

V. S. M. COLLEGE (A): RAMACHANDRAPURAM

COURSE OUTCOMES

M.Sc. Zoology

TOOLS AND TECHNIQUES FOR BIOLOGY

CO-1: This course provides knowledge about Able to understand the importance of biochemical investigation.

CO-2: This course provides knowledge about Able to apply the working principle and techniques of cyto chemistry. Autoradiography, paper chromatography, ultracentrifugation.

CO-3: This course provides knowledge about Able to analyze the basic needs and amenities of laboratory which will enhance the chances in biotechnology.

CO-4: At the end of the course Gain knowledge about various tools and techniques used in the biological systems and give insight in research.

BIOSYSTEMATICS, BIODIVERSITY AND EVOLUTION

CO-1: This course provides knowledge about Able to understand fundamental principles of systematic.

CO-2: This course provides knowledge about Able to analyze the hierarchical components of biodiversity and evolutionary relationships among taxa.

CO-3: This course provides knowledge about Evaluate how human settlement and resource use patterns loss, fragmentation, species endangerment and ongoing threats to terrestrial and marine biodiversity.

CO-4: At the end of the course Ability to assess biological, social and ethical consequences of biodiversity issues.

BIO MOLECULES

CO-1: This course will provide knowledge Able to understand the structure and properties of carbohydrates, proteins, amino acids, nucleic acids, DNA fatty acids, lipids.

CO-2: Student will Able to analyze the importance of biological macromolecules.

CO-3: Acquire knowledge and learns the quantitative and qualitative estimation of bio molecules.

CO-4: At the end of the course thorough understanding on the role of bimolecular and their functions.

MOLECULAR CELL BIOLOGY

CO-1: This course will provide knowledge It is a course organized to meet the recently advanced knowledge in the field of molecular biology and its application.

CO-2: This course will provide the students with a detailed explanation for the major biotechnological techniques that are used in the field of molecular biology especially in laboratory analysis.

CO-3: The course will give fundamental knowledge of the cell at the molecular level with emphasis on nucleic acids and able to understand mode of transmission of genetic information from DNA to protein and regulation of gene expression at its various levels with emphasis on eukaryotes.

CO-4: At the end of the course students are provided with the knowledge and application of recombinant DNA technology and analyze the scientific evidence of molecular process in the cell.

BIostatistics & Bio-Informatics

CO-1: This course will provide impacts the knowledge of basic statistical methods to solve problems.

CO-2: Able to understand how to operate various statistical software packages.

CO-3: Evaluate and interpret the biological data by using software packages.

CO-4: At the end of the course students are able to appreciate the importance of statistics in research.

ANIMAL PHYSIOLOGY

CO-1: This course will provide knowledge Students able to understand the control processes of nervous system, sensory perception and muscle movement, digestive system comparatively.

CO-2: Relate the integration of the cardiovascular and respiration systems and their overall control.

CO-3: Evaluate and interpret experimental data and demonstrate laboratory skills in animal anatomy.

CO-4: At the end of the course Analyze the interactions and interdependence of physiological and biochemical processes.

IMMUNOLOGY

CO-1: Students able to understand about adaptive immunity, immune globulins, cell types and organs Present in the immune response.

CO-2: Analyze and exemplifies the adverse effects of immune system including allergy, hypersensitivity and Auto immunity.

CO-3: Apply basic techniques for identifying antigen antibody interactions.

CO-4: At the end of the course it provides know ledge and understanding of immunology and the way it is Applied in diagnostic and therapeutic techniques and research.

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APPLIED ZOOLOGY

CO-1: This course knowledge gives a clear understanding about microbial fermentations, animal breeding, transgenic animals.

CO-2: Evaluate the legal and ethical aspects of somatic cell nuclear transfer in humans.

CO-3: Learn about the role of microbes in biodegradation, bioremediation.

CO-4: At the end of the course students able to analyze case studies representatives of key areas of Easter water treatment.

DEVELOPMENTAL BIOLOGY:

CO-1: This course provides know ledge about main stages of embryonic development and under stands the Main anatomical changes.

CO-2: Identify the cellular behaviors that lead to morphological change during development.

CO-3: Understand the hierarchy of gene activation occurs in differentiation and development of drosophila.

CO-4: At the end of the course students can analyze how errors in development lead to congenital defects and spontaneous abortions occur in multi-player organisms.

PRINCIPLES OF ECOLOGY

CO-1: This course provides knowledge about biotic and biotic components of different ecosystems and Understand s about the population structures.

CO-2: Understands about the community structure, flow of energy, cycling of nutrients.

CO-3: Analyze, human impacts on ecosystem using the general principles of ecology.

CO-4: At the end of the course students can evaluate and interpret field results and perform simple Statistics and write reports.

METABOLIC CELL FUNCTION AND REGULATION

CO-1: This course provides knowledge about thermodynamic principles, mitochondrial electron transport and understands the biosynthesis of urea, glucose, glycogen, olic acid, and prostaglandins.

CO-2: Able to understand the application of immobilized enzymes, metabolic engineering.

CO-3: Analyses of kinetics of enzyme catalyzed reactions.

CO-4: At the end of the course students will acquire knowledge on organization of metabolism.

NEURO BIOLOGY & ANIMAL BEHAVIOUR

CO-1: This course provides knowledge about the structure and functions of neurons, glial cells, and how Neurons connected in neuronal circuits that control bodily functions and behavioral output.

CO-2: It gives a account on basic and advanced neuron biological techniques.

CO-3: Identify and apply a suitable method practically.

CO-4: At the end of the course students develop an ability to critically analyze and discuss neuroscience by reviewing texts.

ANIMAL CELL CULTURE AND STEM CELL TECHNOLOGY

CO-1: This course is to introduce the student learn to the principles and practical considerations of animal and plant cell and tissue culture. The focus of Tissue Culture I will be on routine maintenance of cultures. Special procedures and applications and investigative work will be emphasized in the subsequent course.

CO-2: Successfully maintain cultures of animal cells and established cell lines with good viability, minimal contamination and appropriate documentation.

Co-3: Perform supportive or episodic tasks relevant to cell culture, including preparation and evaluation of media, cryopreservation and recovery, and assessment of cell growth/health.

CO-4: Recognize and troubleshoot problems common to routine cell culture.

AQUACULTURE

CO-1: This course provides the knowledge about fin and shell fisheries of different aquatic resources.

CO-2: Understands about fishery practices and water quality parameters important to culture.

CO-3: It acquires knowledge about nutrition important to growth and health of fishes.

CO-4: At the end of the course it helps in analyzing the impact of aquaculture on society, the economy and the natural environment.

ANIMAL BIOTECHNOLOGY & BIO ETHICS

CO-1: This course provides knowledge about animal genome, animal tissue culture, growth of cell lines, recombinant DNA technology.

CO-2: It helps in analyzing the benefits and applications of biotechnology in Pharmaceutical, medical, agricultural field.

CO-3: Will be able to understand the applications in forensic medicine and genetic diseases.

CO-4: At the end of the course students will critically analyze, evaluate, summarize bioethical issues in society.

COMPERHENSIVE SEMINAR/VIVA VOICE

CO-1: To ensure the candidate knowledge and understanding of subject.

CO-2: To assess the student verbal communication, writing skills in seminar report.

CO-3: To assess the oral presentation.

CO-4: To make a research purpose.