

Course Outcome
BSc Biotechnology
Biotechnology

Sl. No.	Paper Name	Course outcome
1.	Cell Biology	<ul style="list-style-type: none"> • The students will have a detailed and comprehensive knowledge on the various aspects of cell- biology • The students shall be able to, develop an understanding of the Cellular components, Cytoskeleton and Cell Membrane and their functions. • Understand cellular protein trafficking, respiration, cell cycle, cell signaling, stem cells and cancer • They will be able to assess and relate information in the context of cell biology.
2.	General Microbiology	<ul style="list-style-type: none"> • The students will be aware of growth and reproduction of micro organisms • They will be aware of metabolic and respiratory pathways of microbes • They will also be knowledgeable on the different microbial growth media, theory of isolation of microbes and preparation and sterilization of media, equipments and glass-wares
3.	Biochemistry	<ul style="list-style-type: none"> • The students will have a detailed understanding on the bio-molecules of life, their structure and function, enzyme, vitamins and hormone classification, nomenclature and mechanism and enzyme action. • Students will be aware of basic biosynthetic pathways • Students will be aware of the separation and analytical techniques in biochemistry
4.	Biochemistry Practicals	The students will be to biochemically analyse biological

		<p>samples, including preparation biochemically important buffers, determine the biomolecules in a given sample and perform bioanalytical techniques</p> <ul style="list-style-type: none"> • like Chromatography and electrophoresis • They will be experienced in estimating sugars, proteins, amino-acids and nucleic acids
5.	Genetics	<ul style="list-style-type: none"> • students will have a detailed understanding on Mendelian genetics, Population genetics and structure and organization of chromosome • They will have deep knowledge in Bacterial genetics
6.	Genetics Practicals	<ul style="list-style-type: none"> • The students will get hands on experience in performing basic genetic experiments • They will be capable of identifying various stages of mitosis and meiosis and also barr bodies • They can also perform experiments like induced genetic transformation and conjugation
7.	Molecular Biology	<ul style="list-style-type: none"> • Students will have an insight into the molecular aspects of life – such as Structure of gene, and chromatin, Gene expression and regulation. • It will also make students capable of understanding modern molecular research and associated tools and their applications
8.	Molecular biology Practicals	<ul style="list-style-type: none"> • Students will be capable handling techniques like isolation of total genomic DNA from plant and bacteria and its quantitation • It will also make students capable of performing lac operon induction and complementation experiments

9.	Immunology And Immuno-technology	<ul style="list-style-type: none"> • At the end of the course, the students will gain an insight into antigen-antibody reactions, different immunological pathways and the molecules involved in our immune system • It also explains the various antigen-antibody reactions involved in auto immune- diseases, tumor immunology, transplantation immunology and vaccine development. • The students will also get an idea about some basic immune techniques such as RID, ELISA, Blotting, Flow-cytometry etc
10.	Immunology And Immuno-technology Practicals	<ul style="list-style-type: none"> • Students will be able to identify different blood histotypes and perform blood grouping • Students will be capable of implementing the basic immunological techniques like immunization, ELISA and diffusion and electrophoretic methods in immunology. •
11.	Bioprocess Technology	<ul style="list-style-type: none"> • Students will have good knowledge on isolation and enrichment of economically important strains • Students will be capable working in a bio-processing unit with knowledge on bioreactor design and factors influencing products produced by the bioprocess. • It also deals with the various important products produced by the bioprocess techniques and enzyme technology related to bioprocessing
12.	Bioprocess Technology Practicals	<ul style="list-style-type: none"> • They will be confidently able to carry out basic bio-processing techniques including isolation of industrially important microorganisms • Students will also be capable of production of economically important

		metabolites, basic fermentation and immobilization techniques
13.	Plant Biotechnology	<ul style="list-style-type: none"> • The students will have a detailed understanding on Plant tissue culture methods and techniques • They will be aware of requirements to design a basic plant tissue culture laboratory
14.	Plant Biotechnology	<ul style="list-style-type: none"> • The students will have a detailed practical understanding on plant tissue culture media preparation, micropropagation and different types of cultures
15.	Animal Biotechnology	<ul style="list-style-type: none"> • The students acquire knowledge on various instruments and physiological parameters routinely applied in animal cell culturing • A theoretical understanding on the role of various components of media and its preparation and sterilization.
16.	Recombinant DNA Technology and Bioinformatics	<ul style="list-style-type: none"> • The students will be aware of Different DNA analytic methods like PCR, Sanger Sequencing, Blotting, RAPD, AFLP, STR etc • They will be aware of basic cloning techniques and basic bioinformatic tools
17.	Medical biotechnology	<ul style="list-style-type: none"> • The students will have a detailed understanding on morphology and physiology of bacteria • They will be aware of general identification procedures of various infectious pathogens • They will be also aware of biotechnological applications in clinical treatment and diagnosis
18.	Bioinformatics	<ul style="list-style-type: none"> • The students will be introduced to computational biology bioinformatics and basic techniques like multiple sequence alignment, phylogenetic analysis using search engines, computational tools and Sequence

		Databases etc
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