ACHARYA INSTITUTE OF TECHNOLOGY DEPARTMENT OF BIOTECHNOLOGY							
DEPARTMENT	BT	SEMESTER	3	COURSE CODE	18BT31	COURSE ID	C201
COURSE TITLE		BIOSTATISTICS					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C201.1		Describe the numerical techniques, special functions, complex variables, probability, sampling theory and stochastic process					
C201.2		Determine the solutions using numerical techniques, Solve special functions problems in complex domain; solve problems on probability, sampling theory and stochastic process					
C201.3		Draw the conclusions from numerical techniques, special functions, complex variables, probability, sampling theory and stochastic process.					
DEPARTMENT	BT	SEMESTER	3	COURSE CODE	18BT32	COURSE ID	C202
COURSE TITLE		MICROBIOLOGY					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C202.1		Describe various types of microbes and their classification.					
C202.2		Understand the growth, metabolism, mode of infection, causes and effects of microbes.					
C202.3		Analyze and identify various microorganisms through staining and their organelles.					
C202.4		Apply the knowledge of microbial identification to classify the microbes in air, water and soil into essential and harmful microbes for medical, environmental and industrial use.					
DEPARTMENT	BT	SEMESTER	3	COURSE CODE	18BT33	COURSE ID	C203
COURSE TITLE		UNIT OPERATIONS					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C203.1		Understand the classification of fluids, basic equation of fluid flow, flow measuring devices, crushing laws, modes of heat transfer and rate of diffusion.					
C203.2		Understand the principles fluid mechanics, mechanical operations, modes of heat transfer, steady-state conduction and convection, working of heat transfer exchanger.					
C203.3		Apply the equations of flow, crushing laws, steady state equations of conduction and convection in solving problems					
C203.4		Apply the equations of diffusivity and Mc Cabe Thiele's method in solving problems					
DEPARTMENT	BT	SEMESTER	3	COURSE CODE	18BT34	COURSE ID	C204
COURSE TITLE		INTRODUCTION TO BIOMOLECULES					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C204.1		Classify biomolecules based on structure, number and function.					

C204.2		Understand the fundamentals of biochemical principles such as structure, function, organization/stabilization of biomolecules.					
C204.3		Learn and outline the energy flow cycle/metabolic pathways with energy balance sheet.					
C204.4		Identify the transport mechanism across the biological membrane.					
DEPARTMENT	BT	SEMESTER	3	COURSE CODE	18BT35	COURSE ID	C205
COURSE TITLE		CELL BIOLOGY AND GENETICS					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C205.1		Outline the structure and function of cell organelles, organs of heredity and appraise their physiological roles.					
C205.2		Appraise the possible origin of cell organelles, compartmentalization, ageing process and the hereditary molecular components.					
C205.3		Explicit the basics of Mendelian genetics and gene interactions, their inheritance and expression in nature.					
C205.4		Analysis of inherited disorders with pedigree analysis and conceptual numericals					
DEPARTMENT	BT	SEMESTER	3	COURSE CODE	18BT36	COURSE ID	C206
COURSE TITLE		PYTHON PROGRAMMING					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C206.1		Understand python language with updated tool usage					
C206.2		Apply the basic concepts of python for biological data handling					
C206.3		Use the software with special reference to biotechnological applications					
DEPARTMENT	BT	SEMESTER	3	COURSE CODE	18BTL37	COURSE ID	C207
COURSE TITLE		MICROBILOGY LABORATORY					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C207.1		Understand and Use different laboratory equipment and instruments such as Microscope, Laminar Air Flow Station, Autoclave, oven, incubators.					
C207.2		Prepare suitable media for the cultivation of the microorganisms.					
C207.3		Analyze and interpret the role of microbes by applying the knowledge obtained for the isolation, identification and characterization of microorganisms					
C207.4		Classify/justify the presence of beneficial and harmful microorganisms based on their function in a given habitat.					
DEPARTMENT	BT	SEMESTER	3	COURSE CODE	18BTL38	COURSE ID	C208
COURSE TITLE		UNIT OPERATION LABORATORY					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C208.1		Identify the engineering principles of each unit operation for the given specification					
C208.2		Demonstrate skill in safe operation of laboratory experiment for the given specification					
C208.3		Tabulate and validate the experimental values to interpret the results					

C208.4		Record and examine the results with interpretation					
DEPARTMENT	BT	SEMESTER	3	COURSE CODE	18KVK39	COURSE ID	C209
COURSE TITLE		VYAVAHARIKA KANNADA (KANNADA FOR COMMUNICATION)					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C209.1		Kannada padagala parichaya					
C209.2		Kannada bhaseyalli mathanaduvudu, oduvudhu, bareyuvudhu.					
C209.3		Kannadadhali samvahana nadesuvudhu.					
C209.4		Prathi dina kannada padagala balake					
C209.5		Kannadadhali vyavahisuvadu.					
DEPARTMENT	BT	SEMESTER	3	COURSE CODE	18KAK39	COURSE ID	C209
COURSE TITLE		AADALITHA KANNADA (KANNADA FOR ADMINISTRATION)					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C209.1		Kannada nadu,nudi mattu samsruthiya bagge parichaya					
C209.2		Kannada adalitha padagala parichaya					
DEPARTMENT	BT	SEMESTER	3	COURSE CODE	18CPC39	COURSE ID	C209
COURSE TITLE		CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND CYBER LAW					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C209.1		Realize the status and importance of Indian Constitution.					
C209.2		To understand and apply the professional ethics and ethical standard of the engineering profession.					
C209.3		The student knows about the basic concepts relating to cyber law with sections and Cyber Crime.					
DEPARTMENT	BT	SEMESTER	4	COURSE CODE	18BT41	COURSE ID	C211
COURSE TITLE		STOICHIOMETRY					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C211.1		Understand fundamentals of the chemical principles related to the composition of matter and the concept of molecular identity					
C211.2		Estimate the behaviours of liquid and gases by the relationships between gas temperature, pressure, amount, and volume					
C211.3		Interpret the relationships between chemical changes and thermal energy					
C211.4		Analyse the substances involved in chemical reactions quantitatively and its stoichiometric conditions.					
DEPARTMENT	BT	SEMESTER	4	COURSE CODE	18BT42	COURSE ID	C212
COURSE TITLE		MOLECULAR BIOLOGY					

COURSE OUTCOME NO.	COURSE OUTCOME STATEMENTS
C212.1	Gain in depth knowledge in the general principles of molecular biology in both prokaryotic and eukaryotic organisms
C212.2	Demonstrate an understanding of various mechanisms of nucleic acids, synthesis and their functions.
C212.3	Describe the general principles of molecular biology and the implications such as recombination, cancer, transposition.
C212.4	Infer information on the general principles of proteins and its synthesis in both prokaryotic and eukaryotic organisms which will help in genetic engineering.

DEPARTMENT	BT	SEMESTER	4	COURSE CODE	18BT43	COURSE ID	C213

COURSE TITLE	IMMUNOTECHNOLOGY
COURSE OUTCOME NO.	COURSE OUTCOME STATEMENTS
C213.1	Understand the basic concepts and components of Immune system.
C213.2	Comprehend the diversified roles, functions and dysfunctions of immune system
C213.3	Apply Immunological techniques/ processes in the field of medicine, healthcare and diagnostics
C213.4	Analyze the reasons for graft rejection and auto immune disorders.

DEPARTMENT	BT	SEMESTER	4	COURSE CODE	18BT44	COURSE ID	C214

COURSE TITLE	CELL CULTURE TECHNIQUES
COURSE OUTCOME NO.	COURSE OUTCOME STATEMENTS
C214.1	Comprehend the characteristics of modified media for cellular studies
C214.2	Analyze the cell culture conditions for a laboratory scale
C214.3	Analyse/Differentiate the process/equipment needed to culture cells from various sources like animals, plants and microbes
C214.4	Apply the techniques of tissue/cell culture to retrieve commercially viable products

DEPARTMENT	BT	SEMESTER	4	COURSE CODE	18BT45	COURSE ID	C215

COURSE TITLE	BIOCHEMICAL THERMODYNAMICS
COURSE OUTCOME NO.	COURSE OUTCOME STATEMENTS
C215.1	Describe the terminologies of thermodynamics, concept of heat, work
C215.2	Understand the laws of thermodynamics, entropy, ideal and real gases, properties of pure substances and biochemical reaction equilibrium
C215.3	Apply the laws of Thermodynamics, equation of state, Gibbs- Duhem equation , Maxwell equation to identify the system conditions

C215.4		Analyse the importance of thermodynamics for reversible and irreversible systems, molar properties of the solutions.					
DEPARTMENT	BT	SEMESTER	4	COURSE CODE	18BT46	COURSE ID	C216
COURSE TITLE		CLINICAL BIOCHEMISTRY					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C216.1		Explain the acid-base balance and the regulatory mechanisms within the body to include the analyte, physiology involved, and clinical significance					
C216.2		Compare and contrast the basic differences between abnormalities associated metabolism with Biomolecules.					
C216.3		Apply the theoretical concepts in biochemistry with a focus on, hormones and biosignaling, metabolism and clinical biochemistry.					
C216.4		Analyze and interpret the data from case scenarios.					
DEPARTMENT	BT	SEMESTER	4	COURSE CODE	18BTL47	COURSE ID	C217
COURSE TITLE		BIOCHEMISTRY LABORATORY					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C217.1		Demonstrate the basic laboratory mathematics necessary to perform tests, make dilutions, and prepare buffer solutions.					
C217.2		Demonstrate the basic chemistry and biochemistry application in the field of medical diagnosis, treatment and management.					
C217.3		Compare/contrast Qualitative and quantitative analysis of various Biomolecules.					
DEPARTMENT	BT	SEMESTER	4	COURSE CODE	18BTL48	COURSE ID	C218
COURSE TITLE		IMMUNOTECHNOLOGY LABORATORY					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C218.1		Understand various theoretical concepts of Immunodiagnostic techniques and Genetic Engineering techniques					
C218.2		Apply the Immunodiagnostic techniques and Genetic Engineering techniques					
C218.3		Analyse and Infer the experimental outcome					
DEPARTMENT	BT	SEMESTER	5	COURSE CODE	18BT51	COURSE ID	C301
COURSE TITLE		BIO-BUISINESS AND INTREPRENEURSHIP					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C301.1		Understand the Business opportunities in Biotechnology field					
C301.2		Describe the importance of bioethics, biosafety and IPR					
C301.3		Apply concepts of project management to write project proposals and project reports.					
C301.4		Analyze a project report related to the proposal for obtaining funding					

DEPARTMENT	BT	SEMESTER	5	COURSE CODE	18BT52	COURSE ID	C302
COURSE TITLE		CHEMICAL REACTION ENGINEERING					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C302.1		Identify the reaction order and specific reaction rate from theoretical data.					
C302.2		Compare the performance of ideal and non-ideal reactors using E- and F-curves					
C302.3		Determine internal and overall effectiveness factors for the order reactions					
C302.4		Analyse kinetics of biochemical reactions carried out in reactor					
DEPARTMENT	BT	SEMESTER	5	COURSE CODE	18BT53	COURSE ID	C303
COURSE TITLE		ENZYME TECHNOLOGY AND BIOTRANSFORMATION					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C303.1		Able to design novel enzymes using design templates & improve the existing methods of enzyme immobilization					
C303.2		Evaluate the different strategies used in purification, characterization of enzymes & enzyme- catalyzed reactions					
C303.3		Examine kinetics of enzyme- catalyzed reactions & their applications in various industries					
C303.4		Develop ways in improving the sensitivity of enzyme assays in disease diagnosis wrt cancer & therapy.					
DEPARTMENT	BT	SEMESTER	5	COURSE CODE	18BT54	COURSE ID	C304
COURSE TITLE		GENOMICS AND PROTEOMICS					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C304.1		Define structural, comparative and functional genomics and proteomics and its uses in various research fields					
C304.2		Outline various methods and techniques of Genomics, expression profiling, proteome analysis, and its applications					
C304.3		Illustrate the different high throughput DNA sequencing technologies					
C304.4		Apply various tools of analysis for proteome expression					
DEPARTMENT	BT	SEMESTER	5	COURSE CODE	18BT55	COURSE ID	C305
COURSE TITLE		BIOANALYTICAL TECHNIQUES					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C305.1		Identify the different pre-treatment steps involved in bio-product analysis, methods of analytical techniques.					
C305.2		Understand the working of bio-analytical instruments used in the bio-molecular analysis					

C305.3		Interpret the chromatographic, electrophoretic techniques for identification and quantification of bio-analytical product					
C305.4		Analyze the macromolecular structure by NMR, X-ray diffraction methods and electrochemical characterization techniques					
DEPARTMENT	BT	SEMESTER	5	COURSE CODE	18BT56	COURSE ID	C306
COURSE TITLE		GENETIC ENGINEERING AND APPLICATIONS					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C306.1		Summarize the various tools of genetic engineering such as vectors & enzyme					
C306.2		Classify the different methods of gene transfer techniques, hybridization methods, nucleic acid amplification and libraries					
C306.3		Demonstrate the importance of the tools of genetic engineering in the process of curing genetic diseases and other applications					
C306.4		Devise the ways for the expression of novel proteins in bacteria and yeast using the different methods of gene transfer.					
DEPARTMENT	BT	SEMESTER	5	COURSE CODE	18BTL57	COURSE ID	C307
COURSE TITLE		BIOKINETICS AND ENZYME TECHNOLOGY LABORATORY					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C307.1		State and define the nature of the reaction, rate of the reaction, rate constant and enzyme activity.					
C307.2		To understand the mechanism of enzyme action, purification of enzymes, catalytic action of enzymes, kinetics of enzyme catalyzed reactions					
C307.3		To determine the optimum pH, temperature and concentration of an enzyme's catalytic power, its substrate affinity and inhibitor role					
C307.4		Compose the reaction data to identify the standard parameter for efficient functioning of enzymes					
DEPARTMENT	BT	SEMESTER	5	COURSE CODE	18BTL58	COURSE ID	C308
COURSE TITLE		GENETIC ENGINEERING AND CELL CULTURE LABORATORY					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C308.1		Comprehend the basic genetic engineering and cell culture techniques in vitro.					
C308.2		Conduct the experiments to quantify genetic material and secondary metabolites from the given source.					
C308.3		Analyze and interpret the effects of physio-chemical factors, growth hormones on development of cell cultures in vitro					
C308.4		Apply the skills of Isolation, identification and quantification of genetic material for genetic engineering applications					
DEPARTMENT	BT	SEMESTER	5	COURSE CODE	18CIV59	COURSE ID	C309
COURSE TITLE		ENVIRONMENTAL STUDIES					

COURSE OUTCOME NO.	COURSE OUTCOME STATEMENTS
C309.1	Understand the environmental science in context of engineering
C309.2	Analyse contemporary environmental problems in the modern era

DEPARTMENT	BT	SEMESTER	6	COURSE CODE	18BT61	COURSE ID	C311

COURSE TITLE	PROCESS CONTROL AND AUTOMATION
COURSE OUTCOME NO.	COURSE OUTCOME STATEMENTS
C311.1	Identify suitable process instrumentation for monitoring and control of bioreactors
C311.2	Determine the performance of a closed loop control approach
C311.3	Analyse process stability, dynamic responses, frequency analysis of biochemical processes
C311.4	Develop mathematical models for dynamic processes

DEPARTMENT	BT	SEMESTER	6	COURSE CODE	18BT62	COURSE ID	C312

COURSE TITLE	BIOPROCESS EQUIPMENT DESIGN AND CAED
COURSE OUTCOME NO.	COURSE OUTCOME STATEMENTS
C312.1	Understand the working of process equipment double pipe heat exchanger, shell & tube heat exchanger, condenser, fermentor, packed column distillation
C312.2	Apply the material balance , heat transfer co-efficient equations for the design of heat transfer equipment’s
C312.3	Analyze the heat transfer calculations based on the relationship between dimensionless groups & VLE data for the process equipment’s
C312.4	Evaluate the pressure drop calculations for the heat exchangers, condenser, fermentor , height and diameter of packed bed distillation column

DEPARTMENT	BT	SEMESTER	6	COURSE CODE	18BTY63	COURSE ID	C313

COURSE TITLE	BIOINFORMATICS
COURSE OUTCOME NO.	COURSE OUTCOME STATEMENTS
C313.1	Define biological data bases, its types and its uses in various research fields
C313.2	Describe various methods and techniques of bioinformatics tools to search nucleotides and amino acid sequences and its alignment and arrangement into primers and restriction maps and model small molecules and peptide chains.
C313.3	Analyze the best method to predict the functional aspects of a genome and structure of a protein.
C313.4	Utilize various bioinformatics tools required to handle biological data

DEPARTMENT	BT	SEMESTER	6	COURSE CODE	18BT64X	COURSE ID	C314
COURSE TITLE		FOOD PROCESS ENGINEERING					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C314.1		Display a solid foundation in understanding the biochemical, nutritional, physiological, ethical and safety aspect of food					
C314.2		Articulate the different factors influencing microbial growth, its intoxication and diagnostic system used in food industry to detect the microbial spoilage.					
C314.3		Appraise the different processing, fermenting, preserving techniques to enhance the shelf life of food by using biotechnological approach.					
C314.4		Analyse the food sample for nutritional content and diagnose it for various microbial contamination.					
DEPARTMENT	BT	SEMESTER	6	COURSE CODE	18BT65X	COURSE ID	C315
COURSE TITLE		BIOLOGY FOR ENGINEERS					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C315.1		Display a solid foundation in understanding the cell biology and biomolecules					
C315.2		Articulate the factors influencing biomolecules and biomaterials.					
C315.3		Apply the knowledge to relate organs to an engineered device.					
C315.4		To analyze various physio-chemical factors affecting biomolecules when subjected to any physical and chemical change.					
DEPARTMENT	BT	SEMESTER	6	COURSE CODE	18BTL66	COURSE ID	C316
COURSE TITLE		PROCESS CONTROL AMD AUTOMATION LABORATORY					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C316.1		Identify the engineering principles for the given experimental specification					
C316.2		Demonstrate skill in safe operation of laboratory experiment for the given specification					
C316.3		Tabulate and validate the experimental values to interpret the results					
C316.4		Record and examine the data with interpretation					
DEPARTMENT	BT	SEMESTER	6	COURSE CODE	18BTL67	COURSE ID	C317
COURSE TITLE		BIOINFORMATICS LABORATORY					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C317.1		Understand fundamental concepts of bioinformatics					
C317.2		Apply online resource tools					
C317.3		Solve sequence alignment problems					

C317.4		Design primers and peptide sequences					
DEPARTMENT	BT	SEMESTER	6	COURSE CODE	18BTMP68	COURSE ID	C318
COURSE TITLE		MINI-PROJECT					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C318.1		Identify the research problem and frame objectives based on the review of literature					
C318.2		Apply relevant methodologies for addressing afore mentioned objectives.					
C318.3		Analyze and evaluate the experimental results and propose suitable modifications to achieve expected outcomes.					
C318.4		To develop team building capability and communicate effectively to scientific community.					
DEPARTMENT	BT	SEMESTER	7	COURSE CODE	18BT71	COURSE ID	C401
COURSE TITLE		BIOPROCESS ENGINEERING					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C401.1		Discuss the control strategy for a process involving multiple variables and constraints					
C401.2		Describe the main stages of downstream processing operations					
C401.3		Relate the separation techniques based on the characteristics of the biomolecules					
C401.4		Distinguish the different types of chromatography techniques for purifying proteins					
DEPARTMENT	BT	SEMESTER	7	COURSE CODE	18BT72	COURSE ID	C402
COURSE TITLE		CLINICAL AND PHARMACEUTICAL BIOTECHNOLOGY					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C402.1		Understand the basic concepts of drug discovery cycle, formulations along with Pharmacokinetics and Pharmacodynamics studies.					
C402.2		Comprehend the proficiency of clinical research in Industry/Research for obtaining and improving the quality of natural/biopharmaceutical products.					
C402.3		Implement the clinical significance and therapeutic aspects of drugs, proteins and enzymes.					
C402.4		Analyze the case studies related to pharmacotherapy and bio-therapeutics.					
DEPARTMENT	BT	SEMESTER	7	COURSE CODE	18BT73X	COURSE ID	C403
COURSE TITLE		PROCESS EQUIPMENT AND PLANT DESIGN					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					

C403.1		List the steps involved in the process design, general design considerations required for start-up and different costs involved					
C403.2		Understand the steps of the feasibility of process design, working and fixed capital investment, depreciation costs for taxes, and profitability of the process					
C403.3		Implement the different costs to obtain the capital investment of a process and depreciation methods and taxes for the cost equivalence					
C403.4		Determine the factors necessary for cost estimation, and the profitability of a process					
DEPARTMENT	BT	SEMESTER	7	COURSE CODE	18BT74X	COURSE ID	C404
COURSE TITLE		TISSUE ENGINEERING					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C404.1		Demonstrate an understanding of the clinical need for stem cell therapy and tissue engineering in regenerative medicine.					
C404.2		Apply the principles of cellular and tissue engineering to theoretically develop processes for the production of biologics and tissue engineered medical devices.					
C404.3		Analyze and Describe the interactions of biomaterials with the biological environment – stability, corrosion, histo-cyto- and hemo-compatability; explain how these interactions are assessed and influenced by material choice and modification.					
C404.4		Compare and evaluate scientific literature to inform design of biologics and tissue engineered medical devices.					
DEPARTMENT	BT	SEMESTER	7	COURSE CODE	18BT75X	COURSE ID	C405
COURSE TITLE		BIOTECHNOLOGY FOR SUSTAINABLE ENVIRONMENT					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C405.1		Understand the source of the pollution, the source and reasons for the causes of pollution. Outline the techniques used for treating and filtering water to make it portable. Gain knowledge on biofuels and understand the importance of biofuels over conservative fuels					
C405.2		Apply the knowledge to choose the right biotechnological process to provide a sustainable environment					
C405.3		Analyze and suggest water treatment and solid waste management methods, the characteristics of wastewater/ solid waste samples and various filtration techniques					
C405.4		Interpret the importance of biofuels and methods to conserve fuels.					
DEPARTMENT	BT	SEMESTER	7	COURSE CODE	18BTL76	COURSE ID	C406
COURSE TITLE		BIOPROCESS ENGINEERING LABORATORY					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C406.1		List and Describe the basic requirements of downstream processing for biochemical product recovery					

C406.2		Apply the techniques of separation and isolation of various biological compounds from tissue sources.					
C406.3		Illustrate the emerging technologies that would benefit the biochemical product recovery and show the likely benefits it would have over the traditional operations					
C406.4		Analyze and interpret the effects of enzyme catalysts in bioprocess experiments					
DEPARTMENT	BT	SEMESTER	7	COURSE CODE	18BTP77	COURSE ID	C407
COURSE TITLE		PROJECT WORK PHASE -1					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C407.1		Identify a research problem and frame objectives based on the review of literature					
C407.2		Apply relevant methodologies for addressing afore mentioned objectives.					
C407.3		Analyze and evaluate the experimental results and propose suitable modifications to achieve expected outcomes.					
C407.4		To develop team building capability and communicate effectively to scientific community.					
DEPARTMENT	BT	SEMESTER	8	COURSE CODE	18BT81	COURSE ID	C411
COURSE TITLE		REGULATORY AFFAIRS IN BIOTECH INDUSTRY					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C411.1		Understand existing regulations to ensure quality on the BT industry and the ethical implications					
C411.2		Apply validation tools to various processes of the BT industry					
C411.3		Analyze risk and conformity in various processes of the BT industry					
C411.4		Implement Quality management system for BT industry					
DEPARTMENT	BT	SEMESTER	8	COURSE CODE	18BT821	COURSE ID	C412
COURSE TITLE		ENVIRONMENTAL BIOTECHNOLOGY					
COURSE OUTCOME NO.		COURSE OUTCOME STATEMENTS					
C412.1		Enumerate the effects, impacts and the regulation pertaining to environmental issues.					
C412.2		Illustrate the effect of microorganisms involved in the betterment of environmental issues and other applications.					
C412.3		Analyze the various processes of pollutions and its impact on natural resources.					
C412.4		Appraise case-studies representative of key areas of environmental biotechnology and draw appropriate conclusions					
DEPARTMENT	BT	SEMESTER	8	COURSE CODE	18BTP83	COURSE ID	C413
COURSE TITLE		PROJECT WORK PHASE - 2					

COURSE OUTCOME NO.	COURSE OUTCOME STATEMENTS
C413.1	Identify the research problem
C413.2	Frame objectives based on the review of literature
C413.3	Apply relevant methodologies for addressing afore mentioned objectives.
C413.4	Analyze and evaluate the experimental results and propose suitable modifications to achieve expected outcomes.
C413.5	To develop team building capability and communicate effectively to scientific community.

DEPARTMENT	BT	SEMESTER	8	COURSE CODE	18BTS84	COURSE ID	C414

COURSE TITLE	TECHNICAL SEMINAR
COURSE OUTCOME NO.	COURSE OUTCOME STATEMENTS
C414.1	Select recent advances in a specific field by performing a comprehensive literature survey.
C414.2	Identify the problem, Compare the different solution methods for the same.
C414.3	Discuss the development of methodology, impact on society, and future scope.
C414.4	Communicate technical content effectively through written and oral presentations.

DEPARTMENT	BT	SEMESTER	8	COURSE CODE	18BTI85	COURSE ID	C415

COURSE TITLE	INTERNSHIP
COURSE OUTCOME NO.	COURSE OUTCOME STATEMENTS
C415.1	Demonstrate Sound technical Knowledge in the chosen domain through Skill up gradation
C415.2	Correlate the knowledge gained for different applications scenarios.
C415.3	Work as individual or as good team player in an organization.
C415.4	Communicate technical content effectively through written and oral presentations.