

Hajee Karutha Rowther Howdia College

(Autonomous)

Uthamapalayam 625 533, Theni District.



Department of Biochemistry

Programme Specific Outcomes (PSOs)

Programme Outcomes (POs)

Course Outcomes (COs)

B.Sc. Biochemistry

Programme Specific Outcomes (PSOs):

PS01: Graduates will be able to be successful biochemist in medical and food industries.

PS02: Graduates will be pursuing the higher studies in various fields of biochemistry.

PS03: Graduates able to integrate knowledge in classical laboratory technique and to use modern instrumentation and able to work a team member.

PS04: Graduates will be able to communicate (written and oral) scientific information to biochemist and non-biochemist.

PS05: Graduates will be knowledgeable in ethical practices in sciences.

Programme Outcomes (POs):

PO1: Knowledge on the basic concept of Bio organic molecule, structure and functions enable to become excellent in Biochemistry.

PO2: Understand fundamental concepts of enzymes and its characteristics, Anabolic and Catabolic functions of the Biomolecules.

PO3: Acquiring the knowledge on techniques and biology module in biotechnology, bioinformatics, biostatistics, immunology, lab technology and microbiology.

PO4: Use the skill in analyzing the bioorganic compounds qualitatively and quantitatively that includes biochemical, microbiological, immunological and molecular biology techniques.

PO5: Enhance entrepreneurial skills to be self employable.

Course Outcomes (COs):

Course Code: 20UBCC11

Course Title: Biomolecules

Course Outcomes (COs):

CO1: Learn the general classification and basic structural organization of biomolecules

CO2: Understand the comparison of physical and chemical properties of biomolecules

CO3: Knowledge on importance of various biomolecules in life process of all living organism.

CO4: Acquire knowledge on deficiency of vitamins.

CO5: To understand how to correlate monomer to polymer of biomolecules.

Course Code: 20UCHA11

Course Title: Organic, Inorganic and Physical Chemistry – I (Ancillary Chemistry - I)

Course Outcomes (COs):

CO1: Recall the preparation and properties of hydrides, oxides, hardness of water and its implications.

CO2: Classify the colloidal states of matter and its applications

CO3: Demonstrate the reactions of glucose, fructose and sucrose and relate their uses

CO4: Explain the concept of enantiomers, diastereoisomers and geometrical isomers

CO5: Identify the properties, classification and functions of proteins and dyes

Course Code: 20UBCC21

Course Title: Biochemical Techniques

Course Outcomes (COs):

CO1: Learn the general principle, instrumentation, application of biochemical techniques.

CO2: Apply the techniques that are used to analyze and separate the unknown sample present.

CO3: To detect many problems of our life using various solve technique such as PCR, Autoradiography.

CO4: Acquire knowledge about comparison of different wavelength regions of rays to give different coloured band.

CO5: Understand general information about to determine the concentration of test sample used by colorimetry technique

Course Code: 20UBCC2P

Course Title: Qualitative Analysis of Biopolymers

Course Outcomes (COs):

CO1: Knowledge on identifying a particular compound present in the mixed solution.

CO2: To analyze test for carbohydrate, protein, Amino acids and lipids.

CO3: To examine which compound is present in the test sample.

CO4: To acquire knowledge about function of pH meter in acid or alkaline medium.

CO5: To understand the techniques and model of colorimeter.

Course Code: 20UCHA21

Course Title: Organic, Inorganic and Physical Chemistry – II (Ancillary Chemistry - II)

Course Outcomes (COs):

CO1: Analyze the physical concepts of photochemistry

CO2: Explain the basic terms, isomerism and theories involved in coordination compound

CO3: Apply the column, thin layer and paper chromatographic techniques to separate and identify the components present in a mixture

CO4: Recall about chemotherapy and classify the drugs as sulpha, antimalarials, antibiotics and arsenical drugs

CO5: Identify the concepts of thermodynamics and its significance

Course Code: 20UCHA2P

Course Title: Volumetric Analysis (Ancillary Practical – I)

Course Outcomes (COs):

CO1: Build basic quantitative skills in volumetric analysis with the use of burette, pipettes and standard flasks

CO2: Apply acidimetric and alkalimetric method for the quantitative volumetric estimation of acids and bases

CO3: Estimate the amount of inorganic compounds permanganometrically

CO4: Demonstrate the quantitative estimation of Potassium dichromate iodometrically

CO5: Plan the laboratory hygiene and safety

Course Code: 20UBCC31

Course Title: Human Physiology

Course Outcomes (COs):

CO1: To explain the structure, function, mechanisms of respiratory system and how to exchange gases between lungs to blood and between bloods to cell.

CO2: Demonstrate the working model of human anatomy such as respiratory, digestive system, blood and cardiovascular system, excretory system, muscle and nervous system.

CO3: Examine and defect what are list of compounds that are excreted through the urine.

CO4: Relate the muscle and nervous system involved in signal transduction.

CO5: How to digest and absorb the food particles in mouth, stomach and intestine.

Course Code: 20UBCC32

Course Title: Enzyme Technology

Course Outcomes (COs):

CO1: Learn the general knowledge of enzyme classification, nomenclature, list of enzyme function, and characterization of enzymes

CO2: Understand the different types of enzyme reactions.

CO3: Knowledge on how to construct MM equation and explanation of K_m & V_{max} Value.

CO4: Acquire knowledge on coenzymes and its lists, mechanism of action.

CO5: To understand what the clinical and industrial applications of enzymes are and demonstrate Biosensor and immobilization technique.

Course Code: 20UMBA31

Course Title: General Biology

Course Outcomes (COs):

CO1: Learn the basic of plant classification.

CO2: Learn the various fossil genera representing different fossil groups.

CO3: Study of morphological diversity of bryophytes and pteridophytes.

CO4: Understand the function of important physiological system

CO5: Understand the basic control of nervous system and explain the muscle movement and sensory perception.

Course Code: 20UBCC41

Course Title: Bio Metabolism

Course Outcomes (COs):

CO1: To Learn comparison between low and high energy phosphates and ETC

CO2: Knowledge on the synthesis and breakdown process of glucose, and extension process of glycolysis.

CO3: Classify the knowledge in metabolism of amino acids

CO4: Acquire knowledge on what are the processes involved in cholesterol biosynthesis

CO5: To Learn comparison between purine, pyrimidine synthesis

Course Code: 20UBCC42

Course Title: Microbiology

Course Outcomes (COs):

CO1: Learn the general organization and structure of Microorganism

CO2: Understand the bacterial metabolism and reproduction

CO3: To demonstrate and show the part and function of microscopy

CO4: To understand what are the application in food micro biology and how to develop antibiotics and organic acids.

CO5: Acquire knowledge on pathogenesis and prevention of air and water borne disease

Course Code: 20UBCC4P

Course Title: Quantitative Analysis of Bio-Organic Compounds

C01: To analyze the test for Carbohydrate, Protein, Lipid, Vitamins

C02: To examine how much amount of particular compound present in the test sample

C03: Knowledge on Carbohydrate present in test sample by various methods.

C04: To acquire knowledge on vitamins and protein determination by 2 different methods

C05: To understand the Estimation of cholesterol

Course Code: 20UMBA41

Course Title: Genetics and Biostatistics

Course Outcomes (COs):

C01: Learn the nature of genetic inheritance

C02: Study of DNA coding that occupies a given locus on a chromosome.

C03: There is no lack of data floating around most education and social programs.

C04: Learn assessment criteria specify the minimum requirement for the dates.

C05: Learn about statistical analysis

Course Code: 20UMBA4P

Course Title: Allied Biology Practical - I

Course Outcomes (COs):

C01: Understand section cutting of stem- Sargassum, Selaginella and Pinus needle.

C02: Understand the external and digestive, reproductive and urogenital system of cockroach and frog.

C03: Study of morphology of the representative for each phylum spotters.

C04: Study of mitosis by smear technique of Allium cepa root.

C05: Understanding the blood group, Rh factors, blood cells and blood vessels of human.