2.6.1 Programme outcomes, Programme specific outcomes and course outcomes for all Programme offered by the institution are stated and displayed on website and communicated to teachers and students.

For Candidates admitted in the Colleges affiliated to Periyar University from 2017 onwards

Name of the Programme: Bachelor of Science (Biotechnology)

Programme Outcome(PO):
Upon completion of the degree requirements, students will be able to

PO1	To impart the knowledge about the theoretical development of Biotechnology.
PO2	To elucidate the use of various Biological Science concepts which are required for the development of Biotechnology.
PO3	To efficiently and successfully prepare students in good communication
PO4	To develop effective biological technical skills among students in order for them to be proficient and self-sufficient to start a self-employment
PO5	To train and raise awareness among students about the importance of learning basic to possibly advanced techniques.

PO6	To raise student awareness about social significance of biotechnology.
PO7	To equip the students with effective applications of various biotechnology tools for solving many real life problems.
PO8	To disseminate information about the pharmaceutical significance of biotechnology.
PO9	To emphasize the scope of using biotechnology tools in various disciplines.
PO10	To instruct students on how to use scientific equipment.
PO11	To increase awareness of the medical and biological significance of biotechnology.
PO12	To provide a platform for pursuing higher studies such as Post-graduate and Doctorate degrees
PO13	To prepare students for a variety of industrial-based activities.

Programme Specific Outcome(PSO): **Upon completion of the degree requirements, students will be able to**	
PSO1	Understanding basic concepts and mechanisms involved in biological systems.
PSO2	The students should be able to demonstrate proficiency in basic science and fundamental biotechnological tools
PSO3	Students' communication skills will improve, allowing them to collaborate with industrial and academic professionals from neighbouring states and countries to share knowledge.
PSO4	Students who learn how to handle scientific equipment can work in a variety of industries and academic fields, as well as start their own businesses.
PSO5	Students can become cutting-edge researchers in the future by learning basic to advanced biotechnological techniques and knowledge.
PSO6	Students who understand biology well could gain self-confidence and recognise their potential value to society.
PSO7	The graduates get motivated towards deep learning, higher studies and research in life sciences

PSO8	The graduates acquire employability skills in the field of Pharmaceutical, food and agricultural industries
PSO9	The graduates develop health and environment awareness towards social responsibility.
PSO10	Pupils can enter into bioinstrumentational research and maintain the functionality of scientific equipment if they have a thorough understanding of the working principles and procedures.
PSO11	Students can participate in scientific research to develop or discover pharmaceutically valuable molecues that can be used to cure or eradicate various pandemic health issues.
PSO12	The awareness of the significance of biotechnological approaches in pollution management can control or mitigate environmental pollution, and individuals will take personal responsibility to avoid environmental pollution-related activities.
PSO13	While completing the course, students will be socially responsible and knowledgeable in biotechnology, which will lead to job opportunities and promote them as entrepreneurs.

COURSE OUTCOME			
Name of the Programme: Bachelor of Science (Biotechnology)			
SEMESTER	**STUDY COMPONENTS**	**COURSES**	**COURSE OUTCOME**
I	Core - I	Cell Biology	Students understand the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles.
	Core Practical I	Lab in Cell Biology	Students understand fundamentals of cell biology techniques. Students are aware of the laboratory rules and regulations.
	Allied -I	Biochemistry I	Students understand cellular metabolism quite enough to predict and control changes in cells. Biochemical study resulted in treatments for so many metabolic disorders, antimicrobial to combat
	Value Education	Manavalakkalai - Yoga	Practicing yoga on a routine basis can provide physical and mental health benefits Such as increased flexibility, increased muscle strength and tone, improved respiration, energy and
	Core - II	Genetics	Student Obtain acquaintance on historical overview of microbial genetics and genetic Materials Comprehend the concept of replication of genetic

II	SBEC-I	Bioinstrumentation	Demonstrate the basics of instrumentation by analysis Exemplify the structure of atoms and molecules by using the principles of Spectroscopy
	Core Practical II	Lab In Genetics	Students will Successfully quantify the important biological constituents of cell. Analyse the sex chromatin present in different cells.
	EVS	Environmental - Studies	Comprehend the transnational nature of environmental problems and how to identify them, such as interactions at local, regional, and global scales.
	Allied - II	Biochemistry II	Understanding of basic aspects in biology, chemistry, and biochemistry. Capability to apply basic chemistry fundamentals to biological systems and molecular biology.
	Allied Practical I	Lab in Biochemistry	Understanding good laboratory practises in a chemistry/biochemistry laboratory, safety and precautions, proficiency in preparing laboratory reagents, use of glassware.
III	Core - III	General Microbiology	Remember and recall the historical events which paved the development of different types of microscopes. Understand and differentiate the different types of
	SBEC-III	Developmental Biology	Students get used to main developmental biology concepts Explain the molecular mechanisms that underlie animal and plant development
	NMEC-I	Concept of Biotechnology	Describe the fundamental biochemical processes of cells such as ion/molecule uptake, energy transfers, metabolism and the immune system Describe the fundamentals of cell division and
	Core Practical III	Lab In Microbiology	Be aware of the laboratory rules and regulations Understand the importance, evolution and diversity of cells and preparation of Buffers Learns to visualize the cells by employing

	Allied - III	Biostatistics	Students get introduced to the applications of statistics in Bio-Technology, Bio-Chemistry and Microbiology. Understand and apply the statistical methods like
IV	Core IV	Molecular Biology	Molecular Events of understand and appreciate the diversity of life as it evolved over time by processes of mutation, selection and genetic change.
	NMEC-II	Biotechnology for Human Welfare	Describe the basic principles and techniques used for the study and manipulation of DNA Appreciate the application of biotechnology in diverse areas such as health and medicine.
	Core Practical IV	Lab in Molecular Biology	Students get hands on experience in isolation and separation of Protein, RNA and DNA. Students acquire knowledge about basic molecular biology tools.
	Allied - IV	E-Commerce Techniques	Students learned about the fundamentals of computing, such as how to formulate a computational problem, develop an algorithmic solution, implement their solution in software, and
	Allied Practical II	HTML Programming	Students will be able to comprehend and apply their knowledge in a variety of bioinformatics applications in life science research.
	Core V	Plant Biotechnology	Students understand scientific and technical skills on plants study Acquire knowledge on limitations and challenges in plant cell tissue culture.
	Core VI	Immunology and Immunotechnology	Students design a model of Immunoglobulin/Antibodies Describe which cell types and organs are present in the immune response
	Core VII	Genetic Engineering	Acquaint with the vocabulary involved in molecular cloning strategies and techniques used to probe DNA for specific genes of interest Apprehend with the tools and techniques in rDNA

V	SBEC III	Nanobiotechnology and Bioinformatics	The student will develop a fundamental knowledge of nanomaterials. The student will demonstrate a basic understanding of the length scale that defines nano
	Elective - II	Medical Biotechnology	Understand the role of biotechnology in healthcare Describe the pharming for human proteins and neutraceuticals Analyse the diagnosis and prediction of disorders.
	Core Practical V	Lab in Plant Biotechnology	Understand the concepts and principles of Plant tissue culture. Learn the techniques of sterilization and monitoring method of sterilization.
	Core Practical VI	Lab in Genetic Engineering and Immunology	Understand the practical skills in Immunology Acquire skills in genetic engineering Examining and analyzing the results involved in immune techniques and genetic engineering
VI	Core VIII	Animal biotechnology	To develop an understanding on basic pattern of animal cell culture and controlling characters Acquire knowledge on handling animal cell culture and their applications
	Core IX	Proteomics and Genomics	Students get better knowledge of molecular profiling of genes and proteins for its analysis. Students will develop the molecular skills, knowledge about the handling of instruments for
	Core X	Bioprocess & Enzymology technology	Students understand the applications of Microbes Students know about Fermentation, Microbial products, amino acids solvents, vitamins and antibiotics.
	SBEC-IV	Pharmaceutical Biotechnology	Student understands the concept therapy. Understand Pharmacology is the study of inherited variation in drug response. Understand the basic steps in the drug research.
	Elective-II	Food Biotechnology	Narrate the scope and economics of Food Biotechnology Understand the need of edible vaccine products for the mankind

	Core Practical VII	Lab in Animal Biotechnology	Students Study the culture techniques of the animal cell culture Students understand about the production of transgenic products and their therapeutic
	Core Practical VIII	Lab in Bioprocess Technology and Enzymology	Students gain sound technical knowledge and hands on practical skills in various aspects of bioprocess Biotechnology and enzymology Students acquire an overview about the

Name of the Programme: Bachelor of Science in Mathematics **For Candidates admitted in the Colleges affiliated to Periyar University from 2017 onwards**	
Programme Outcome(PO): **Upon completion of the degree requirements, students will be able to**	
PO1	To provide adequate basic understanding about Mathematicsamong the students
PO2	To prepare students to exploit opportunities being newly created in the Mathematics Profession
PO3	To train the students in communication skills effectively
PO4	To develop appropriate skills in the students so as to make them competent and provide themselves self-employment

PO5	To inculcate Problem Solving skills
PO6	To work well in teams, including virtual settings
PO7	To understand real life problems
PO8	To recognize and solve all types of problems in an ethical manner
PO9	To communicate basic concepts professionally
PO10	To build the department as a centre of excellence for imparting high quality mathematical education at the undergraduate level
PO11	To stimulate in students an interest in research and initiate them into research methodologies
PO12	To foster thinking minds that are sensitive to societal needs and issues thus making them good human beings and responsible members of the society
PO13	To provide an environment that facilitates all-round development of the student personality

Programme Specific Outcome(PSO): **Upon completion of the degree requirements, students will be able to**	
PSO1	Ability to define, analyse the solutions for different mathematical problems and using logical reasoning patterns for evaluating information, materials, and data for practical implementation.
PSO2	Provides verbal, reasoning, Data Interpretation, Quantitative and communication skill to solve specific problems and decision making.
PSO3	Apply ethical principles and commitment towards professional ethics and responsibility.
PSO4	Function effectively as a member, leader, individual or group in diverse environment.
PSO5	Ability to conceptualize a complex issue into a coherent written statement and oral presentation and to communicate effectively on complex activities with technical community.
PSO6	Providing an opportunity for the students to gain practical exposure towards the workplace.
PSO7	Promotes fundamentals of creating and innovating new concepts in theory oriented core subjects.
PSO8	Ability to demonstrate mathematical concepts using technology to competence in domestic and global arena.

COURSE OUTCOME			
Name of the Programme: Bachelor of Science in Mathematics			
SEMESTER	**STUDY COMPONENTS**	**COURSES**	**COURSE OUTCOME**
I	Core - I	Classical Algebra	1. Gain knowledge about binomial, exponential and logarithmic series. 2. Examine the consistency of linear equations and application of Cayley-Hamilton theorem.
	Core - II	Differential Calculus	1. Gain knowledge about curvature and envelopes. 2. Gain knowledge about integration and its applications.
	Allied - I	Allied Physics - I	1. To know about the new concepts related to mathematical ideas 2. Basic preparation to deal with laboratory equipments
II	Core - III	Integral Calculus	1. Gain knowledge about curvature and envelopes. 2. Gain knowledge about integration and its applications.
	Core - IV	Vector Analysis	1. Recall the basic concepts and understand the expansions of Trigonometric functions 2. Acquire knowledge on Hyperbolic functions and Logarithm of complex numbers

	Allied - II	Allied Physics - II	1. Apart from the mathematical problems students can work with equipments in the physics laboratory 2. To learn and relate Mathematics concepts with
III	Core - V	Statics	1. To understand the impulse and impulsive force and to gain knowledge about collision of elastic bodies. 2. To understand the geometrical representation of
	Core - VI	Differential Equations and Lapalce Transforms	1. Understanding the concepts of Maxima and Minima. 2. Developing the knowledge in Numerical Methods problem solving.
	Allied II	Mathematical Statistics	1. Using mathematical ideas in evaluation of data 2. To use statistical operations among all the other type of problems 3. To make a new way and new approach to
	SBEC I	Office Automation Practical	Acquire practical knowledge about MS-Word, MS-Excel, MS-PowerPoint and Ms-Access.
	NMEC-I	Basics of Computers	1. This will lead the student community to a technological world 2. Basic concepts like operating systems, coloring, drawing are tought
IV	Core - VII	Dynamics	1. To recollect the basic concept of forces and understand the Varignon's theorem. 2. To understand the laws of friction and equilibrium of a particle on a rough inclined plane
	Core - VIII	Trigonometry and Analytical Geometry of 3D	1. To gain knowledge about Conic 2D 2. Understand the concepts of coplanar lines and skew lines and find the shortest distance between them
	Allied II	Inferential Statistics	1. To gain analysis technique 2. To learn about collecting and organising data to deal with various type of statistical problems 3. Enhaces statistical methods for solving different

	NMEC-II	Basics of Internet	1. Which introduces a new approach to deal with internet 2. Apart from the internet usage students will learn to operate computers of different types
	SBEC - II	Quantitative Aptitude	1. Make sense of problems, develop strategies to find solutions and persevere in solving them. 2. Use appropriate technology in a given context. 3. Critique and evaluate quantitative arguments
V	Core - IX	Modern Algebra I	1. Understand the concepts of various Subgroups and its applications 2. Acquire Knowledge about the concepts of homomorphisms, isomorphisms and
	Core - X	Real Analysis I	1. Understand basic concepts of sequence and series. 2. Understand and prove various theorems. 3. Understand the method to solve simple
	Core - XI	Complex Analysis I	1. Find different Singularities and Residues 2. Understand various Linear Transformations and Conformal Mappings
	Elective I	Operatoins Research	1. Formulate simple reasoning and learning optimization problems. 2. Analyze a problem and can select a suitable strategy.
	Elective II	Number Theory	1. To understand the basic properties of integers. 2. Formally understand and prove various theorems. 3. Applying theoretical results acquired to solve
	SBEC III	C Programming (Theory)	1. Understand the structure of C program, its keywords, declaration of variables and defining symbolic commands. 2. Use arithmetic operators, logical operators,
	Core - XII	Modern Algebra II	1. Find the linear dependence and independence, dimension of spaces. 2. Know the concepts of null spaces, range and Matrix representation of a linear transformation.

VI	Core - XIII	Real Analysis II	1. Understand concepts of connectedness, completeness and compactness of metric spaces. 2. Understand basic concepts of Riemann Integration and solving simple problems.
	Core - XIV	Complex Analysis II	1. Know the concepts of Limits, Continuity and Analytic functions. 2. Solve Complex Integrals. 3. Discuss Convergence of Sequences and Series.
	Core - XV	Graph Theory	1. Formally understand and prove theorems and lemmas. 2. Apply theoretical knowledge acquired to solve realistic problems in real life.
	Elective - III	Numerical Analysis	1. Use numerical methods to solve the algebraic and transcendental equations by using Bisection, Newton's method and some iterative methods. 2. Have a sufficient exposure in constructing
	SBEC - V	Latex Theory	1. To learn the new type of documentation for mathematics 2. Have a great idea of typing the new concepts with more perfection

Name of the Programme: Hotel Management & Catering Science
For Candidates admitted in the Colleges affiliated to Periyar University from 2017 onwards

Programme Outcome(PO):
Upon completion of the degree requirements, students will be able to

PO1	To provide adequate basic understanding about Management Education among the students
PO2	To prepare students to exploit opportunities being newly created in the Management Profession
PO3	To train the students in communication skills effectively
PO4	To develop appropriate skills in the students so as to make them competent and provide themselves self-employment
PO5	To inculcate Entrepreneurial and Managerial skills
PO6	To work well in teams, including virtual settings
PO7	To understand finance and other core business content

PO8	To recognize and solve business problems in an ethical manner
PO9	To communicate business information professionally
PO10	To build the department as a centre of excellence for imparting high quality management education at the undergraduate level
PO11	To stimulate in students an interest in research and initiate them into research methodologies
PO12	To foster thinking minds that are sensitive to societal needs and issues thus making them good human beings and responsible members of the society
PO13	To provide an environment that facilitates all-round development of the student personality

Programme Specific Outcome(PSO):	
PSO1	To provide the basic and essential knowledge regarding various activities undertaken and necessary to run socially responsible business organization
PSO2	To impar certain basic skills and aptitude which will be useful in taking up any particular useful in taking up any particular activity in hospitality industry.
PSO3	To develop the personality so as to become responsible citizen with greater awareness about the indian society and its culture.
PSO4	To provide a global view of several multinational hotel and their functions which support hotel system.

Name of the Programme: Hotel Management & Catering science(HMCS)			
SEMESTER	**STUDY COMPONENTS**	**COURSES**	**COURSE OUTCOME**
	Core - I	Food Production & Pattisserie-I	To know the responsibilities of the kitchen staffs, aim and objectives of culinary, haccp and importance of hygiene, & culinary basic

I	Core - II	Accommodation Operation -I	to know the importance of housekeeping in hospitality industry. How to make the guest to feel home away from home. To learn the hotel cleanliness and maintenance. And aesthetic up keep of the hotel.
	Allied - I	front office operation-I	Classify the hotels based on the location and rating based on the facilities. Greeting the guest and fulfill their requirement.
II	Core - III	Food and Beverage Service -I	Evaluation of hotel industry to differentiate commercial and non-commercial establishment. Learning how to handle the equipment, to know the qualities of F&B staffs, to know the different types of
	Core-IV	Bakery &Confectionery	To describe attributes of Bakery and Confectionery product to evaluate to different between control and standardized products. To test hypotheses using statistical techniques.
	Allied – II	Food science &Nutrition	Students will get the knowledge about the important nutrients effect of excess and deficiency, food colouring,flavor,reason for food contamination food adulation, importance of food groups and water.
	Core-V	Food Production & Pattisserie-II	Studying the indian, spices, masalas, and continents, learning the Indian cuisines, how to prepare a indent, costing and cost control, and also studying the international cuisine.
	Core-VI	Accommodation Operation -II	Gaining knowledge about textiles and laundry operation, legal agreements, handling emergency, purpose of flower arrangements.
	SBEC-I	Hospitality Communication	Developing their speaking skill, business communication, conversation.
	Allied-III	Hotel Accounting	Learning basic accounts for maintaining hotel accounts.

III	Elective-I	Hotel French	English to French learning the alphabet, numerics, fruits, vegetables and self intro and simple conversation.
	NMEC - I	Front Office Management-I	Students will the learn how to handle the guest and providing the facilities, visa formalities etc…
	Core -VII	Food & Beverage service-II	To know the production of alcoholic beverages storing temperature particularly gaining more knowledge about wines.
	Core-VIII	Tourism Marketing	Purpose of tourism, economic status about the country, importance of Indian tourism, their advantages hotels and transports co-ordinate with tourism.
	Elective-II	Hotel Administration and Entrepreneurship	Student master oral and visual presentation skills and established a foundation of confidence in the skill necessary to cause others to act. Student advanced their skills in customer development
	Allied -IV	Front Office Operation	To know the guest accounting, night auditing, checkout settlement process, system knowledge.
	SBEC-II	Hospitality Communication -II	Preparing for interview. Facing interview panel, handling meeting.
	NMEC-II	Principle of Tourism	Contextualize tourism with boarded culture critique tourism practice for their implication locally and globally .explain the divorce nature of tourism including culture global/local perspective and
			Familiarize in larder kitchen.

IV	Core-IX	Food Production & Patisserie-III	Analyses the storage of meat and larder control. Prepare cold cuts and forcemeats. To enhance on brines, marinades and charcuterie. To prepare sandwiches with its stuffing to make garnishes.
V	Core-X	Food and beverage service	Make a layout of food and beverage outlet. Understand formal and informal banquets. To run catering and analyze menu engineering. To operate gueridon service. Analyze the importance of kitchen.

V	Core-XI	Hotel Enginnering	Role and importance of maintenance dept in hotel industry. Meaning and its importance and method of earthing . Refrigeration principles and uses of refrigeration in
	Core -XII	Event Management	Familiarization on event management and its functions. Analyzing the planning of event. To know the concepts and designating of event. Acquire the information on public speaking. To
			To know the budget calculation of event management.
	SBEC-III	Human Resource Management	Students will acquire knowledge in HRD application and basic advanced level. Can be able to analyze and appraise the performance. Gain knowledge in recruitment process.
	Core -XIII	Food & Beverage Management	Acquire information on job description and job specification of the bar man. Recognize bar operation. Obtain skills of a bar man. Preparation of cocktails and mock tails. Familiarize with the
VI	Core-XIV	Travel and Tourism Management	Relate lodging and food service operation to the travel and tourism industry. To know the role of travel and tourism industry. Avail city opportunities for education, training and carrier
	Core-XV	Application of computer in hospitality and tourism industry	Introduction to computers and computer software. Intro to social media, its role in hospitality promotion.
	Elective-III	Hotel & business law	Legislation of catering industry. Law relating to hotel guest relationship hotel and lodging rate control. Hotel and restaurant licenses. Food-legislation, prevention of food adulteration act,
	SBEC-IV	Principles of management	Introduction to evaluation, school of management, management defined role of manager, managerial skill and management process. Organizing and organization structure organization chart and principles

Name of the Programme: Bachelor of Computer Applications (BCA)	
Programme Outcome(PO)	
PO1	Proficient in successfully designing innovative solutions for solving real life business problems and addressing business development issues with a passion for quality, competency and holistic approach
PO2	Enabled students to develop problem solving competence while using computer
PO3	Develop practical skills to provide solutions to industry, society and business.
PO4	Perform professionally with social, cultural and ethical responsibility as an individual as well as in multifaceted teams with positive attitude
PO5	Skills and analytical abilities in computer based solutions developed in students
PO6	Developed awareness about automation & Understood the issues of Green Computing.
PO7	Capable of adapting to new technologies and constantly upgrade their skills with an attitude towards independent and lifelong learning.

PO8	Gives overview of the topics in IT like networking, computer graphics, web development, trouble shooting, and hardware and software skills.
PO9	Exhibit understanding of broad business concepts and principles & To identify and define problems and opportunities.

Programme Specific Outcome(PSO):

PSO1	Imparted knowledge required for planning, designing and building Complex Application Software Systems
PSO2	Learn programming language such as Office Automation, C,C++, Java, Visual Basic, Android Programming , Image Editing Tools etc…
PSO3	To understand the fundamental concepts of computer system, including hardware and networking.
PSO4	In order to enhance programming skills of the young IT professionals, the program has introduced the concept of project development in each language/technology learnt during semester.
PSO5	Bachelor in computer applications (BCA) gives a number of opportunities to individuals to go ahead and shine in their lives.

Name of the Programme: Bachelor of Computer Applications (BCA)			
SEMESTER	**STUDY COMPONENTS**	**COURSES**	**COURSE OUTCOME**
I	CORE :I	Computer Applications for Automation	CO 1: Recognize when to use each of the Microsoft Office programs to create professional business documents. CO 2: Use Microsoft Office programs to create
	ALLIED-I	Algebra and Calculus	CO 1: To develop students understanding through laboratory activites to solve problems related to the concepts. CO 2: To familarize students with linear algebra.
II	CORE :II	C Programming	CO 1: Understand the basic terminology used in computer programming CO 2: Write, compile and debug programs in C language.
	PRACTICAL-I	Office Automation	CO 1:Acquire knowledge in MS- word Text Manipulations,Usage of Numbering, Bullets, Tools and Headers, Usage of Spell Check. CO 2: Practicing of Find and Replace,Text
	PRACTICAL-II	Programming in C	CO 1: Understand the basic concept of C Programming, and its different modules that includes conditional and looping expressions, Arrays, Strings.
	ALLIED-I	Differential Equations & Laplace Transforms	CO 1: To develop students understanding through laboratory activites to solve problems related to the concepts. CO 2: To familarize students with linear algebra.

	ALLIED-I PRACTICAL-I	Practical Lab-1: Allied Maths practical	CO 1: To develop students understanding through laboratory activites to solve problems related to the concepts. CO 2: To familarize students with linear algebra.
	SBEC-I	Internet and its Applications	CO 1: Apply skills and concepts for basic use of computer hardware, software. CO 2: The networks, Internet in the workplace in the future coursework.
III	CORE :III	Fundamentals Of Digital Computers	CO 1: Master the binary and hexadecimal number systems including computer arithmetic. CO2: Be familiar with the history and development of modern computers.
	CORE :IV	Structured System Analysis & Design	CO 1:Develop a working understanding of formal System analysis and design processes. CO 2:An appreciation for and understanding of the risks inherent to large-scale software development.
	CORE : V	Data Structures And Algorithms	CO 1: Demonstrate familiarity with major algorithms and data structures. CO 2: Analyze performance of algorithms and choose the appropriate data structure and
	PRACTICAL-III	Data Structures Using C	CO 1:To efficient implement of various structures Have an understanding and practical experience of algorithmic design and implementation. CO 2:Have practical session of developing
	ALLIED-II	Principles Of Accounting	CO 1. Provide a basic knowledge about Basic Concepts Fundamentals of Book Keeping accounting concepts. CO 2. Understand use the Final accounts of a sole
	NMEC-I	Business Management	CO 1: Know thw conceptual learning skills in today's business environment. CO 2: Understanding the financial performance of an organisation.
	CORE :VI	Relational Database Management Systems	CO 1:To study fundamental concepts of RDBMS (SQL) CO 2: Learn about database management operations.

IV	CORE :VII	Operating Systems	CO 1: Understand the difference between different types of modern operating systems, virtual machines and its structure of implementation and applications.
	CORE:VIII	Object Oriented Programming With C++	CO 1: Gain the basic knowledge on Object Oriented concepts. CO 2: Ability to develop applications using Object Oriented Programming Concepts.
	PRACTICAL-IV	Programming In C++	CO 1: Explain object-oriented concepts and describe how they are supported by C++ including identifying the features and peculiarities of the C++.
	ALLIED-II	Cost And Management Accounting	CO 1: Imbibe conceptual knowledge of cost accounting. CO 2: Understand the significance of material management system.
	ALLIED -II PRACTICAL-I	Practical Lab-1: Allied Commerce Practcal	CO 1:Understanding and knowledge of Preparation of of invoice, receipts,vouchers. CO 2:To have knowledge on Drawing, endorsing and crossing of cheques.
	SBEC-II	HTML And Javascript	CO 1:To give students the opportunity to enhance and enrich their skills in Web programming. CO 2:To know & understand concepts of internet programming.
	NMEC-II	Human Resource Management	CO 1: To develop the understanding of the concept of human resource management and to understand its relevance in organizations. CO 2: To develop necessary skill set for
	CORE:IX	Web Technologies	CO 1:Understand, analyze and apply the role of languages like HTML, DHTML, CSS, XML,Javascript, VBScript, PHP and protocols in the workings of the web.
	CORE:X	Problem Solvingtechniques	CO 1:Identify constraints, uncertainties and risk of the system social, cultural, legislative,environmental, business etc. CO 2: Identify and apply relevant problem solving

V	CORE:XI	JAVA Programming	CO 1: Understanding of the principles and practice of object oriented analysis and design in the maintainable programs which satisfy their requirements.
	ELECTIVE-I	E-CommerceTechnologies	CO 1: Obtain a general understanding of basic business management concepts. CO 2: Have complete knowledge about basic technical
	ELECTIVE-II	System Software	CO 1: Understand the concepts and theory behind the implementation of high level programming languages. CO 2: Identify the primary functions of an System
	ELECTIVE-III	Computer Graphics	CO1:Understand the real graphics programming. CO2: Understand the mathematics basics, mainly linear algebra and implemented by and programming language like C.
	PRACTICAL:V	Programming In Java	CO 1:Understand the concept of OOP as well as the purpose and usage principles of inheritance, polymorphism, encapsulation & Identify classes etc.
	SBEC-III	Practical - Image Editing Tool	CO 1: To Perform in the area of design,Restore & Retouch using tools. CO 2: With help of photoshope cereate a Cover page, action and automate.
	SBEC-IV	Multi Skill Development	CO 1:Increasing capacity & capability of existing system to ensure equitable access to all. CO 2:Promoting life long learning, maintaining quality and relevance, according to changing
	CORE XII	GUI Programming	CO 1: Design, create, build, and debug Visual Basic applications. CO 2: Explore Visual Basic‘s Integrated Development Environment (IDE).
	CORE XIII	Computer Networks	CO 1: Define, use and implement Computer Networks and the basic components of a Network system. CO 2: To Know and Apply pieces of hardware and

VI	ELECTIVE-IV	Software Testing	CO 1: Apply different testing and debugging techniques and analyzing their effectiveness. CO 2: Develop some basic level of software architecture/design.
	ELECTIVE-V	Data Mining And Ware Housing	CO 1: Describe the various architectures and main components of a data warehouse. CO 2: Design a data warehouse, and be able to address issues that arise when implementing a data
	ELECTIVE-VI	Parallel Processing	CO 1: Understand, appreciate and apply parallel and distributed algorithms in problem Solving. CO 2: Evaluate the impact of network topology on parallel/distributed algorithm formulations and
	ELECTIVE-VII	Multimedia	CO 1: Understand multimedia components using various tools and techniques. CO 2: Analyze and interpret Multimedia data. CO 3: Discuss about different types of media
	ELECTIVE-VIII	Image Processing	CO 1: Evaluate the techniques for image enhancement and image restoration. CO 2: : Analyze images in the frequency domain using various transforms.
	ELECTIVE-IX	Mobile Computing	CO 1: Implement mobile operating system. Remember the basic concepts of mobile computing. CO 2: Understanding mobile IP.
	PRACTICAL-VI	Programming In VB	CO 1:Design forms with text box, label box, insertimage etc. CO 2: Write and apply decision structures for determining different operations with ODBC.
	SBEC-V	Practical-Android Programming	CO 1: Learn the open source methods of Android application components. CO 2: The basics of event handling in Android & Demonstrate and deploy various tools in Android
	SBEC-VI	Shell Programming	CO 1: Work confidently in Unix/Linux environment. CO 2: Create an shell scripts to automate various tasks & implementations.

Name of the Programme: Bachelor of Science (B.Sc) Chemistry	
Programme Outcome(PO):	
PO1	Having leadership qualities in lab maintaing and follow proper protocol for instrument handling.
PO2	Able to work in group project as well as individual project to provide good outcoming result.
PO3	Systematic approach of problems during synthetic reaction and extractions of chemical compounds.
PO4	To work in various fields of chemistry like pharmaceutical chemistry, Dairy chemistry , leather chemistry and in sterling lab.
PO5	Able to identify various toxic nature in water by perfroming water analysis.

Programme Specific Outcome(PSO):	
PSO1	Ability to synthesis, design new compounds and able to rectify solutions for upcoming problems.
PSO2	Able to assist in various qualitative analysis to prevent adulteration and precaution to avoid further confusion.
PSO3	To focus on problem shooting and solving in chemical reaction aspects.
PSO4	Well trained up in handling expolsive and dangerous chemicals in safe manner.
PSO5	To have an innovative thinking in synthetic reactions and maintaing lab performance.

SEMESTER	STUDY COMPONENTS	COURSES	COURSE OUTCOME
	Core - I	General chemistry I	To handle chemicals and apparatus in labouratory, To study the basic principles of experiments, To study about the creature of atoms, Deep discussion of periodic table, IUPAC nomenclature of various organic

I	Allied	Allied Mathematics I	Elcidate Theory of equations, Determine Rank of matrix, Application of partial differentiation. To know Lagrange's equation of state.
	Language	Professional English I	Developing skills for students, To guide for improvement of language, Introducing scientific terminology in english.
	Allied	Allied Botany I	Study of Thallophtes, Algea and Sargassum. General study of Bacteria.study of microorganism and its importance
	Value Education	Yoga	Uses of Yoga in day today life, Importance of physical exercise, How to relax mind by physical exercise and meditation, Personality development for individuals, Protection of human resources for various activites,
II	Core - II	General Chemistry II	Discussion of bonding between atoms, Uses of hydrides in industries and its preparation in laboratory, How to generate mechanism for a reaction, About liquid states, Various reactions involving in liquid
	SBEC	Food and Nutrition	Sources of food, Nutrients and their deficiency, Food poisoning in food stuffs, their side effects, How to identify adulteration in food, Methods to avoid food poisoning, Preservation of food for a long time,
	Language	Professional English II	Improvising students to face problems in society, Development skills of speaking, Importance of values and morals in society.
	Allied	Allied Mathematics II	Study of differntial equations and laplace transform, To learn newton's formula. Jacobian theorem for studies.
	Allied	Allied Botany II	Plant ecology system studies, Water body analysis, Climatic changes in ecosystem, physiology and osmosis study of water.

	Environmental Studies	Environmental Studies	Detailed study of environment and organisms in environment, Conservation of natural Resources, Awarness of Renewable and non renewable resources, Importance of biodiversity in day today life, Caution of
	Core Practical-I	Volumetric Analysis and Inorganic Preparations	To estimate the substance in compounds. To prepare inorganic complexes.
	Allied Practical	Allied Botany Practical	Identification of Fabaceae, Euphorbiacae family, Study of Monocot and Dicot stem.
	Allied Practical	Allied Mathematics practical	Study of Hamilton theorem, position vector.
III	Core - III	General Chemistry III	Nature and extraction of varoius metal from earth, Uses of organic reaction in industries, Detailed study of solid state, Various terms in thermodynamics, Work done in various process.
	NMEC	Essential of Electricity	Importance of condensor, Capacitor inelctric circuits, Application of Daniel cell, Lead acid battery working, Recharging procedure of battery, Tendency of electric field.
	Allied	Allied physics I	To study the properties of varoius matter, Their physical properties, About traveling of sound, Determination of sound using instruments, Application of heat, Study of heat in various state, Gravitational
	Core - IV	General Chemistry IV	Nuclear chemistry description, Fission and fusion reaction, Preparation of heterocyclic compounds, application to various field, synthesis of various quinones, carnot theorem for system, Third law of
	SBEC	Polymer Chemistry	Basic concept of polymer, preparation of polymer, To write the structure and formula of polymer,

IV	Allied	Allied physics II	study of atomic physics, Descrption of nuclear physics, Application of semiconductor in various area, Laser and Maser Application.
	NMEC	Physics in every day life	Study of Mechanics and properties of matter.Measurement and effects of heat and temperature.study of sound and music.Laws of electricity and magnetism.Study of optics.
	Core Practical II	Inorganic Chemistry Practical-II	To perform qualitative Analysis of inorganic mixture.
	Allied Practical	Allied Physics Practical	To study the application of circuits, OR gate, AND gate. Calibration of ammeter, voltmeter.
V	Core -V	Inorganic Chemistry I	Detailed study of acids and bases, nature of f-block elements and its behaviour, study of coordination chemistry, various theories like VBT, VSEPR theory to explain stability of complex.
	Core - VI	Organic Chemistry I	Stereoisomerism, RS notation of compounds, Optical activity of molecules, various aminoacids synthesis and uses, DNA and RNA studies, alkaloids, steriods preparation.
	Core - VII	Physical chemistry I	Chemical equilibrium of reaction, To study rate of reaction, Various methods to predict chemical kinetics,To prepare battries, Reactions involved in battries.
	Elective	Analytical Chemisty I	Vrious separation tchniques, How to perform analysis on chemical substance, Application of UV, IR, Raman spectroscopy for substance.
	SBEC	Agricultural chemistry	Prepartion and uses of fertilizers, advantage of manures. Application of fungicides and herbicides. Nature of soil.

	SBEC	Dye stuff and effluent treatment	Synthesis of various dyes, application of dyes on fabrics, waste management of solvents. Safe removal of effluents from industries.
VI	Core -VIII	Inorganic Chemistry II	Application of bio-inorganic molecules, preparation of organometallic compounds, Preparation of organometallic compounds, Nanoscience in day today life.
	Core - IX	Organic Chemistry II	Carbohydrate synthesis, Nature of vitamins and antibiotics. Molecular rearrangement for synthesis of various compounds, Importance of Green Chemsitry
	Core -X	Physical chemistry II	Solution to prepare, phase rule to study different state of chemical.Study of electrochemistry for industries, Photochemical reactions involved in various substance
	Elective	Analytical Chemisty II	Chromatographic separation techniques of various compounds, TGA & DTA analysis of simple and complex molecules. NMR and Mass Spectroscopy for structural elucidation.
	SBEC	Pharmaceutical Chemistry	Important terms in pharmacology, preparation of antibiotics, applications of analgesics, Various diabetic treatment, Anaesthetia treatment.
	SBEC	Industrial Chemistry	Chemical explosive and its disadvantages, various steps I leather preparation, prepartion of paints, varnishes and cleansing agents, Manufacture of cement and glass.
	Core Practical III	Physical Chemistry practicals	To determine the kinetics and molecular weight determination of substance.Electro chemistry applications
	Core Practical IV	Gravimetric Estimations and Organic Practicals	To analyse and preparation of the organic substance.To estimate the inorganic substance

Name of the Programme: Bachelor of Science In Microbiology **Programme Outcome(PO):**	
PO1	To understand the world of microorganisms that exist in all environments
PO2	To know about the inflences that microorganisms and microbiological applications have on everyday on life
PO3	To understand the importance of genetics and biochemistry in microbiology for human welfare
PO4	To comprehend the piviotal role and medical significance of microbiology

Programme Specific Outcome(PSO): **Upon completion of the degree requirements, students will be able to**

PSO1	To gain knowledge about the microbiological equipments especially Microscope, Incubator, Laminar Air Flow chamber, Centrifuge etc.,
PSO2	To know about the microorganisms especially Bacteria, Fungi, Algae, Protozoa, Virus.
PSO3	To apply the knowledge in various fields in microbiology particularly Agricultural, Medical, Environmental, Industrial areas.

SEMESTER	STUDY COMPONENTS	COURSES	COURSE OUTCOME
I	Core - I	Basics of Microbiology	Students will get overall understanding about the fundamentals of microbiology. To understand the concepts of microscopy. Gain knowledge about the microbial evolution and
	Allied - I	Biochemistry -I	Describe structures, properties and functions of carbohydrates. Understand the structures, properties and role of amino acids and proteins.
II	Core - II	Microbial Physiology	The students will get an overall understanding of basic cell structure and classification of microorganisms based on its nutritional requirements. Gain knowledge on the growth pattern of
	Allied - II	Biochemistry -II	Understand the basics of acid - base balance of human body and gain Develop competence in handing various chromatographic techniques. Describe carbohydrate metabolism and gain

III	Core - III	Microbial Genetics and Molecular Biology	Understand the knowledge about the genetic material and DNA replication. Created an understanding about mutation and its types. Procured the knowledge about Transcription and
	SBEC - I	Applied Biotechniques	To acquire the basic science behind the research techniques. Students will become familiar with biotechniques like chromatography, electrophoresis and
	Allied - III	Computer Application - I	
	NMEC - I	Concept of biotechnology	Describe the fundamental biochemical processes of cells such as ion/molecule uptake, energy transfers, metabolism and the immune system. Describe the fundamentals of cell division and
IV	Core - IV	Immunology and Immunotechnology	The students will get overall understanding of history and evolution of immunology and immune response developed by human system. To understand the concepts of antigen, antibody
	Allied -IV	Computer Application - II	
	SBEC - II	Mushroom Cultivation Techniques	Able to get basic idea about mushroom cultivation. Learned techniques about spawn multiplication. Learned about the diseases of edible mushrooms. Made the students ideally skilled forself-employment.
	NMEC – II	Biotechnology for Human Welfare	Describe the basic principles and techniques used for the study and manipulation of DNA. Appreciate the application of biotechnology in diverse areas such as health and medicine, agriculture and/or
	Core - V	Medical Bacteriology	Understood the basic and general concepts of infections and the various parameters of causing infections. Assessment of their severity including the broad categorization of the methods of diagnosis.

V	Core- VI	Food Microbiology	Know the positive and negative role of microbes in food. Gain knowledge about fermented food products. Understand the significance of food borne diseases.
	Core- VII	Medical Virology	Understood and Recognize characters of different types of viruses causing infections, assessment of their severity, methods of diagnosis and their prophylaxis. Recognize how the two different classes, DNA and
	Elective - I	Medical Parasitology	Understanding of taxonomy of parasite and host – parasite interaction. In depth knowledge on clinical diagnosis, pathogenicity and life cycle of protozoans.
	SBEC - III	Microbial Biotechnology	Understand the knowledge about The Basic Principles of Gene Cloning. Acquire knowledge about Molecular Cloning Tools. Created an understanding about Cloning Vectors Gene
VI	Core -VIII	Soil & Agricultural Microbiology	Able to understand the distribution of microbes in soil. Capable to get information about biogeochemical cycle. Able to get the knowledge about microbial interaction.
	Core - IX	Environmental Microbiology	Able to understand about the microbial diversity in environmental. Capable to get information about the ecosystem. Able to get overall understand the pollution.
	Core - X	Industrial Microbiology	Able to select and design a fermentation process for a specific product. Capable of identifying industrially important microbes and its potential applications.
	Elective - II	Medical Mycology	Basic understanding of fungi, their morphology and culture methods of fungi. Obtain knowledge on pathogenicity and laboratory diagnosis of medically important fungi.
	SBEC - IV	Entrepreneurial Microbiology	To make Knowledge about the role of microbes in Industries. Gained knowledge about fermented products. To understand the significance of patenting

Name of the Programme: Bachelor of Science In Computer Science		
STUDY COMPONENTS	**COURSES**	**COURSE OUTCOME**
Core - I	Problem Solving Through C	Recognize the basic Terminologies of C Programming Understanding the statement structure and apply simple problems Understand and apply the pre-defined functions and user defined functions and then apply in simple problems Demonstrate the operation of Structures and unions. Recognize the operation of Files
		Study all the Basic Statements in C Programming.

Core - I	C programming Practicals	Practice the usage of branching and looping statements. Apply string functions and arrays usage. Analysis the use of pointers and files.
Core - II	Data Structure and Algorithms	Remember the concept of algorithms. Understanding the stack and queues. Apply linked list for other data structures. Evaluate the trees and sorting methods. Analyze the sorting and file organizations.
		Study all the Basic operation of matrices and stack.

Core - II	Data Structure Using C Practicals	Practice the usage of branching and looping statements in hash table. Apply arrays for stack and queue. Analysis the use of pointers for linked list, doubly linked list and tree traverse.
Core - III	Computer Organization and Architecture	Recognize the Basic Number system and logic gates. Understanding the flip flops and Karnaugh maps. Understand and apply micro operation and data transfer. Demonstrate the computer arithmetic and addressing modes. Analyze the memory and I/O organizations.
		Remember the concept of database.

Core - IV	Relational Database Management System	Understanding the data models and ER Diagram. Apply SQL commands. Evaluate the DBMS in SQL. Analyze the Transaction management.
Core - IV	SQL and PL/SQL Practicals	Study all the Basic DDL and DML Commands. Practice the usage of SQL Statements. Apply PL/SQL code usage. Analysis the use of PL/SQL for complex problems.
		Remember the concept of networks and its types.

Core - V	Computer Network	Understanding the wireless communications. Understand and Apply data link protocols. Evaluate the network design issues. Analyze the connection issues.
Core - VI	Programming in java	Remember the concepts of OOPS. Understand the basic Terminologies of languages and statements. Demonstrate the use classes and objects. Evaluate the packages and exception handling methods. Analyze the I/O Streams and graphics classes.

Core - VI	Java Programming Practicals	Study all the Basic Statements in java Programming. Practice the usage of branching and looping statements. Apply Packages and Interfaces. Analysis the use of graphics tools in JAVA.
Core - VII	Operating System	Understand the structure and functions of Operating System Compare the performance of Scheduling Algorithms Understand and organize the memory Evaluate the deadlock measures Analyze the I/O hardware and software
Core - VIII	Web Technology	Understand the structure of the documents in Web. Remember and understand the table handling tags. Understand and organize CSS.

		Implement scripts in web page. Evaluate script objects.
Core - VIII	Web Technology Practicals	Study all the Basic tools. Practice the usage of web page creation and useable objects. Apply various effects on webpage. Analysis the use of java script and html code.
Core - IX	Linux and Shell Programming	Understand the structure and functions of Linux Operating System. Understand the basic commands of Shell. Implement text processing and arrays.

		Evaluate shell scripting. Analyze decision making and scripting in Linux.
Core - IX	Shell Programming	Study all the Basic commands. Practice the usage of shell script for system configuration. Apply various effects piping and redirection process. Analysis the use of shell script for simple process.
Core - X	Programming in Python	Understand the Basic Programming Logic. Understand the basic Statements. Implement Files and SQL.

		Evaluate Graphics in python. Analyze Version control system.
Core - X	Python Programming Practical	Study all the Basic commands. Practice the usage of control flow statements. Apply various commands in files and directories. Analysis the use of MYSQL to connect database.
Core - XI	Mini Project	Students will be able to practice acquired knowledge within the chosen area of technology for project development. Identify, discuss and justify the technical aspects of the chosen project with a comprehensive and systematic approach. Reproduce, improve and refine technical aspects of projects.

		Work as an individual or in a team in development of technical projects. Communicate and report effectively project related activities and findings.
Elective - I	Date Mining and Warehousing	Remember the basic concepts of data mining and data preprocessing. Understanding the data mining primitives. Apply mining association rule. Evaluate classification and Prediction. Implement cluster analysis.
		Remember the basic concepts of Graphics system. Understanding scans system and I/O Devices.

Elective - II	Computer Graphics	Apply 2D Transformations. Evaluate 3D Transformations. Implement visual surface techniques.
Elective - III	Internet of Things	Remember IOT and Web technology. Understanding M2M to IOT. Apply IoT Architecture. Evaluate IOT Applications. Implement IOT Privacy, Security and Governance.
		Remember the basics of computers.

NMEC	Computer Application for Automation	Understand MS word. Demonstrate the functions of MS excel. Study the basics of MS power point. Analyze data processing with MS Access.
NMEC	Basic of Internet	Remember the basics of Internet. Understand internet technologies. Demonstrate tags in HTML. Study the basics of create list and tables. Analyze frames and forms.

Allied - II	Computer Applications in Office	Remember the basics of MS word. Understand MS word. Demonstrate the functions of MS excel. Study the basics of MS excel workbooks. Analyze of data processing with MS power point.
Allied - II	Office Automation Lab	Understand the features in MS Word. Select and apply worksheet and functions in MS EXCEL. Combine multiple features in MS POWER POINT to prepare presentations

Name of the Programme: Bachelor of Science In Biochemistry	
Programme Outcome(PO):	
PO1	***Disciplinary knowledge:*** Ability to understand fundamental concepts of Biochemistry; Ability to apply basic principles of chemistry to Biological Systems and Molecular Biology; Ability to relate various interrelated physiological and metabolic events; A general awareness of current developments at the forefront in Biochemistry and Allied subjects; Ability to critically evaluate a problem and resolve to challenge blindly accepted concepts; Zeal and ability to work safely and effectively in a laboratory; Good experimental and quantitative skills encompassing preparation of laboratory reagents, conducting experiments, satisfactory analyses of data and interpretation of results; Awareness of resources, and their conservation; Ability to think laterally and in an integrating manner and develop interdisciplinary approach; Overall knowledge of the avenues for research and higher academic achievements in the field of Biochemistry and allied
PO2	***Communication Skills:*** Ability to speak and write clearly in English; Ability to listern to and follow scientific viewpoints and engage with them.
PO3	***Problem solving:*** ability to closely observe the situation, and apply lateral thinking and analytical skills.
PO4	***Analytical reasoning*** *:* Ability to evaluate the strengths and weaknesses in scholarly texts spotting flaws in their arguments; Ability to use critics and theorists to create a framework and to substantiate one's argument in one's reading of scientific texts.
PO5	***Team work /Time Management*** *:* Ability to participate constructively in class room discussions; Ability to contribute to group work; Ability to meet a deadline.
PO6	***Scientific reasoning:*** Ability to analyse, interpret and draw conclusions from quantitative/qualitative data; and critically evaluate ideas, evidence and experiences from an open-minded and reasoned perspective. Ability to formulate logical and convincing arguments.

PO7	***Self-directed learning:*** Ability to work independently in terms of organizing laboratory, and critically analyzing research literature; Ability to postulate hypothesis, questions and search for answers.
PO8	***Digital literacy:*** Ability to use digital sources, and apply various platforms to covey and explain concepts of Biochemistry
PO9	***Moral and ethical awareness/reasoning:*** Ability to interrogate one's own ethical values and to be aware of ethical and environmental issues; Ability to read values inherited in society and criticism vis a vis, the environment, religion and spirituality as also structures of power
PO10	***Leadership readiness:*** Ability to lead group discussions, to formulate questions related to scientific and social issues.

Programme Specific Outcome(PSO):	
PO1	To demonstrate comprehensive knowledge on various areas of Biochemistry
PO2	To acquire skills in areas related to the current and emerging developments.
PO3	To communicate the concepts, constructs and techniques of the subject learnt in a clear, concise and lucid manner.

PO4	To plan and execute the experiments to the relevant theories of Biochemistry.
PO5	To apply critical thinking, scientific reasoning and mathematical skills in studied areas of Biochemistry.
PO6	To train the students to acquire various relevant generic and competency skills in various aspects of biochemistry so as to be able to work independently in a group or individually
PO7	To make a student life long learner with moral and ethical values

SEMESTER	STUDY COMPONENTS	COURSES	COURSE OUTCOME
I	Core - I	Basics of Biochemistry	Summarize structures, isomerism and functions of different types of carbohydrates. Understand the nature of amino acids and proteins with their structure and their roles.
	Allied - I	Biochemistry - I	Describe structures, properties and functions of carbohydrates. Understand the structures, properties and role of amino acids and proteins. Describe the
II	Core - II	Tools of Biochemistry	Illustrate the cell fractionation techniques and clarify about the microscope handling. Disclose the chromatographic techniques for the separation components.

II	Allied - II	Biochemistry - II	Understand the basics of acid - base balance of human body and gain Develop competence in handing various chromatographic techniques.Describe carbohydrate metabolism and
III	Core - III	Enzymes	Understand the basic features and classification of enzymes. Figure out the characteristics of active site and nature of enzyme catalysis. Understand the
	SBEC - I	Cell Biology	Understand the structure and function of different types of cell. Succeed in understanding structural organization and role different organelles.
IV	Core - IV	Intermediary Metabolism	Understand the basic principles of metabolic pathways. Comprehend carbohydrate metabolism and its regulation.
	SBEC-II	Plant Biochemistry	Understand the plant cell physiology. Comprehend process of photosynthesis and photorespiration. Demonstrate nitrogen fixation in plants.
V	Core - V	Clinical Biochemistry	Understand clinical aspects of biochemistry. Describe about the blood components, blood coagulation system and Perform the hematology-based analysis.
	Core - VI	Molecular Biology	Understand the replication process. Comprehend basic principles and mechanism of transcription. Understand translation process and post
	Core - VII	Human Physiology	Illustrate about digestive secretions and absorptive mechanisms. Comprehend the process of gaseous exchange in tissues and lungs.
	Elective -I	Nutritional Biochemistry	Describe energy content of various foods and nutritional significance of different biomolecules. Understand nutritional requirements and techniques to measure energy expenditure.

	SBEC - III	Genetic Engineering	Get an idea about the role of DNA manipulative enzymes and restriction enzymes used in rDNA technology. Advance their knowledge about the vectors
	Core - VIII	Immunology	Understand basics of immune system and about the cells and organs of immune system. Describe the Antigen and Antibody structure and properties and obtain the knowledge about the
	Core - IX	Endocrinology	Gain knowledge about the basic terminologies, classification and mechanism of action of hormones and to demonstrate various types of second messengers and their action.
	Core - X	Pharmaceutical Biochemistry	Understand drug dosage, routes of administration and about bioavailability of drugs. Understand about basic principles involved in pharmacokinetics.
VI	Elective -II	Industrial Chemistry	Learn about the culture techniques for isolation of microbes from various sources and preserve the isolates. Gain basic knowledge about basic principles of
	SBEC - IV	Bioinformatics and Nanotechnology	Understand basic principles and applications of bioinformatics in lifescience and get trained in database searching. Acquire knowledge of biological databases for the