DEPARTMENT OF BIOTECHNOLOGY

PROGRAMME OUTCOMES/ PROGRAMME SPECIFIC OUTCOMES/COURSE OUTCOMES

PO1 – To produce competent biotechnologists, who can employ and implement gained knowledge in basic and allied fields of science to provide sustainable development.

PO2 - Understand current and future status of biotechnology in India and abroad.

PO3 -To make the biotechnologists, socially committed and adaptable to changing socio ethical implications.

PO4 - Enhance the ability of critical thinking, development of scientific temperament, solving the problems with biotechnological approach.

PO5 -To nurture the young minds towards research in the field of biological science.

PO6 -To create awareness about the opportunities in doing jobs in academia, research and industry.

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PROGRAMME SPECIFIC OUTCOMES

PSO1 – Understand the structure and basic components of Prokaryotic and eukaryotic cell.

PSO2 – Comprehensive understanding of the chemical basis of heredity.

PSO3 – To gain knowledge about the advancement in microscopy

PSO4 – Utilize the biostatistical tools for applications in the areas of life Sciences.

PSO5 – Familiarize with the computational tools and biological databases available for genome analysis and its effective usage.

PSO6 – Gain knowledge about the *In vitro* construction of recombinant DNA and gene manipulation.

PSO7 – Understanding the issues of environmental contexts and sustainable development.

PSO8 – Apply the basic concept of biotechnology in crop improvement and environmental management.

PSO9 – Understanding of intellectual property, IPR, biosafety, GMO and bioethics.

COURSE OUTCOMES OF BIOTECHNOLOGY

BS 104: CELL BIOLOGY AND GENETICS

CO1 - Student will be able to acquire comprehensive knowledge of Cell Science.

CO2 – Student will be able to learn the basic concepts of cell biology, spanning from cell structure, function of prokaryotic and eukaryotic cell.

CO3 – Student will be able to describe the cell Cycle; Compare & contrast mitosis and meiosis.

CO4 – Better understanding the concept of genes and their behaviour, experiments to determine Mendel`s law.

BS 204: BIOLOGICAL CHEMISTRY AND MICROBIOLOGY

CO1 – Gain fundamental knowledge in biochemistry – different types of biomolecules – classification and its importance.

CO2 – Better understanding of cellular processes and their role in living systems.

CO3 – Understand the fundamentals of microbiology, identify microorganisms using modern techniques and concept of culturing microorganisms.

CO4 – Understanding microbial diversity; physiology & nutrition.

BS 305: MOLECULAR BIOLOGY AND RECOMBINANT DNA TECHNOLOGY

CO1 – Learn the scope and importance of molecular biology.

CO2 – Understand the process of Central dogma spanning from Replication, Transcription and translation.

CO3 - Gain sufficient knowledge on gene manipulation and gene regulation through operon concept.

CO4- Understand the concept of gene Cloning and tools and enzymes used in r – DNA technology.

BS 405: BIOINFORMATICS AND BIOSTATISTICS

CO1 – Theory and practical knowledge on the Bioinformatics web portals, biological databases

CO2 -Gain working knowledge on the computational tools to perform sequence alignment for the elucidation of phylogenetic relationships.

CO3 – Understand the statistics concepts, theories and formulae

CO4 – To carry out statistical applications in the analysis of biological data.

BS 504: PLANT BIOTECHNOLOGY

CO1 – Understanding the fundamentals of plant tissue culture, such as Cellular totipotency, organogenesis, somatic embryogenesis.

CO2 – Understanding the concept of micropropagation, protoplast isolation, anther and pollen culture.

CO3 – Gain knowledge on the production of transgenic plants for crop improvement.

CO4 – Understanding the role of plant tissue culture in agriculture, horticulture and forestry.

BS 604: ENVIRONMENTAL BIOTECHNOLOGY

CO 1 – Understanding the concept of biotechnology in pollution management.

CO2 – Practical application of environment technology for the production of biofuels.

CO3 – Basic understanding about waste water treatment thru aerobic and anaerobic method.

CO4 – Basic knowledge in understanding the role of microorganisms and plants in solving environmental issues.