவும் பேசவும் அறிகின்றனர்



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YEAR/ SEM: I/II — LE12A – HINDI II

NO.	COURSE OUTCOME
C110.1	To understand the Drama and the stories based on social problems.
C110.2	To understand the change in content and style of expression in short stories in modern period
C110.3	To develop the skills of Translation from Hindi to English by using high
C110.4	To learn technical words
C110.5	To analyse the development of one act play

YEAR/ SEM: I/II – LZ12A – COMMUNICATIVE ENGLISH II

NO.	COURSE OUTCOME
C111.1	Ability to comprehend both the written and spoken texts.
C111.2	Ability to frame questions and answer them. Ability to write/speak grammatically correct sentences
C111.3	To enrol people in our ideas, our visions, and our visions.
C111.4	To enhance listening skills Awareness of the art of personal letter/email writing without grammatical errors
C111.5	To analyse crucial for effectiveness – particularly in sales or leadership roles.

YEAR/ SEM: I/II — SC22A - GENETICS

NO.	COURSE OUTCOME
C112.1	To know about the basic idea of structure and organisation of Chromosome with experimental studies this reveals genetic material
C112.2	Illustrate the genetic material that have been discovered through experimental studies.



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C112.3	Demonstrates test cross used to map chromosomes and various natural gene transfer methods.
C112.4	To illustrates various types of sex-linked inheritance in man.
C112.5	To provides clear idea about role of genes in evolution, human and population genetics.

YEAR/ SEM: I/II – SC32A - CHEMISTRY

NO.	COURSE OUTCOME
C113.1	To have deeper understanding to solve quantitative chemistry problems and demonstrate reasoning clearly and completely as applied to equilibria, chemical kinetics, electrochemistry, and solutions. Integrate multiple ideas in the problem-solving process
C113.2	To understand the basic physical, chemical, and stereochemical properties of organic compounds of biological importance.
C113.3	To gain information about qualitative chemical concepts and trends.
C113.4	To differentiate composition, properties, and chemical reactions of the biologically important compounds: Carbohydrates, Lipids, Proteins, and Nucleic Acids.
C113.5	To identify the functions of biomolecules in biological systems and their metabolic pathways

YEAR/ SEM: I/II – SS52A-MUSHROOM CULTIVATION

NO.	COURSE OUTCOME
C114.1	To study the different kinds and classifications of mushrooms.
C114.2	Demonstrate the different kinds of mushroom cultivation technologies.
C114.3	Analyze different food technologies related to the mushroom industry.
C114.4	Appreciate the financial aspects of growing mushrooms.



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C114.5	Develop innovative techniques and approaches to enhance the yield of mushrooms.
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YEAR/ SEM: I/II – NLT2D – BASIC TAMIL

NO.	COURSE OUTCOME
C115.1	தமிழ் இலக்கியங்களை அறிந்து கொள்ளுதல்
C115.2	அற இலக்கியங்களைத் தெரிந்து கொள்ளுதல்.
C115.3	திருக்குறளின் சிறப்புகளை அறிந்துகொள்ளுதல்
C115.4	தமிழர்களின் பண்பாடு, நாகரிகம் போன்றவற்றைத் தெரிந்துகொள்ளுதல்
C115.5	தமிழகத்தின் விழாக்களை அறிந்துகொள்ளுதல்

YEAR/ SEM: I/II – PZ1SD – ENGLISH FOR LIFESCIENCE II

NO.	COURSE OUTCOME
C116.1	To attend interviews with boldness and confidence.
C116.2	To imbibe the rules of language unconsciously and tune to deduce language structure and usage
C116.3	To adapt easily into the workplace context, having become communicatively competent.
C116.4	Apply to the Research & Development organizations/ sections in companies and offices with winning proposals.
C116.5	To decipher the mechanism of language and use it for success in competitive examinations and job-related speaking and writing tasks.



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YEAR/ SEM: I/II – SC221 – PRACTICAL - I CELL & MOLECULAR BIOLOGY & MICROBIOLOGY

NO.	COURSE OUTCOME
C117.1	Students will gain hands-on experience in microscope, different types of microscope.
C117.2	To gain an understanding of different types of blood cells & chromosomes.
C117.3	To gain insight into the most significant molecular and cell-based methods used today to expand our understanding of biology.
C117.4	To learn about different types of staining and sterilization procedures.
C117.5	To know about Characterization of microbe by various methods.

YEAR/ SEM: I/II – SC321 – PRACTICAL II GENETICS & CHEMISTRY

NO.	COURSE OUTCOME
C118.1	To demonstrate proficiency in characterizing human blood groups, recognizing mitotic and meiotic stages in plant and insect tissues.
C118.2	To practice in isolating giant chromosomes from Chironomous larvae or Drosophila salivary glands.
C118.3	Students will gain hands-on experience in culturing Drosophila, identifying species and mutant.
C118.4	Using a combination of classical and modern spectroscopic tools, identify an unknown organic compound
C118.5	To write and predict the products of chemical reactions. Classify chemical reactions as to type

YEAR/ SEM: II/III – LA13A – TAMIL III

NO.	COURSE OUTCOME
C201.1	பக்தி இலக்கியங்களின் வாயிலாக இறைவனின் உணர்வு மொழியை மதிப்பிட்டு அறிகின்றனர்



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C201.2	கம்பராமாயணத்தின் சும்பகர்ணன் வதைபடலம் வாயிலாக சகோதரப் பாசத்தை அறிகின்றனர்.
C201.3	பெரியபுராணத்தின் வாயிலாக காரைக்கால் அம்மையாரின் சிவ பக்தியை அறிகின்றனர்.
C201.4	மனுமுறைக்கண்ட வாசகத்தின் வாயிலாக மனுநீதிச் சோழனின் நீதி தவறாமையை அறிகின்றனர்
C201.5	மொழிப்பயிற்சியின் வாயிலாக அலுவலகக் கடிதம் எழுதப் பயிற்சி பெறுகின்றனர்

YEAR/ SEM: II/III – CLE3H – HINDI III

NO.	COURSE OUTCOME
C202.1	To understand the division and the concept of Hindi literature
C202.2	To understand the features and evaluate the period Adikaal, Bhakti Kaal, and Reethi kaal, in context of social and political condition of that period
C202.3	To identify the eminent Hindi writers of each period
C202.4	To describe the progressive nature of Kabirdas, Soordas and Thulasidas
C202.5	To understand the sudden development of ancient and medieval Hindi literature

YEAR/ SEM: II/III – LZ13B – LANGUAGE THROUGH LITERATURE II

NO.	COURSE OUTCOME
C203.1	To get acquainted with the different forms of poetry, prose, fiction and drama.
C203.2	To get exposed to advanced level of grammatical patterns and usages in English.
C203.3	To improve their skills to speak and write English accurately.
C203.4	To closely analyze texts, applying critical and theoretical approaches
C203.5	To evaluate socio-cultural and historical phenomena influence the literary production of a particular period.



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YEAR/ SEM: II/III – SC23A – GENETIC ENGINEERING

NO.	COURSE OUTCOME
C204.1	Expertise in recombinant technology, showcasing proficiency in gene cloning techniques
C204.2	Learning tools and techniques employed in genetic engineering & the advanced skills in DNA sequencing.
C204.3	Delineate the Gene Expression & their applications & focusing on the production of proteins from cloned genes with relevance to practical applications.
C204.4	Proficient understanding in Gene transfer techniques & transgenic plant production.
C204.5	Comprehensive knowledge and practical application of gene cloning and manipulation across diverse fields.

YEAR/ SEM: II/III – SB33A – ESSENTIAL OF BIOCHEMISTRY

NO.	COURSE OUTCOME
C205.1	To Understand biochemistry at the atomic level, draw molecules and reaction mechanisms perfectly
C205.2	To Understand in detail about amino acid structures, types of amino acids, classifications, structure of proteins and types of proteins
C205.3	To Learn the molecular structures of 20 amino acids, differentiating essential and non-essential amino acids, biologically important modified amino acids and their functions.
C205.4	To impart basic knowledge in structural levels of organization of proteins, 3D structures of proteins, its functions, denaturation (hemoglobin, myoglobin etc.)
C205.5	To learn how amino acids and proteins are metabolized, emphasizing the role of few intermediates of their metabolism, monitoring the deficiency and abundance disorders of amino acid metabolisms and the role of enzymes in the regulation of the pathways



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YEAR/ SEM: II/III – TSSEG – PERSONALITY ENRICHMENT-I

NO.	COURSE OUTCOME
C206.1	To develop and exhibit and accurate sense of self.
C206.2	To demonstrate knowledge of personal beliefs and values and a commitment to continuing personal reflection and reassessment
C206.3	To learn to evaluate and improve upon personal leadership strengths and weaknesses
C206.4	To build self-awareness, personal development and life skills.
C206.5	To assert strengthened personal character and further, an enhanced ethical sense.

YEAR/ SEM: II/IV – LA14A – TAMIL IV

NO.	COURSE OUTCOME
C207.1	எட்டுத்தொகையின் வாயிலாக ஐந்தில் மக்களின் வாழ்வியல் முறைகளை அறிகின்றனர்
C207.2	புறநானூற்றின் வாயிலாக மன்னர்களின் ஆட்சி மற்றும் போர்ச்செய்திகளை அறிகின்றனர்
C207.3	நெடுநல்வாடையின் வாயிலாக கூதிர்காலத் தன்மைகளை அறிகின்றனர்.
C207.4	இரட்டைக்காப்பியங்களின் வாயிலாக வணிகர்களின் வாழ்வியலை அறிகின்றனர்
C207.5	திருக்குறளின் வாயிலாக மக்களின் வாழ்வியல், கல்வி, கேள்வி, ஒழுக்கம் ஆகியவற்றை அறிகின்றனர். மொழிபெயர்ப்பின் வாயிலாக தமிழ் மற்றும் ஆங்கில மொழியறிவைப் பெறுகின்றனர்.



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YEAR/ SEM: II/IV – CLE4J – HINDI IV

NO.	COURSE OUTCOME
C208.1	To learn in depth study and analysis of the literary work
C208.2	To gain awareness of the importance of literature in addressing contemporary issues
C208.3	To create, select, and apply appropriate approach to literature, resource and modern literary theories.
C208.4	To describe the philosophy of life as well as the poems of modern literature
C208.5	To understand the History of development of drama, short stories, one act play, novel

YEAR/ SEM: II/IV – LZ14B – LANGUAGE THROUGH LITEARATURE IV

NO.	COURSE OUTCOME
C209.1	Ability to comprehend both the written and spoken texts.
C209.2	To broaden their vocabularies and to develop an appreciation of language
C209.3	To develop a deeper appreciation of cultural diversity by introducing them to poetry from a variety of cultures throughout the world
C209.4	Ability to write/speak grammatically correct sentences.
C209.5	To create clear and compelling communication in writing and speaking skill

YEAR/ SEM: II/IV – SC24A-PLANT BIOTECHNOLOGY

NO.	COURSE OUTCOME
C210.1	To learn basics of Plant Genome structure & organization.
C210.2	To enhance their technical skills in advancing plant cell culture by Plant Hormones.



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C210.3	To familiarize students with principles, practices and applications of plant tissue culture.
C210.4	To impart practical knowledge about Gene transfer methods and plant engineering for development.
C210.5	To impart knowledge of Gene Expression in Transgenic plants & Plant Vaccines.

YEAR/ SEM: II/IV – SC34A – BIOINSTRUMENTATION AND BIostatISTICS

NO.	COURSE OUTCOME
C211.1	To identify core concepts for the spectrophotometer & centrifugation.
C211.2	To learn about Chromatography & Electrophoretic techniques.
C211.3	To Demonstrate the basic applications of Radioisotopes.
C211.4	To become familiar with the principles of biostatistics, including data collection, tabulation, graphical representation, central tendency measurements, and dispersion.
C211.5	Analyze correlations, regression, various probability distributions, significance tests, spreadsheets, and ANOVA techniques.

YEAR/ SEM: II/IV – TSSEH – PERSONALITY ENRICHMENT-LEVEL-II

NO.	COURSE OUTCOME
C212.1	To develop the strategies to work with others to achieve specific goals
C212.2	To learn to manage conflict
C212.3	To understand and appropriately apply the skills of problem solving, conflict management and resolution
C212.4	To learn how personal values, connect to motivation to serve to benefit teamwork
C212.5	To contribute to an inclusive and engaging environment



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YEAR/ SEM: II/IV – ENV4B – ENVIRONMENTAL STUDIES

NO.	COURSE OUTCOME
C213.1	To learn core concepts and methods from ecological and physical sciences and their application in environmental problem solving
C213.2	To learn core concepts and methods from economic, political, and social analysis as they pertain to the design and evaluation of environmental policies and institutions.
C213.3	To learn appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems
C213.4	To understand the transnational character of environmental problems and ways of addressing them, including interactions across local to global scales.
C213.5	To learn concepts and methodologies to analyze and understand interactions between social and environmental processes.

YEAR/ SEM: II/IV – SC241 – PRACTICAL III - GENETIC ENGINEERING & ESSENTIALS OF BIOCHEMISTRY

NO.	COURSE OUTCOME
C214.1	Learning tools and techniques employed in genetic engineering.
C214.2	Students will gain hands-on experience in Gene transfer technology.
C214.3	Attain practical expertise in a wide array of laboratory techniques including extraction and estimation of macromolecules
C214.4	Using a combination of classical and modern spectroscopic tools, identify an unknown organic compound
C214.5	To write and predict the products of chemical reactions. Classify chemical reactions as to type.



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YEAR/ SEM: II/IV – SC341 – PRACTICALS- IV – PLANT BIOTECHNOLOGY & BIOINSTRUMENTATION AND BIOSTATISTICS

NO.	COURSE OUTCOME
C215.1	To demonstrate skills in advanced techniques in plant sciences and biotechnology.
C215.2	To know about plant cells and genes using various techniques
C215.3	To Demonstrate basic Chromatography analysis of sugar, amino acids, lipids by thin layer & paper chromatography
C215.4	Determination of concentration of dye by calorimetry
C215.5	To Interpret results of commonly used statistical analyses in written summaries

YEAR/ SEM: III/V – SC25A – ANIMAL AND MEDICAL BIOTECHNOLOGY

NO.	COURSE OUTCOME
C301.1	To gain knowledge in animal cell culture techniques.
C301.2	To obtain knowledge in basics of animal cell manipulation & Reproductive processes
C301.3	To know the various medical techniques that supports the diagnosis of pathology in animals.
C301.4	To know the remedial measures to overcome the diseases in human & animals.
C301.5	Learning tools and techniques employed in genetic engineering have led to the production of medically important products.

YEAR/ SEM: III/V – SC25B - BIOINFORMATICS

NO.	COURSE OUTCOME
C302.1	To learn various bioinformatic tools of genomic data analysis
C302.2	To learn about sequence analysis methods and applications



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C302.3	To gain knowledge of Phylogenetic analysis method and software
C302.4	To learn about Molecular Docking and Drug discovery methods.
C302.5	To obtain knowledge in advantages of bioinformatics in Proteomic analysis

YEAR/ SEM: III/V – SC25C - IMMUNOLOGY

NO.	COURSE OUTCOME
C303.1	To give an overview on the immune system including organs, cells and receptors.
C303.2	To learn about molecular basis of Antigen, Antibodies & Hybridoma Technology
C303.3	To study principles of immuno techniques, Purification of Antibodies.
C303.4	To learn about Activation & Regulation of Complement System & Cytokines.
C303.5	To understand the immunological tolerance & Hypersensitivity.

YEAR/ SEM: III/V – SC45A – PHARMACEUTICAL BIOTEHNOLOGY

NO.	COURSE OUTCOME
C304.1	To understand the drug development stages from discovery to post-clinical trials.
C304.2	Explore specialized biotechnological areas and product formulations in pharmaceuticals.
C304.3	Expertise in biopharmaceutical products and their therapeutic applications.
C304.4	Analyze the drug toxicity, side effects, and strategies for prevention and management.
C304.5	Delve into the national and international pharmaceutical industries and career prospects.



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YEAR/ SEM: III/V — VAE5Q – VALUE EDUCATION

NO.	COURSE OUTCOME
C305.1	To understand the importance of value-based living.
C305.2	To understand about the purpose of their life.
C305.3	To understand and start applying the essential steps to become good leaders.
C305.4	To understand and start applying the essential steps to become good leaders. Students will emerge as responsible citizens with clear conviction.
C305.5	To practice values and ethics in life

YEAR/ SEM: III/VI – SC26A-INDUSTRIAL BIOTECHNOLOGY

NO.	COURSE OUTCOME
C306.1	To explore the beneficial potentials of microbes in the fermentation industry, fermenters, its types and design.
C306.2	To be familiar with fermentation technology and the issues surrounding industrial scale up.
C306.3	To study about different types of fermented foods produced from microorganisms
C306.4	To understand how bacteria and other microbes can be manipulated by recombinant DNA technology or selective isolation for use industrial processes to generate products of interest.
C306.5	Understanding diverse biotechnological processes and applications, ensuring biosafety norms and measures for sustainable production and utilization.



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YEAR/ SEM: III/VI – SC26B-ENVIRONMENTAL BIOTECHNOLOGY

NO.	COURSE OUTCOME
C307.1	To provide an idea about Global environmental changes
C307.2	To understand biotechnological methods of handling recent environmental problems like waste water treatment, solid waste management and bioenergy.
C307.3	To make known the great biodiversity existing in the microbial world and relate the ecophysiological aspects of microorganisms to the functioning of the biogeochemical cycles that govern the terrestrial ecosphere.
C307.4	To emphasize knowledge of the different types of biotechnological processes that exist in the field of bioremediation and environmental applications.
C307.5	To understand Environmental toxicology, Dose response relationship, detoxification of hazardous chemicals.

YEAR/ SEM: III/VI –SC46A- BIO-ENTREPRENEURSHIP

NO.	COURSE OUTCOME
C308.1	The student will be able to identify the challenges of being a bio entrepreneur and describe the current status of the bio industry globally. They will also be able to generate a detailed business plan and identify various funding agencies
C308.2	The course will also provide an overview of the life science market and business development opportunities in the life science industry.
C308.3	To understand technical skills in vermicomposting, Sericulture, Mulberry cultivation & Production
C308.4	To know the process of Mushroom Cultivation, Aquaponics and Biofiltration
C308.5	To gain knowledge about Single Cell Protein Production and Spirulina Cultivation

YEAR/ SEM: III/VI – SC46C-BASIC IN RESEARCH METHODOLOGY

NO.	COURSE OUTCOME
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C309.1	This course aims to inculcate the clear idea of research among students
C309.2	Develop the ability to apply the methods while working on a research project work.
C309.3	This course enables the students' community to understand the existing social issues to frame the research objectives, frame hypothesis, design the wet lab procedures and to properly execute the result interpretations
C309.4	Choose the appropriate research design and develop appropriate research hypothesis for a research project.
C309.5	Describe the appropriate statistical methods required for a particular research design & Use of tools / techniques for Research.

YEAR/ SEM: III/VI – CES6Q-EXTENSION ACTIVITIES

NO.	COURSE OUTCOME
C310.1	The Extension Activities course is designed to engage students in various extracurricular and co-curricular activities beyond the regular academic curriculum.
C310.2	The course aims to foster holistic development, enhance soft skills, promote creativity, and encourage active participation in diverse activities.
C310.3	Through this course, students will have the opportunity to explore their interests, develop leadership qualities, and build a sense of community involvement.
C310.4	Develop time management and organizational skills to balance academic responsibilities and extension activities effectively.
C310.5	Promote a sense of social responsibility and ethical behavior in all extension activities.

YEAR/ SEM: III/VI -SC261-PRACTICAL -V - – ANIMAL, MEDICAL BIOTECHNOLOGY AND IMMUNOLOGY (PRACTICAL)

NO.	COURSE OUTCOME
C311.1	Attain practical expertise in animal cell culture.



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C311.2	Skilfully execute trypsinization and sub culturing.
C311.3	To learn techniques of measurement of phagocytic activity & comprehend the influence of serum in cell culture methodologies.
C311.4	Demonstrate proficiency in blood group and Rh typing techniques.
C311.5	Ensuring adeptness in immunological laboratory practices & diagnosis of diseases.

YEAR/ SEM: III/VI – SC262-PRACTICAL -VI - INDUSTRIAL BIOTECHNOLOGY & ENVIRONMENTAL BIOTECHNOLOGY

NO.	COURSE OUTCOME
C312.1	To Study Growth Curve and Generation time of Bacteria/ Yeast using turbidometry; Screening of industrially valuable microorganisms.
C312.2	To perform microbial Production of amylase; Determination of enzyme activity; Immobilization of whole yeast cells/ enzyme by suitable method and determination of stability of immobilized enzyme.
C312.3	To isolate and identify (Genus level) spoilage causing microorganisms from spoiled foods. To perform production of wine
C312.4	To isolate starter organisms from Idli batter/ curd; Grading of raw milk (Dye reduction test); To determine efficiency of Pasteurization by quantitative phosphatase test.
C312.5	To Prepare Efficiency testing of Biofertilizer/ Biopesticide. To produce microbial Polysaccharide. Also, to understand Environmental toxicology, Dose response relationship, detoxification of hazardous chemicals.