

**Shri Agrasen Kanya Post Graduate College
Bulanala/Parmanandpur Varanasi**

Department of Biotechnology (UG)

Course Outcomes:-

Couse Code: B100102P Course Title: Cell Biology and Genetics Lab

After completion of this course, students will be able to-

☐ learn, understand and develop skill and hands on training in basics of cell biology and

Genetics.

☐ be able to differentiate between plant and animal cells

☐ be analysed different stages of mitosis and meiosis

Programme/Class: Certificate Year: First (1) Semester: Second (II)

Subject: Biotechnology

Course Code: B100201T Course Title: Molecular Biology and Genetic Engineering

Course Outcomes (COs)

Student will be able to-

- ☒ learn and understand the important discoveries that are made in the field of molecular Biology.
- ☒ learn key molecular events that occur during the DNA replication, transcription, Translation and regulation of gene concept.
- ☒ gain knowledge on the foundation of genetic engineering and their applications in Biological research as well as in biotechnology industries.
- ☒ understand gene concept, plasmids, and wide range of techniques, especially modern Molecular tools in diagnosis.
- ☒ acquainted with various techniques of genetic engineering and their ...

Programme/Class: Diploma Year: Second (2) Semester: Third (III)

Subject: Biotechnology

Course Code: B100301T Course Title: Biochemistry and Biochemical tools

Course Outcomes

After successful completion of the course, student will be able to:

- ☐ understand the significance of Biochemistry.
- ☐ learn the chemistry of carbohydrates, lipids, proteins and amino acids.
- ☐ understand the basics of enzymes.
- ☐ understand the metabolism of carbohydrate and proteins
- ☐ know the chemical structure of nucleotides including their components , describe primary, secondary structure of DNA and RNA.

Programme/Class: Diploma Year: Second (2) Semester: Fourth (IV)

Subject: Biotechnology

Course Code: B100401T Course Title: Microbiology and Immunology

Course Outcomes

On the successful completion of the course, student will be able to:

- ☐ the pioneers in microbiology and their contributions
- ☐ understand the physical and chemical method of sterilization
- ☐ analyze the media composition and grow the desired microbe.
- ☐ understand the methods of cultivation of microorganisms
- ☐ understand different staining methods
- ☐ understand and differentiate the different types of microbes.
- ☐ understand the principles of immunology
- ☐ learn about structural features of components of immune system as well as their function and development of immune system and mechanisms by which o...

Programme/Class: Degree Year: Third (3) Semester: Fifth (V)

Subject: Biotechnology

Course Code: B100502T Course Title: Animal and Plant Biotechnology

Course Outcomes (COs)

After completion of this course, students will be able to-

- ☐ understand the principles, practices and application of animal biotechnology in Transgenesis, Tissue Engineering, and biopharmaceuticals.
- ☐ understand the principles, practices and applications of plant biotechnology, transgenic plant generation, plant tissue culture, plant genomics, and genetic transformation.
- ☐ understand applications of stem cells and tissues engineering.
- ☐ learn different gene delivery methods to deliver foreign gene in plants and animals
- ☐ know about different products of transgenic animals, plants

Programme/Class: Degree Year: Third (3) Semester: Fifth(V)

Subject: Biotechnology

Course Code: B100503P Course Title: Bioinformatics, Biostatistics

Tissue culture Lab

Course Outcomes (COs)

Students should be able to -

- ☐ apply basic bioinformatics tools for the studies and research in other areas of their biotechnology and microbiology programs, such as finding
- ☐ gene/protein homologs, designing primers, identifying mutations, etc.
- ☐ do cleaning, sterilization of laboratory, plastic and glasswares.
- ☐ prepare different types of culture media for animal and plant cell culture
- ☐ understand and solve the problems in the area of animal and plant Biotechnology.

Credits: 2 Core Compulsory

Programme/Class: Degree Year: Third (3) Semester: Sixth (VI)

Subject: Biotechnology

Course Code: B100602T Course Title: Food Biotechnology

Course Outcomes

After successful completion of the course, student will be able to:

- ☐ understand the history and evolution of food technology and processing.
- ☐ understand the importance microorganisms in food preservation
- ☐ learn various food processing and preservation technologies.

Programme/Class: Degree Year: Third (3) Semester: Sixth (VI)

Subject: Biotechnology

Course Code: B100603P Course Title: Industrial and Environmental Biotechnology

Lab

Course Outcomes

After completion of this course , students will be able to-

☐ understand various methods of screening of industrially important microorganisms from different sources.

☐ understand the working of small scale fermenter and also determine the aeration efficiency of the fermenter

☐ understand the technique