CAUSSANEL COLLEGE OF ARTS AND SCIENCE

(Affiliated to Alagappa University, Karaikudi)

Accredited with 'A' Grade by NAAC

Recognized by UGC under 2(f) & 12(B)

Angelo Nagar, Muthupettai, RamanathapuramDist

Type of Graduation	Under Graduation
Programme Name	**B.Sc Bio Chemistry**
Regulation (CBCS)	2017

Outcome of the Programme

1. The discipiline of biochemistry involves the study of structure and function of biomolecules and the process that occur in living organism. The living organism including Plants, Animals and Microorganisms.
2. Biochemistry has contributed enormously to the growth modern medical and health science and agriculture.
3. Biochemistry has applications in clinical diagnosis, understanding pathology of disease, treatment of a disease , designing of drugs and understanding their metabolism and manufacture various biological products like aminoacids,proteins,antibiotics,hormones,enzymes,nutrition etc..,
4. Biochemistry combines biology and chemistry to study living matter. It powers scientific and medical discovery in fields such as, pharmaceuticals ,forensic science and nutrition with biochemistry you will study chemical reaction at a molecular level to better understand the world and develop new ways.
5. Biochemistry can be better understood with parallel practical components.

The learners who complete three years of full time undergraduate programme in Biochemistry would earn a Bachelor degree in biochemistry.The learning outcomes that a student able to demonstrate on completion of a degree level programme may involve academic,personal and behavioural as well as entrepreneurial and social competencies.

Specific Outcome of the Programme

Over all knowledge of the avenues for research and higher academic achievements in the field of biochemistry and allied subjects.

Semester	Subject Code	Subject Title	Outcome	Specific Outcome
I	7BBC1C1	BIOMOLECULES	1. Biomolecules perform or trigger important biochemical reactions in living organisms. 2. Learn the elements present in biomolecules and the difference monomers and polymers. 3.The student would be able to comprehend the structures of the major classes of macromolecules	1.Students will learn physiological function the regulates the proper growth and development of a human body. 2.students understand the physiological function that regulates the proper growth and development of a human body.
I	7BBC1C2	CELL BIOLOGY	1.Understanding of the structure of cell and various cellular events.	1.Students will learn about cell theory. 2. fractionation of sub-cellular

			2..Understanding of the function of various subcellularorganells. 3.Study about interior mechanism of cell diseases. 4.Understand various types of cells like microbes,prokaryotes,eukaryotes.	organells,cellcycle,cell death and mechanisms. 3.Students will understand how these cellular components are used to generate and utilize energy in cells
I	7BCHA1	GENERAL CHEMISTRY-1	1. The fundamentals and application of current chemical and scientific theories. 2. Students will be able to explain why chemistry is an integral activity for social economic and environmental problems. 3. To know the elements in periodic table.	1.Students will appreciate the central role of chemistry in our society. 2.Classify matter in terms of elements, components, mixtures ,atoms and molecules. 3. To know the Natural gas
II	7BBC2C1	ANALYTICAL BIOCHEMISTRY	1. Modern analytical biochemistry aims to provide on understanding on fundamental biological process at a molecular level. 2.The study of biochemical components found in a cells or other biological sample.	1.Students will be obtained accured in depth theoretical and practical knowledge. 2.To know the techniques for separation, purifications technique.

			3.The student would have gained sufficient knowledge about the assay and analyzing data.	
II	7BBC2C2	INTERMEDIATARY METABOLISM	1. Learning more about your own metabolism how your body burns energy can help guide healthier food decision and daily activity. 2. tradistionaly viewed as the large, highly integrated network ofreactions that provides cells with metabolic energy. 3. Reducing power and bio synthetic intermediates.	1. Life sustaining chemical reactions involving biologically active chemical components and molecules. 2. The process that occur within any living organism including humans to maintain life.
II	7BCHA2	GENERAL CHEMISTRY-2	1. Students will be able to design and carry out scientific experiments. 2. Accurately record and analyze the results of such experiments.	1.Basis for ethical behavior in issues facing chemists including an understanding of safe handling of chemicals, 2. Environmental issues and key issues facing our society in energy, health and medicine.
II	7BBC2P1	LAB-1 ANALYTICAL	1. Explain the fundamentals of	1.Students gain expertise in the isolation

		BIOCHEMISTRY	analytical chemistry and steps of characteristic analysis. 2. Focused on improvements in experimental design heamometrics and the creation of new measurement tools.	of various biomolecules and organells. 2. many developments improve the analysis biological system.
II	7BCHAPI	ALLIED PRACTICAL-1(Volumetric analysis)	1. To understand the apparatus used in volumetric analysis and correct titrimetric procedure. 2. To ultimately find the unknown concentration of the solution	1. Students should know following key words: Quantitative analysis, titration, standard and non standard solution. 2. Precautions when using equipment
III	7BBC3C1	ENZYMOLOGY	1.To acquire fundamental knowledge of enzymes and their importance in biological reactions. 2. Express role of enzymatic activity in the regulation of protein synthesis. 3. Explain the factor that affect enzyme activity.	1.Students to understand ability to difference between a chemical catalyst and biocatalyst and training to estimate activity of enzymes. 2. Enzymes associated with hebatic function. 3. Understandthe downstream processing of enzyme.
III	7BBZOA3	FOOD MICROBIOLOGY	1. The solve a range of problems affecting our health the environment climate. 2.Microbialdeseas can be transmitted by	1.Student's understanding strong capacity of public health microbiology laboratory system. 2. To test the raw materials in process

			foods. 3. Microorganism are used to manufacture a wide variety of food products.	and finished product to make sure the consumers or safe to consume the food.
IV	7BBC4C1	HUMAN PHYSIOLOGY	1. Explain the basic knowledge and human anatomy and physiology. 2. Describe the structure of major human organs and explain their role in the maintenance of healthy individuals. 3. Explain the interplay between different organ systems.	1. Recognizes Organs of excretory system. 2.It provides a thorough understanding of normal body function, enabling more effective treatment of abnormal or disease states.
IV	7BBZOA4	FOOD PRESERVATION	1.Explain the range of processing operation used for food preservation including thermal processing. 2.Knows the methods of safety used in milk and milk products. 3. Explain methods of safety used in nuts,oilseeds, and oils.	1.Student'sunderstanding strong capacity of public health microbiology laboratory system. 2. illustrates methods of food safety used in foods and vegetable products. 3. Methods of food safety used in red meat and products and also poultry meat.
IV	7BBC4P1	LAB -2 BIOCHEMISTRY TECHNIQUE	1. Develop competence in handling various chromatographic techniques and apply them.	1.The students will obtain hands-on – training in basic separation techniques in biochemistry like

			2. Check the condition of the apparatus and ensure that it is clean. 3.Report any breakage or malfunction of apparatus to your instructor immediately.	electrophoresis,chromatography,etc., 2.Understanding of the function of various subcellular organelles.
IV	7BZOAP1	FOOD TECHNOLOGY	1.To deepen and expand theoretical knowledge to get acquainted with practical techniques for determining the raw materials quality and fnished products. 2.study new ingredients with better nutrition and health benefits, develop new products or technologies to improve the shelf life of the product.	1.students learn microorganisms and bacteria processes. 2.These classes allow students to test theory and to master basic skills.
V	7BBC5C1	MOLECULAR BIOLOGY	1.Depth knowledge of biological and medical process through the investigation. 2.Focuses on DNA, RNA and protein synthesis in cells.	1.Gain an understanding of chemical and molecular process . 2.The study of cells and the macromolecules.
V	7BBC5C2	CLINICAL BIOCHEMISTRY	1.To learn about the normal constituents of urine,blood and their significance in	1.Students will get acquainted with the role of enzymes in diagnosis of various

			maintaining good health. 2.Evaluate the abnormalities which commonly occur in the clinical field. 3.Determine various substances including substrates, enzymes, hormones, etc and their use in diagnosis and monitoring of disease.	diseases. 2.The area of chemistry that is generally concerned with analysis of bodily fluids for diagnostic and therapeutic purposes.
V	7BBC5C3	HUMAN GENETICS	1.Apply to real life situations and one's life the principls of human heredity. 2.Learning more about promoting health and preventing disease.	1.Access historical and current knowledge recording human heredity. 2.Understand how such knowledge has influenced law, medicine and society.
V	7BBCE1A	MICROBIOLOGY AND IMMUNOLOGY	1.Discuss science and scientific methodology as a way of knowing, demonstrate competence in laboratory techniques, and apply appropriate quantitative and data analysis skills. 2.The study of the immune system and is a very important branch of the medical and biological sciences.	1.The study of the immune system in a diversity of organisms. 2.Students can investigate the ecology, evolution and environments of micro-organisms, the diseases they cause, the microbiome and its influence on the immune system and our health.
VI	7BBC6C1	NUTRITIONAL BIOCHEMISTRY	1.Capable of describing biochemical pathways relevant in nutrient metabolism.	1.The students to understand life regulation based on micro and macro elements and ion theory.

			2.Capable of describing biochemical techniques that are relevant for the investigation of the nutrient metabolism.	2.Examines the health benefits gained from eating organic fruits and vegetables.
VI	7BBC6C2	PLANT BIOCHEMISTRY	1.Understand plant cells structure and organisation and apply specific biochemical functions to all compartments of the plant cells. 2.Learn about the rich diversity of secondary compounds and metabolism in plants and how such compounds contribute to human health.	1.Students learn biosynthesis of primary and secondary metabolic and defend mechanism in plants. 2.student's learn about understand protein structural hierarchy and relate structure to function.
VI	7BBCE2A	BIOTECHNOLOGY	1.To produce insulin using recombinant DNA technology. 2.To create pharmaceutical, diagnostic, agricultural, environmental, and other products to benefit society. 3.Understood methods of studying immune reactions	1.Students will be able to understand various facets of molecular procedures and basics of genomics, proteomics and metabolomics that could be employed in early diagnosis and prognosis of human diseases. 2.Exposure to the concept of genomics, proteomics and metabolomics and their importance of human health.
VI	7BBC6P1	LAB-3 BASIC MICROBIOLOGY	1.Evaluate the microbiology presents basic knowledge about working with	1.Students will be obtained significant knowledge and fundamental and

		AND IMMUNOLGY	microorganisms in clear and concise form. 2.Basic laboratory techniques and fundamental knowledge about the microorganisms. 3.To gain hands on experience in state-of-the-art laboratory equipments .	advanced aspects of microbiology. 2.The students will be able to communicate scientific concepts, experimental results and analytical arguments clearly and concisely, both verbally and in writing. The course is reasoning and application based, making the student.
VI	7BBC6P2	LAB-4 BASIC CLINICAL BIOCHEMISTRY	1.Evaluate the abnormalities which commonly occur in the clinical field. 2.laboratory medicine that deals with the measurement of chemicals (both natural and unnatural) in blood, urine and other body fluids. These test results are useful for detecting health problems, determining prognosis and guiding the therapy of a patient.	1.The students will able to create awareness of different life style diseases increasingly found in present day. 2.Determine various substances including substrates, enzymes, hormones, etc and their use in diagnosis and monitoring of disease are applied.
VI	7BBCEPR	MINI PROJECT	1.The students are encouraged to carry out small project work of their choice to quench their curiosity. 2.Development of practical laboratory skills.	1.Studets can undertake a small adissertation work. 2.Students will acquire knowledge . 3.students develop plans with relevant to achieve the project's goals.

			3.Students understanding the chemical basis.	