Semester I (DSC)

Cell Biology and Genetics

Course Outcomes:

1. Appreciate the concepts of Biotechnology and demonstrate knowledge acquired in Interdisciplinary skills in cell biology, genetics, biochemistry, microbiology, and molecular biology.

2. Describe the ultra structure of cells, structure and function of organelles, cytosol and Cytoskeleton, phases of cell cycle, cell division, reductional division in gametes, molecular mechanisms that regulate life and death of a cell including programmed cell death or apoptosis and differentiation in plants.

3. Comprehend organization and structure of chromosomes, banding techniques and Mendelian laws of inheritance, deviations and exceptions to these laws, types of mutations, genetic or hereditary disorders and concepts in population genetics

Semester I (OE)

Biotechnology for human welfare

Course Outcomes:

After successful completion of this Course, students will be able to:

1. Comprehend the biotechnological applications in the industry, environmental management and forensic science.

2. Appreciate contributions of biotechnology to biomedical fields, such as diagnostics, genomics and therapeutics.

3. Describe the applications of Biotechnology in solving major environmental issues related to non-biodegradable materials and production of eco-friendly products as an alternative solution.

Semester II (DSC)

Microbiological Methods

1. Apply the principles of microscopy to study microorganisms

2. Comprehend the importance and different methods of sterilization to carry our aseptic work in microbiology.

3. Analyze the different types of media, culture methods and staining techniques for isolation, characterization of microbes.

4. Classify the types and applications of antimicrobial agents and how to perform anti-microbial assays.

Semester III (OE)

Applications of biotechnology in Agriculture

Course Outcomes:

a1. Appreciate the concepts and scope of plant tissue culture in entrepreneurship and setting up small scale bioenterprises.

2. Interpret the importance, safety and ethical issues associated with GM crops and applications and advantages of Biopesticides

3. Comprehend production of edible vaccines, Nutraceuticals, antisense technology and bioethical issues.

Semester III (DSC)

Biomolecules

Course Outcomes:

1. Acquire knowledge about types of biomolecules, structure, and their functions

2. Demonstrate the skills to perform bioanalytical techniques

3. Apply comprehensive innovations and skills of biomolecules to biotechnology field

Semester III (OE)

Nutrition and Health

Course Outcomes:

1. Study the concepts of food, nutrition, diet and health

2. To apply the best practices of food intake and dietary requirements

3. Acquire knowledge about various sources of nutrients and good cooking practices

Semester IV (DSC)

Molecular Biology

Course Outcomes:

1. Appreciate the advancements in molecular biology with latest trends.
2. Comprehend the structure, functional relationship of proteins and nucleic acids.
3. Describe the basic cellular processes such as transcription, translation, DNA replication and repair mechanisms.

Semester IV (OE)

Intellectual Property Rights

Course Outcomes:

1. Appreciate the need and scope of Intellectual property rights.
2. Acquire knowledge about filing patents, process, and infringement.
3. Describe about trademarks, industrial designs, and copyright.