

**M.S. RAMAIAH COLLEGE OF ARTS,SCIENCE AND COMMERCE**

**ELECTRONICS DEPARTMENT**

Program	CourseCode	CourseName	COCode	CO
B.Sc(Electronics) 1st Sem(NEP)	ELE-CT1	Electronic Devices and Circuits	CO1	Aptitude to apply Logic thinking and Basic Science knowledge for problem solving in various fields of electronics both in industries and research
			CO2	To acquire experimental skills, analysing the results and interpret data.
			CO3	Ability to design / develop / manage / operation and maintenance of sophisticated electronic gadgets / systems / processes that conforms to a given specification within ethical and economic constraints.
			CO4	Capacity to identify and implementation of the formulate to solve the electronic related issues and analyze the problems in various sub disciplines of electronics.
			CO5	Capability to understand the working principles of the electronic devices and their applications.
B.Sc(Electronics) 1st Sem(NEP)	ELE-OE 1.5	Digital Fundamentals	CO1	Aptitude to apply Logic thinking and Basic Science knowledge for problem solving in various fields of electronics both in industries and research
			CO2	To acquire experimental skills, analysing the results and interpret data.
			CO3	Ability to design / develop / manage / operation and maintenance of sophisticated electronic gadgets / systems / processes that conforms to a given specification within ethical and economic constraints.
			CO4	Capacity to identify and implementation of the formulate to solve the electronic related issues and analyze the problems in various sub disciplines of electronics.
			CO5	Capability to develop mobile app.
2nd Sem(NEP)				
B.Sc(Electronics) 2nd Sem(NEP)	ELE-CT2	Analog and Digital Electronics	CO1	Understand and study the behaviour of the semiconductor devices ie., I-V characteristics of various MOSFET devices the knowledge can be extended for understanding the behaviour /characteristics/ response of unknown / novel devices.
			CO2	Applying the standard device models to explain/calculate critical internal parameters of semiconductor devices.
			CO3	Understanding and characterizing the behaviour of known/unknown/novel power electronic devices such as UJT, SCR, Diac, Triac etc.
			CO4	Acquainting and familiarization of the experimental skills to determine the behaviour of semiconductor devices.
			CO5	Capable of analyzing the device characteristics and responses.
			CO6	Understanding the working of basic logic gates, concepts of Boolean algebra and techniques to reduce/simplify Boolean expressions and their applications.

			CO7	Synthesizing and Analyzing combinatorial and sequential circuits and their applications in electronics
B.Sc(Electronics) 2nd Sem(NEP)	ELE-OE 1.5	Digital Systems	CO1	Aptitude to apply Logic thinking and Basic Science knowledge for problem solving in various fields of electronics both in industries and research
			CO2	To acquire experimental skills, analysing the results and interpret data.
			CO3	Ability to design / develop / manage / operation and maintenance of sophisticated electronic gadgets / systems / processes that conforms to a given specification within ethical and economic constraints.
			CO4	Capacity to identify and implementation of the formulate to solve the electronic related issues and analyze the problems in various sub disciplines of electronics.
			CO5	Capability to develop mobile app.
3rd Sem(Non-NEP)				
B.Sc(Electronics) 3rd Sem(Non-NEP)	ELE-301T	Linera Integrated Circuit and C Programming	CO1	Learn the details of Integrted circuit and operational amplifier
			CO2	Write down in depth Application of OP-AMP and IC 555 Timer
			CO3	Write down in details with application, if applicable, Introduction to C programming
4th Sem(Non-NEP)				
B.Sc(Electronics) 4th Sem(Non-NEP)	ELE-401T	Digital Electronics and Verilog	CO1	Understand in details with application, if applicable, Combinational logic circuits
			CO2	Write down the details of sequential logic circuits
			CO3	Deliberate the characteristics of Introduction to Verilog
5th Sem(Non-NEP)				
B.Sc(Electronics) 5th Sem(Non-NEP)	ELE-501T	communication-1	CO1	Learn in details with examples noise and transmission lines
			CO2	Write down the characteristics of analog modulation techniques
			CO3	Write down in details with examples radio receivers
B.Sc(Electronics) 5th Sem(Non-NEP)	ELE-601T	Microprocessor and Electronics Instrumentation	CO1	Specify the characteristics of microprocessor and its classifications
			CO2	Understand the detailed architecture and pin configuaration of 8085
			CO3	Deliberate the characteristics of instruction set in 8085
			CO4	Understanding the working principles of various Sensors and Biomedical instruments
6th Sem(Non-NEP)				
B.Sc(Electronics) 6th Sem(Non-NEP)	ELE-701T	communication-2	CO1	Deliberate the details of Digital communication
			CO2	Specify in details with examples RADAR system
			CO3	Understand the classification and characteristics of Satellite communication

<b>B.Sc(Electronics) 6th Sem(Non-NEP)</b>	<b>ELE-801T</b>	<b>Microcontrollers</b>	CO1	Introduction to Microcontroller, structural study of 8051
			CO2	Addressing mode, Instruction set and Interrupts in 8051
			CO3	8051 programming in C
			CO4	Capability to understand the working principles of the various controllers and their applications.

**Course Outcomes for Bsc (Bio/Chem/MB) Program BCU Syllabus**

I Semester

<b>B.Sc. Genetics</b>	<b>GNT-101</b>	<b>Fundamentals of cell biology</b>	CO1	This course introduces the students to the basics of cell and its components.
			CO2	Describe the fundamental principles cellular biology and model organisms
			CO3	Understand how cells grow, divide, and die and how these important processes are regulated
			CO4	Understanding how these cellular components are used to generate and utilize energy in cells
			CO5	The use of microscope equipment, interpretation and evaluation of ultrastructural data
<b>B.Sc. Genetics</b>	<b>GNT-201</b>	<b>Principles of Genetics</b>	CO1	An overview of the principles of plant genetics including Mendelian, history of genetics and modern concepts of heredity.
			CO2	The student will demonstrate knowledge of the basics principles of Mendelian genetics pea plant, law of segregation and law of independent assortment
			CO3	The student will demonstrate deviations from classical Mendelian analysis, multiple analysis, and gene interactions
			CO4	Gaining knowledge about the elements of Biometry mean, median, variance chi square student t test, probability and distribution
			CO5	Understanding the basic concept on sex determinations, Environment, hormone control and sex differentiation in Drosophila and man

IV Sem

B.Sc (Biotechnology/Chemistry/Microbiology)	BTT401	Molecular biology	CO1	Understand the basic concepts of nucleic acids
			CO2	Understand the basic concepts of nucleic acids
			CO3	Understand the gene organization, expression & regulation in Prokaryotes & Eukaryotes
			CO4	genetic recombination mechanism
			CO5	Transposable elements & its significance

V Semester

B.Sc (Biotechnology/Chemistry/Microbiology)	BTT501	Molecular biology	CO1	To understand the concepts of Genetic Engineering and its tools
			CO2	Apply the basics of In Vitro construction of recombinant DNA molecules and Transformation of r-DNA
			CO3	To remember the basics of Screening and selection of recombinant host cells and apply construction of gene libraries, Molecular
			CO4	Understand Renewable, Non-Renewable resources of energy, Conventional fuels and Modern fuels.
			CO5	Analyse and understand the technology of bioremediation, treatment of municipal waste, industrial effluents, biofertilizers and bioleaching

B.Sc (Biotechnology/Chemistry/Microbiology)	BTT502	Immunology & Animal Biotechnology	CO1	Understand the details of immunology
			CO2	Learn the details of animal biotechnology

B.Sc		Genetic Engineering & Environ	CO1	Deliberate in depth calculation of income tax
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(Biotechnology/Chemistry/Microbiology)	BTP503	Genetic Engineering & Environmental Biotechnology	CO2	Specify the details of genetic engg
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B.Sc (Biotechnology/Chemistry/Microbiology)	BTP504	Immunology & Animal Biotechnology	CO1	To study the history of Immunology, types of immunity, interaction of Ag-Ab and hypersensitivity reactions
			CO2	Types of Vaccination and immunization
			CO3	To understand the scope of animal cell culture and different methods employed in culture of animal cells
			CO4	To learn the expression of cloned proteins in animal cells and methods of growth factors, antibodies and vaccines production
			CO5	To understand the different techniques in transgenic animal production

B.Sc (Biotechnology/Chemistry/Microbiology)	BTT602	Industrial Biotechnology	CO1	Learn in details with application, if applicable, To know the concepts of industrial Biotechnology and fermentation technology
			CO2	Specify the classification and characteristics of To remember the basics of Screening, Isolation, maintenance of strains and Types of fermentation and fermenters
			CO3	Apply the basics of Process Development and Production of Microbial products
			CO4	Apply Enzyme Biotechnology and analyse Fermented foods
			CO5	Understand the technique of mass culture and apply culture methods for Algae and microbial polysaccharides

B.Sc (Biotechnology/Chemistry/Microbiology)	BTP603	Plant Biotechnology	CO1	To understand the basics of various invitro methods in plant biotechnology
			CO2	To learn the tranformation techniques involved in transgenic plant production
			CO3	Developing concepts in Biotechnology and Intellectual Property Rights (IPR)
			CO4	Production of edible vaccines

			CO5	Role of tissue culture in agriculture, horticulture and forestry
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B.Sc (Biotechnology/Chemistry/Microbiology)	BTP604	Industrial Biotechnology	CO1	To know the concepts of industrial Biotechnology and fermentation technology
			CO2	To remember the basics of Screening, Isolation, Maintenance of strains and Types of fermentation and Fermenters
			CO3	Identify in details with examples the basics of Process Development and Production of Microbial products
			CO4	Understand the classification and characteristics of applied enzyme biotechnology and analyse fermented foods
			CO5	Understand the technique of mass culture and its application in production of algal and microbial polysaccharides

Course Outcomes for B.Sc Biochemistry (nep)				
Program	Course Code	Course Name	Co Code	CO
B.Sc Biochemistry	DSC1	Chemical foundation of Biochemistry -1	CO1	Understanding of Biochemistry as a discipline and milestone discoveries in life sciences that led to establishment of biomolecules and in chemical reactions within living organisms.
		Chemical foundation of Biochemistry -2	CO2	
		Chemical foundation of Biochemistry -3	CO3	Understanding of the concepts of mole, mole fraction, molarity, etc. and to apply them in preparations of solutions of desired
		Chemical foundation of Biochemistry -4	CO4	Revisit to fundamentals of chemical bonds, electronic configuration, theories of bond formation.
		Chemical foundation of Biochemistry -5	CO5	Unique property of water as a universal solvent and its importance in biological system
		Chemical foundation of Biochemistry -6	CO6	Understanding of fundamentals of physical phenomena associated with Adsorption, Viscosity, Distribution law, Osmotic
		Chemical foundation of Biochemistry -7	CO7	Understanding of concepts of acids, bases, indicators, pKa values, etc
B.Sc Biochemistry	OE-1	OE-1 Biochemistry in Health and Diseases	CO1	This open elective course offering to students of various streams gives knowledge about health and various
			CO2	Difference between communicable and non-communicable diseases; Health promotion and treatments for various diseases
B.Sc Biochemistry	DSC2	Chemical foundation of biochemistry -2	CO1	These topics will enable students to understand the fundamentals of chemical processes in biological systems

B.Sc Biochemistry	DSC2	Chemical foundation of biochemistry -3	CO2	Appreciation of the roles of metals, non-metals, transition metals and coordination compounds in biological systems.
B.Sc Biochemistry	OE-2	Nutrition and Dietetics	CO1	Knowledge about energy requirements and the Recommended Dietary Allowances.
			CO2	understanding the functions and role of macronutrients, their requirements and the effect of deficiency and excess
			CO3	Understand the impact of various functional foods on our health
			CO4	
			CO5	Competence in connecting the role of various nutrients in maintaining health and learn to enhance traditional recipes.
			CO6	To be able to apply basic nutrition knowledge in making foods choices and obtaining an adequate diet.

Department of chemistry/Biochemistry				
Course Outcomes for B.Sc chemistry (NEP syllabus)				
Program	Course Code	Course Name	Co Code	CO
B.Sc Chemistry	DSC1	chemistry -I	CO1	The concepts of chemical analysis, accuracy, precision and statistical data treatment
			CO2	Prepare the solutions after calculating the required quantity of salts in preparing the reagents/solutions and dilution of stock
			CO3	The concept of volumetric and gravimetric analysis and deducing the conversion factor for determination
			CO4	Handling of toxic chemicals, concentrated acids and organic solvents and practice safety procedures.
			CO5	The concepts of Organic reactions and techniques of writing the movement of electrons, bond breaking, bond forming
			CO6	The Concept of aromaticity, resonance, hyper conjugation, etc.
			CO7	Understand the preparation of alkanes, alkenes and alkynes, their reactions, etc.
			CO8	Understand the mechanism of nucleophilic, electrophilic reactions
	OE-1	OE-1: CHEMISTRY IN DAILY LIFE	CO1	Describe the analysis of important constituents in food items such as fat content in dairy products, caffeine in coffee/tea,
			CO2	Give details of possible food additives, preservatives, colorants and adulterants commonly used in processed food.
			CO3	Explain the nutritional aspects of macro and micronutrients, namely oils/fats and vitamins respectively.
			CO4	Explain the chemistry of daily used products like soaps/detergents, batteries/fuel cells and polymers
			CO1	Explain the principles and concepts related to titrimetric analysis with reference to acid-base, precipitation and complexometric titrations.
			CO2	Handling of toxic chemicals, concentrated acids and organic solvents and practice safety procedures.
			CO3	Write the mechanisms of S <sub>N</sub> 1 and S <sub>N</sub> 2 reactions taking suitable examples.

	DSC2	-2: Analytical/Physical and Organic Chem	CO4	Illustrate types of aromatic electrophilic and nucleophilic substitution reactions with examples.
			CO5	Give a comprehensive description of the gaseous state in terms of molecular velocity, their distribution based on Maxwell-Boltzmann distribution.
			CO6	Explain important properties of liquid state such as viscosity, surface tension, refraction and parachor by defining them and explain the methods of determining molecular weights of solutes by measuring colligative properties and the concept of distribution coefficient.
			CO7	Describe the crystalline state in detail using the terms unit cell, Bravais lattices, Miller indices, Crystal systems, symmetry and point groups.
			CO8	Describe the biomolecules, namely carbohydrates, amino acids, lipids and nucleic acids on the basis of their classification and structure.
	OE-2	OE-2-Molecules of Life	CO 1	Explain enzyme action, factors influencing enzyme action, co-enzymes and enzyme specificity.
			CO 2	Depict the action of drugs in biological systems based on Receptor theory, SAR studies and binding action of various
			CO 3	Study the energy dynamics of biological systems in terms of calorific values of macronutrients, their metabolic pathways and ATP as energy source.
			CO 4	

Course Outcomes for B.Sc chemistry				
Program	Course Code	Course Name	Co Code	CO
B.Sc Chemistry	CO221	chemistry -III	CO1	Identify the characteristics of Chemical Kinetics
			CO2	Write down in details with examples of Chemical kinetics of Thermodynamics.
			CO3	Understand in details with examples of Thermodynamics I and II
			CO4	Identify in details with examples of Surface chemistry
			CO5	understanding of alcohols,ethers,thols and phenols.
	DO221	chemistry -IV	CO1	Identify the characteristics of Environmental Chemistry
			CO2	Specify the classification , characteristics properties of carbonyl compounds and carboxylic acids.
			CO3	Understanding of Radioactivity.
			CO4	To learn the structures of solids.
	EO231	chemistry -V	CO1	Learning the synthesis and structural elucidation of citral,Zingiberene and nicotine
			CO2	Understanding of Heterocyclic compounds and amines in detail
			CO3	To learn the structures and importance of terpenes,carbohydrates and alkaloids.
			CO4	structure elucidation of organic compounds using spectroscopic techniques
			CO5	understand the concepts of stereochemistry.



	EO241	chemistry -VI	CO1	Deliberate the details of Electrochemistry I
			CO2	Specify in details with applications of Chemical Spectroscopy
			CO3	Identify the classification and characteristics of Electroanalytical Methods
			CO4	Understanding of Ionic equilibria.
	FO231	chemistry -VII	CO1	To understand the chemistry of coordination compounds and their biological importance
			CO2	To learn the types and applications of industrial materials
			CO3	To learn about the organometallic compounds and their structure
			CO4	To introduce the newer materials in chemistry and to discuss their properties and relevance
	FO241	chemistry -VIII	CO1	Understanding of Carbohydrates,lipids,proteins with examples
			CO2	Knowledge on metabolism of carbohydrates,lipids and proteins.
			CO3	Understand the principle,procedure and applications of BiochemicalTechniques
			CO4	Knowledge on Nucleic acids and enzymes
			CO5	understanding of molecularbiology

Program		M.Sc Biochemistry		
Subjects & Codes		Course Outcome	Course Outcome (Cos)	
FIRST SEMESTER				
M.Sc Biochemistry	BCHT-01	:Biophysical and General Chemistry	CO1	Students got the knowledge of basic chemical and bio-physical properties of water
			CO2	Students have learnt about basic concepts of thermodynamics and Stereochemistry aspects
			CO4	Students have learnt about fundamental chemical properties and functions of free radicals, biological heterocyclic compounds
			CO3	These topics given biochemistry students to know about the fundamental mechanisms and rearrangements of common
			CO1 and CO2	Students able to understand the mechanisms of energy metabolisms in cells and think critically what will happen if
M.Sc Biochemistry	BCHT-02	Metabolism	CO3	Students seminars and assignments will give knowledge on how biological processes involved in cells
			CO4	Internal exams and quick tests in classroom make students to read the mechanisms and able to think critically
			CO6	Lab practicals of estimations of glucose, Cholesterol etc by biochemical processes involved in cells make students
			CO7	Students will be able to read the research papers and understand the concepts with the help of teachers in classroom
			CO1	Students have learnt about introductory topics of various biochemical investigation methods

M.Sc Biochemistry	BCHT-03	Analytical Biochemistry-I	CO2	Students got the detailed knowledge of microscopy and fluorescence microscopy
			CO3	Students got knowledge about detailed concepts related to centrifugation and biocalorimetry
			CO4	Students have understood about manometry and its applications and principles and applications of biocalorimetry
			CO5	Students got the knowledge on different radio-isotope methods used in biochemistry
			CO6	This chapter given information related to various statistical methods used in biochemistry research
			CO1	Students got the knowledge of Collagens – types, composition, structure and synthesis, Elastin,
M.Sc Biochemistry	BCHT-04	General Physiology	CO2	Students have learnt about basic concepts of Nervous system and muscular aspects
			CO3	These topics given biochemistry students to know about the fundamental mechanisms of Liver and liver function test
			CO4	Students have learnt about Cardio vascular system and mechanism of blood clotting
			CO1	Students got the knowledge of collection methods, tests and clinical significance of urinary compounds, stool and CSF
M.Sc Biochemistry	BCHT-05	Clinical Biochemistry & Nutrition	CO2	Students have learnt in detail about metabolic disorders
			CO3	These topics given biochemistry students to know about the hemorrhagic disorders and Disorders of liver and kidney
			CO4	Students have learnt about fundamental concepts of nutrition, basal metabolism, Protein nutrition and deficiency disease of
			CO5	Students have learnt about malnutrition, Recommended dietary allowances and its prevention
			CO	Experiential Handson Skills in Biochemistry Practicals
M.Sc Biochemistry	BCHP-06: General Biochemistry Practical		CO	Experiential Handson Skills in Biochemistry Practicals
M.Sc Biochemistry	BCHP-07: Bioanalytical Techniques		CO	Experiential Handson Skills in Biochemistry Practicals
SECOND SEMESTER				
	BCHT-08	Protein Structure & Enzymology	CO1	Students have learnt about introductory topics of primary, seconday and Tertiary, Quaternary structure
			CO2	Students got the detailed knowledge of investigation of active site structure
			CO3	Students got knowledge about Mechanisms of action of the enzymes-lysozyme, ribonuclease, lactate dehydrogenase, serine
			CO4	Students have understood about Kinetic data evaluation- Michaelis-Menten equation. Haldane equation. King-Altman
			CO5	Students got the knowledge onTypes of reversible and irreversible inhibitors
			CO6	This chapter given information related to various statistical methods used in biochemistry research
	BCHT-09	Metabolism-II	CO1	Students have learnt in detail about Lipids Metabolism and the general concepts of nitrogen fixation, regulation and utilization
			CO2	Students got exposed to basics of General metabolic reaction of amino acids

M.Sc Biochemistry	BCHT-09	Metabolism-I	CO3	Students learnt in detail about Degradation and Biosynthesis of the individual amino acids
			CO4	Students understood the Biosynthesis and degradation of purine and pyrimidine nucleotides, porphyrins and phenolic
	BCHT-10	Analytical Biochemistry-II	CO1	Students have learnt about detailed principles, design and applications of different chromatography methods
			CO2	Students got exposed to basics of gas chromatography and its applications
			CO3	Students learnt about various electrophoresis methods and its applications
			CO4	Students understood the concepts of various spectroscopic methods and its applications
			CO5	Students have learnt about proteomics and metabolomics concepts
	BCHT-11	Immunology & Microbiology	CO1	Immunology topics makes students understand the mechanisms of immune cells and think critically what will
			CO2	Students will be able to draw schematic representation pictures based on the concepts of antigen and antibody reactions etc
			CO4	Microbiology topics makes students to focus more on theories and experiments understanding how to be accurate when any
			CO6	Bacterial culture, bacterial growth, plasmid extraction etc lab practicals makes students able to understand the concepts
			CO7	Guest lectures and seminars conducted by department along with articles reading makes students get interested in research
	BCHT-12	Bioinformatics & Research Methodology	CO1	Students learnt about introductory concepts related to bioinformatics
			CO2	Students got exposed to different data base applications in bioinformatic research
			CO3	Students have learnt about details of high-throughput data, annotations and structure predictions
			CO4	This chapter given knowledge on various research methodologies, literature collection methods and different
	BCHP-13	Immunochemistry & Informatics	CO	Experiential Handson Skills in Biochemistry Practicals
	BCHP-14	Enzymology	CO	Experiential Handson Skills in Biochemistry Practicals
THIRD SEMESTER				
	BCHT-15	Molecular Biology-I	CO1	Students have got knowledge on introductory information about molecular biology and its applications at present
			CO2	Students have got knowledge of prokaryotic DNA replication and eukaryotic DNA replication
			CO3	Students got knowledge on DNA repair mechanisms
			CO4	Students have learnt about prokaryotic and eukaryotic transcription mechanisms and regulations
			CO5	Students got knowledge on ribosomes in prokaryotes and eukaryotes; about the detailed mechanisms of translation and
			CO1	Students have understood about basic principles of signal transduction
			CO2	Students have learnt details of G-protein coupled receptor signaling pathway and its functions

M.Sc Biochemistry	BCHT-16	Biochemistry of Cell Signaling	CO3	Students got knowledge on serine-threonine specific protein kinases and phosphatases
			CO4	Students have learnt about second messengers and intracellular signaling proteins
			CO5	Students got knowledge on cytokines - interferon family and its pathways and about the details of cell cycle regulation
			CO6	Students have learnt in detail about the mechanisms and regulations of apoptosis and cancer
	BCHT-17	Membrane Biochemisrty	CO1 and CO2	Membrane structure and mechanisms involved in plasmamembrane will make students think critically of cellular
			CO3	Experimental procedures involved in few chapters taught by teachers make students able to design the experiments and
			CO4	Students will be able to write the assignments and give seminars on few topics. This practice will make students to read
			CO5	Few theory topics in thgis course involves experimental procedures and this makes both students And teachers to
BCHT-18: OPEN ELECTIVE (Management Perspectives)				
BCHP-19	Clinical Biochemistry	CO	Experiential Handson Skills in Biochemistry Practicals	
BCHP-20	Molecular Biology Practicals	CO	Experiential Handson Skills in Biochemistry Practicals	
FORTH SEMESTER				
M.Sc Biochemistry	BCHT-21	Gene Regulation & Genomics	CO1	Students have learnt about gene expression and regulation in prokaryotes and eukaryotes
			CO2	This chapter given information related to different transcriptional activators in the cells and regulation of gene
			CO3	Students have learnt about RNA interference and its role in normal cells and in pathology
			CO4	This chapter given complete information of genomics and functional genomics with respect to principles and various
	BCHT-22	Molecular Genetic	CO1	Students have learnt about Chromosomes and genes, mutation.
			CO2	Students got exposed to basics of classical genetics, Mendelian laws,Morgan’s discovery
			CO3	Students learnt about Breeding analysis, genetics basis of quantitative variation.
			CO4	Students understood the concepts of Chromosomal analysis (in vitro, in vivo), gene mapping,
			CO5	Students have learnts about recombination, trnasduction, transformation concepts
	BCHT-23	Genetic Engineering	CO1	This chapter given information related to various Restriction and modifying enzymes
			CO2	Students have got knowledge on basic concepts of cloning and Expression vectors
			CO3	Students got knowledge on genomic library construction and Screening, Discovery, principle, procedure and application of
			CO4	Students learnt about Gene transfer to animal and plant cells in detail
			CO5	Students got exposed to different Fermentation process, downstream process operations, Nano and Industrial

			CO6	Students have learnt about details of Intellectual property and Ethical values in IP
	BCHT-24	Drug Discovery & Clinical Research	CO1	Students have got the introductory information related to drug discovery cycle in industries
			CO2	Students have learnt about details of drug targets and drug metabolisms
			CO3	This chapter given students about the details of drug discovery and development cycle
			CO4	Students have got knowledge on clinical trials and pre-clinical toxicology
			CO5	Students have learnt about bioavailability and bioequivalence studies
			CO6	Students have learnt about different terminology used in clinical research and pharmacovigilance
	BCHP-25	Genetic Engineering & Protein Chemistry	CO	Experiential Hands-on Skills in Biochemistry Practicals
	Project		CO	Experiential Hands-on Skills in Biochemistry Practicals

Course Outcomes for Msc(Chem) Program				
Program	CourseCode	CourseName	COCode	CO
Msc(Chem)	C-102	Organic Chemistry I	C-102-4	Students attained the detail knowledge of biomolecules like carbohydrates & vitamins .
			CO3	
			C-102-5	student attained the knowledge of synthesis of heterocyclic compounds and their biological uses
	C-201	InorganicChemistry- II	C201	Electronic spectra of coordination compounds; students gained knowledge about spectroscopic ground state, Orgel diagrams,
			C201	Magnetic properties of coordination compounds; students gained knowledge about types of magnetic behaviour,
	C-202	Organic Chemistry II	C202_1	Students gained detailed knowledge on rearrangement reaction of organic compounds and
			C202_3	Students gained knowledge on Vitamins, synthesis and their biological roles
			C202_2	Students gained detailed knowledge on Amino acids and peptides synthesis
	C-203	Physical Chemistry II	C203_1	1. Students gained knowledge in thermodynamics-I: partial molar properties, phase rule, introduction to
			C203_2	2. Students are able to understand concept of distribution laws of statistical thermodynamics and non
			C203_3	3. Students gained knowledge in Electrochemistry: Debye-Huckel theory of strong electrolytes,
			C203_4	4. Students gained knowledge in Electrochemistry-II; Structure of electrical double layers, overpotential,
	C-301-OC	Organic Reaction Mechanisms		Organic Reaction Mechanism- Offers aliphatic substitution reactions, free radical chemistry, photochemistry and pericyclic
				continued through Organic reaction paper-II. This paper gives
Msc(Chem)			C-302 - 1	Students attained the knowledge of Terpenoids and carotenoids

	C-302-OC	Chemistry of Natural Products	C-302-2	Students attained the knowledge of Alkaloids i.e.nomenclature,Isolation, structure elucidation,
			C-302-3	Students attained the Detailed knowledge of porphyrins-haemin and chlorophyll and vit B12
			C-302-4	student learned the detailed knowledge of synthesis of oligonucleotides
			C-302-5	Students attained the detail knowledge of synthesis of prostaglandins and Insect Pheromones
	C-303-OC	Organic Spectroscopy	CO1	Organic Spectroscopy- Offers UV- Vis spectroscopy, Infrared Spectroscopy, NMR spectroscopy and Mass Spectroscopy.
	C-305-OC	Organic Chemistry Practicals-I	CO1	Organic chemistry practicals I- At the end of the course students are able to carryout single step synthesis.
	C-306-OC	Organic Chemistry Practicals-II	CO1	Organic chemistry practicals II- At the end of the course students are able to identify the functional group by
	C-307-OC	Organic Chemistry Practicals-III	CO1	Organic chemistry practicals III- At the end of the course students are able to carryout Multi-step
	C-308-OC	Organic Chemistry Practicals-IV	CO1	Organic chemistry practicals IV- At the end of the course students are able to estimate the functional
	C-403-OC	Organic Synthesis	C-403- III	Students attained the detail knowledge of use of reagents in Oxidation reactions
			C-403-II	Students attained the detail knowledge of use of the reagents in organic synthesis.
			C-403- IV	Students attained the detail knowledge of use of reagents in Reduction reactions.
	C-404-OC	Medicinal Organic Chemistry	CO1	Students attained the detail knowledge on steroids
			CO2	Students attained the detail knowledge on antibiotics
			CO3	Students attained the detail knowledge on synthesis of drugs and their mode of action

Proram	Course code	Course name	CO Code	Course objectives
	1.1	MANAGEMENT AND BEHAVORAL PROCESS	CO1	Present a thorough coverage of management theory, human behaviour, organizational behaviour and practice. The objective
			CO2	To appraise the students on the application oriented case studies on functions of management and behavioural processes
	1.2	MANAGERIAL ACCOUNTING	CO1	To enable the students to obtain knowledge about the concepts of accounting principles, techniques of accounting and to
			CO2	The syllabus also contains the practical components of the subject which enable the students gain more practical
	1.3	BUSINESS PLANNING AND	CO1	To acquaint students with general business law issues to help them become more informed, sensitive and effective business
			CO2	To understand the basic provisions of laws concerning incorporation and regulation of business organizations

1.3	REGULATIONS	CO3	To provide the students with an understanding of fundamental legal issues pertaining to the business world to enhance their
		CO4	To focus on legal and statutory compliances
1.4	ECONOMICS FOR BUSINESS DECISIONS	CO1	To acquaint the participants with concepts and techniques used in Economics
		CO2	To enable them to apply this knowledge in business decision-making
1.5	BUSINESS STATISTICS	CO1	To elevate students' awareness of data in everyday life and prepare them for a career in today's age of information. To
		CO2	To promote the practice of the scientific method in our students: the ability to identify questions, collect evidence
1.6	MARKETING MANAGEMENT	CO1	The course will help the learner understand the basic concepts, tools and techniques relevant to marketing management and
		CO2	Student should be able to analyse basic marketing environment and marketing mix components, construct consumer profiles
1.7	EMPLOYABILITY SKILL DEVELOPMENT – I	CO1	To impart employability skills with activities.
		CO2	To bridge the gap between the skill requirements of the employer or industry and the competency of the students
2.1	ENTREPRENEURSHIP AND START-UP MANAGEMENT	CO1	To make the students aware of the importance of entrepreneurship opportunities available in the society for the
		CO2	To acquaint them with challenges of starting new ventures and enable them to investigate, understand and internalize the
2.2	BUSINESS RESEARCH METHODS	CO1	To enable students acquire thought process in research
		CO2	To imprint on them the paradigm of research in business & to make them use research as base for decisions
2.3	MANAGING HUMAN RESOURCES	CO1	This course is designed for a systematic and comprehensive study about the various facets of Human Resource
		CO2	Students will also get a perspective of the problems associated with HRM and their causes.
2.4	BUSINESS ANALYTICS	CO1	To introduce the business intelligence process that support the decision making in business operations.
		CO2	To expose the students to analytics practices used in various verticals across industries and thereby educating students to
2.5	FINANCIAL MANAGEMENT	CO1	To enable a strong conceptual fundamentals for corporate finance and make the students comfortable and easy
		CO2	The syllabus also contains the practical components of the subject which enable the students gain more practical
2.6	PRODUCTION AND OPERATIONS RESEARCH	CO1	To provide a formal quantitative approach to problem solving and an intuition about situations where such an approach is
		CO2	To introduce some widely-used mathematical models. The understanding of these models will allow the students derive
2.7	EMPLOYABILITY SKILL DEVELOPMENT – II	CO1	To assess and identify the individual employability skill deficiencies
		CO2	Facilitating student to take remedial measures to improve the status of skill deficiencies and enable students to apply these
3.1	STRATEGIC MANAGEMENT AND BUSINESS ETHICS	CO1	By the end of this course, a student would learn Identifying Strategic alternatives,Applying Ethical corporate behavior and

MBA- Master of Business Administration

3.2.1	INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT	CO1	To provide knowledge and skill in identifying various investment alternatives and choosing the suitable one
		CO2	To orient on the procedures and formalities involved in investing.
3.2.2	CORPORATE TAXATION FOR MANAGERS	CO1	The taxonomy of taxation and GST in India
		CO2	Computation of income tax liability of a corporate entity and the strategies for legally reducing tax burden
3.2.3	CORPORATE VALUATION AND FINANCIAL MODELING	CO1	To facilitate understanding of corporate valuation techniques and restructuring activities in M&A
		CO2	To communicate to the students the role that M&A plays in the contemporary corporate world.
		CO3	To enable the students to use the financial modeling techniques by using advanced tools
3.3.1	RURAL AND GREEN MARKETING	CO1	To understand the opportunities and challenges in rural and green marketing
		CO2	To identify and assess rural market potential for products and services
3.3.2	BUSINESS AND SOCIAL MARKETING	CO1	To describe the applications, challenges and the dynamic environment of B2B marketing, including the unique nature of
		CO2	To apply the basic and advanced techniques for development of social marketing strategies and develop price, promotion and
3.3.3	CONSUMER BEHAVIOUR AND NEUROMARKETING	CO1	To understand personal, socio-cultural, and environmental dimensions that influence consumer decisions making
		CO1	To understand how the human brain processes information and generates responses while incorporating risk, feelings and
3.4.1	PERFORMANCE MANAGEMENT AND COMPETENCY MAPPING	CO1	The objective of this course is to equip students with comprehensive knowledge and practical skills to improve their
3.4.2	TALENT MANAGEMENT AND EMPLOYEE ENGAGEMENT	CO1	The Objective of the subject is to enhance the readers' understanding of the domain of talent management and
3.4.3	LEARNING AND DEVELOPMENT	CO1	To enable the students to understand various concepts and process of learning and development
		CO2	To design and implement Training Need Analysis for different levels of employees in organizations
		CO3	To understand different types of learning and development methods based on needs of the organization and to evaluate
4.1	INTERNATIONAL BUSINESS	CO1	To make students to learn how business organizations operate in an international environment.
		CO2	To understand the impact of international influences on business
		CO3	To help students to plan a career in international business
4.2.1	PROJECT ANALYSIS AND MANAGEMENT	CO1	To know the project manager's roles and responsibilities and financial projections.
		CO2	To understand project selection and criteria and feasibility analysis
		CO3	To understand UNIDO approach for Social Cost Benefit analysis
4.2.2	INTERNATIONAL FINANCIAL	CO1	To understand exchange rates, and their relationship with Economic variables.



	4.2.2	MANAGEMENT	CO2	To study the impact of exchange risk Hedging tools and techniques.
	4.2.3	DERIVATIVES AND RISK MANAGEMENT	CO1	To provide the concepts and foundations of managing financial risk in business enterprises
			CO2	To provide the concept of Derivatives, its types and how to minimise risk by using derivatives as a tool and acquaint the
	4.3.1	SALES AND DISTRIBUTION MANAGEMENT AND RETAILING	CO1	To understand the services domain from a marketing perspective.
			CO2	To understand retailing as a business and have a comprehensive view of the marketing and store management
	4.3.2	SERVICES MARKETING AND CUSTOMER RELATIONSHIP MANAGEMENT	CO1	To appreciate the challenges involved in managing the services and analyse the strategies to deal with these challenges.
			CO2	To give insights about the foundations of services marketing, customer expectations of services and gap existing in the
	4.3.3	INTEGRATED MARKETING COMMUNICATIONS AND DIGITAL MARKETING	CO1	To enumerate the role of advertising agency in bringing about coherence between the various communication mix and
			CO2	To understand the scope of Indian Media, and guide the students to explore career opportunities in media selling.
			CO3	To guide the students to see how companies are leveraging the internet for marketing products and service and build positive
	4.4.1	GLOBAL HRM	CO1	To be able to assess the extent to which multinational companies can have Global HRM strategies, policies and
			CO2	To apply concepts, approaches, and models to enumerate global scenario
	4.4.2	STRATEGIC HRM	CO1	To help students understand the factors of change in the political, social, environmental and the economic scenarios that
	4.4.3	INDUSTRIAL RELATIONS AND HR AUDIT	CO1	To build awareness of certain important and critical issues in Industrial Relations
			CO2	To develop understanding of the Role and Process of HR Audit in Organisation at different levels.
			CO3	To Appreciate HR Audit in the context of changing forms of organisation

Department of Mathematics

	CourseCode	CourseName	COCode	CO
			C01	Understand in details with application, if applicable, Groups
			C02	Learn the details of sequences of real numbers
			C03	Specify in details with application, if applicable, series of real number
	MATT3	Mathematics-III	C04	Write down the details of Laplace transform
		Mathematics-IV	C01	Specify in details with examples Groups
			C02	Understand in details with examples Fourier Series
			C03	Deliberate in details with application, if applicable, Differential Calculus

BSc[Computer Science and Mathematics]	MATT4		C04	Specify in details with application of Differential Equations.
	MATT5	Mathematics-V	C01	Identify in depth Rings, Integral Domains and Fields
			C02	Understand the characteristics of Differential Calculus Scalars and Vectors
			C03	Understand in depth Numerical Analysis
	MATT6	Mathematics-VI	C01	Write down the details of Calculus of Variation
			C02	Write down in depth Line and multiple Integrals
			C03	Write down in details with examples Integral Theorems
	MATT7	Mathematics-VII	C01	Learn the characteristics of Linear Algebra
			C02	Identify in details with application, if applicable, Orthogonal Curvilinear Coordinates
			C03	Write down the classification and characteristics of Partial Differential Equations
	MATT8	Mathematics-VIII	C01	Learn in details with examples Complex Analysis
			C02	Specify the classification and characteristics of Complex integration
			C03	Understand the details of Numerical solutions of algebraic and Transcendental equations

BSc[Computer Science and Mathematics]	MATDSCT 2	Algebra - II and Calculus - II	CO1	fundamental concepts of groups and symmetries of geometrical objects
			CO2	Explain the significance of the notions of cosets, normal subgroups and factor groups. Learn the quotient groups, concepts of homomorphism, isomorphism and properties
			CO3	Learn solve problems related to angle between radius vector and tangent, angle between two curves. Learn expressing the curves in pedal form, derivative of an arc .Learn the
			CO4	arc, area of plane curves and surface area, volume of revolution
			CO1	roots and coefficients.Learn Descartes' rule of signs to find roots-

	MATOET2	Mathematics –II	CO2	and Taylors and Meclaurin's expansion. Find the extreme values of functions of two variables.
			CO3	<b>Integral Calculus:</b> - To understand the concepts of multiple integrals and their applications.
BSc[Computer Science and Mathematics]	(MATDSCT1)	Algebra -I and Calculus – I	CO1	Learn to find rank of a matrix and to Solve the system of homogeneous and non-homogeneous linear system of ' m' equations in' n' variables by using concept of rank of matrix,
			CO2	Become familiar with the techniques of finding nth derivatives of some standard functions
			CO3	Identify and apply the intermediate value theorems and L'Hospital's rule.
			CO4	learn partial differentiation, Jacobians and related properties.Learn expansion of Taylor's and Maclaurin's series of functions of 2 variables and maxima and minima
BSc[Computer Science and Mathematics]	(MATOET 1)	Mathematics – I	CO1	Learn row and column operations, rank of matrix Learn to solve system of linear equations. Solve the system of homogeneous and non homogeneous m linear equations
			CO2	<b>Differential Calculus:</b> Students will be familiar with the techniques of differentiation of function with real variables. Identify and apply the intermediate value theorems and L'Hospital's rule.
			CO3	Learn to evaluate integrals , find arc -lengths , areas and volume

Department of BBA  
NEP I Sem

Program	CourseCode	CourseName	COCode	CO
BBA – Bachelor of Business	BBA 101	Fundamentals of Accounting	CO1	Understand the framework of accounting as well accounting standards.
			CO2	The Ability to pass journal entries and prepare ledger accounts

Business Administration	BBA 1.2	Fundamentals of Accounting	CO3	The Ability to prepare various subsidiary books
			CO4	The Ability to prepare trial balance and final accounts of proprietary concern
			CO5	Construct final accounts through application of accounting software tally
BBA – Bachelor of Business Administration	BBA 1.1	MANAGEMENT PRINCIPLES & PRACTICE	CO1	The ability to understand concepts of business management, principles and function of management
			CO2	The ability to explain the process of planning and decision making.
			CO3	The ability to create organization structures based on authority, task and responsibilities
			CO4	The ability to explain the principles of direction, importance of communication, barrier of communication, motivation theories and leadership styles.
			CO5	The ability to understand the requirement of good control system and control techniques.
BBA – Bachelor of Business Administration	BBA 1.3	MARKETING MANAGEMENT	CO1	Understand the concepts and functions of marketing.
			CO2	Analyse marketing environment impacting the business
			CO3	Segment the market and understand the consumer behavior
			CO4	Describe the 4 p's of marketing and also strategize marketing mix
			CO5	The ability to understand the requirement of good control system and control techniques.

NEP II Sem

Program	CourseCode	CourseName	COCode	CO
BBA – Bachelor of Business Administration	BBA 2.2	HUMAN RESOURCE MANAGEMENT	CO1	Ability to describe the role and responsibility of Human resources management functions on business
			CO2	Ability to describe HRP, Recruitment and Selection process
			CO3	Ability to describe to induction, training, and compensation aspects
			CO4	Ability to explain performance appraisal and its process.
			CO5	Ability to demonstrate Employee Engagement and Psychological Contract

BBA – Bachelor of Business Administration	BBA 2.3	BUSINESS ENVIRONMENT	CO1	An Understanding of components of business environment
			CO2	Ability to analyse the environmental factors influencing business organisation
			CO3	Ability to demonstrate Competitive structure analysis for select industry.
			CO4	Ability to explain the impact of fiscal policy and monetary policy on business
			CO5	Ability to analyse the impact of economic environmental factors on business.
BBA – Bachelor of Business Administration	BBA 2.3	BUSINESS MATHEMATICS		
			CO1	The application of equations to solve business problems
			CO2	The Application AP and GP in solving business problems
			CO3	The calculation of simple interest, compound interest and discounting of Bills of Exchange
			CO4	The application of matrices in business.
			CO5	The Application of ratios and proportions in business.

Department of BBA  
Non NEP III Sem

Program	CourseCode	CourseName	COCode	CO
BBA – Bachelor of Business Administration	BBA 3.3	Cost Accounting	CO1	1. To familiarize students with the various concepts and elements of cost and methods of ascertaining the costs
	BBA 3.4	Human Resource Management	CO1	1. To familiarize the students with various aspects of Human Resource Management.
	BBA 3.2	Corporate Communication Skills – I	CO1	1. To enable the students to understand the skills required for effective communication at different levels of an
	BBA 3.5	Financial Markets and Services	CO1	1. To provide an insight into the functioning of Indian financial system and various components of the financial
	BBA 3.5		CO2	2. To make the students to understand the inter-relationship among different components and the impact on business

	BBA 3.6	Business Data Analysis	CO1	To help the students to acquire knowledge on the various statistical tools used for data analysis that can be applied in
	BBA 3.6		CO2	To help the students to understand the statistical tools available for business data testing
	BBA 3.7	CORPORATE FINANCIAL MANAGEMENT	CO1	To enable students to understand the basic concepts of Financial Management and the role of Financial

**Department of BBA  
Non NEP IV Sem**

BBA – Bachelor of Business Administration	BBA. 4.2	CORPORATE COMMUNICATION SKILLS – II	CO1	To help the students to gain comprehensive knowledge and skill about corporate communication
	BBA 4.3	BUSINESS RESEARCH METHODS	CO1	To create an awareness of the Process of Research, the tools and techniques of research and generation of reports.
	BBA 4.4	BANKING LAW AND OPERATIONS	CO1	To familiarize the students with the operations and innovations in Banking Sector
	BBA 4.5	ENTREPRENEURSHIP DEVELOPMENT	CO1	To enable students to understand the basic concepts of Entrepreneurship and prepare Business Plan to start a Small Industry
	BBA 4.6	MANAGEMENT ACCOUNTING	CO1	To enable the students to understand the analysis and interpretation of Financial Statements with a view to prepare Management Reports for Decision making
	BBA 4.7	CUSTOMER RELATIONSHIP MANAGEMENT	CO1	To make the students understand the concepts, role, principles and changing face of CRM as an IT enabled function.
	BBA 4.7		co2	To make the students to learn the skills required for effective management of Customer Relationship
	BBA 3.7	CORPORATE FINANCIAL MANAGEMENT	CO1	To enable students to understand the basic concepts of Financial Management and the role of Financial Management in decision-making.

**Department of BBA  
Non NEP V Sem**

	BBA. 5.1	INCOME TAX - I	CO1	To expose students to various provision of Income Tax Act relating to the computation of Income of Individual Assessee
	BBA 5.1	BUSINESS REGULATIONS	CO1	To introduce the students to the various Legislations affecting Business and to familiarize them with such Regulations
	BBA 5.3	INDIRECT TAXES	CO1	To impart Students knowledge on GST and Customs Duty
			CO2	To make the students to understand the rules, regulation and procedures relating to GST and Customs Duty

BBA – Bachelor of Business Administration	BBA 5.4	INFORMATION TECHNOLOGY FOR BUSINESS – I	CO1	To familiarize students with nature and purpose of database Systems and how they work
			CO2	To develop skills among the students to design and implement simple Computer based business Information Systems using MS EXCEL.
			CO3	To familiarize students in latest aspects of Information Technology used in business context.
	FN 5.5	ADVANCED CORPORATE FINANCIAL MANAGEMENT	CO1	To provide knowledge on valuation of business enterprises
			CO2	To make students understand the various models of value-based management.
			CO3	To give insight on various forms of corporate restructuring.
	FN 5.6	SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT	CO1	To provide knowledge and skill in identifying various investment alternatives and choosing the suitable alternatives
			CO2	To orient on the procedures and formalities involved in investing.
	MK 5.5	CONSUMER BEHAVIOUR	CO1	To develop an understanding about the consumer decision-making process and its applications in marketing function of firms
	MK 5.6	INTEGRATED MARKETING COMMUNICATION	CO1	To familiarize students with essential concepts and techniques for the development and designing of an effective Integrated Marketing Communication program.
			CO2	To provide the learning about various communication tools and its effectiveness
			CO3	Foster creative ideas among learners for development of effective marketing communication program
	HR 5.6	INDUSTRIAL RELATIONS AND EMPLOYEE LEGISLATION	CO1	To familiarize students with the Industrial Relations and Legislations relating to Regulatory and Social Security of Employees in India.
	HR 5.5	COMPENSATION AND PERFORMANCE MANAGEMENT	CO1	To enable the students to understand the various methods and practices of Compensation and Performance Management

**Department of BBA  
Non NEP V Sem**

BBA 6.1	INCOME TAX - II	CO1	Tax Liability of individuals.
BBA 6.2	STRATEGIC MANAGEMENT	CO1	as Strategic Planning, Implementation and Evaluation.
BBA 6.3	INTERNATIONAL BUSINESS	CO1	International Business Management

BBA – Bachelor of Business Administration	BBA 6.4	FORMATION TECHNOLOGY FOR BUSINESS	CO1	To familiarize with the aspect of Internet, Email, Search Engine
			CO2	emerging world of E-commerce
			CO3	To develop skills in E marketing Techniques
			CO4	To familiarize with the aspect of Online Social Networks
	FN 6.5	RISK MANAGEMENT AND DERIVATIVES	CO1	business.
			CO2	capital budgeting decisions
			CO3	business and strategies for hedging the same with derivatives
	FN 6.6	INTERNATIONAL FINANCE	CO1	international markets
			CO2	exposed to on account of international transactions.
			CO3	To provide knowledge and skills for hedging foreign currency risks.
	MK 6.5	DIGITAL MARKETING	CO1	for marketing success and to manage customer relationships across all
	MK6.6	SUPPLY CHAIN AND LOGISTICS	CO1	Chain Management Strategies and the Market Environment for
	HR6.5	INTERNATIONAL HUMAN	CO1	International Human Resources Management
	HR6.6	ORGANISATIONAL	CO1	Change and Development and the OD Interventions for creating

**Department of BCA  
III Year**

Program	CourseCode	CourseName	COCODE	CO
BCA-Bachelor of Computer Application	BCA501T	Data Communication and Networks	CO1	Learn in depth Communication Network and services,
			CO2	Specify in details with examples Transmission
			CO3	Learn the characteristics of Peer –to-Peer Protocols, ARQ
			CO4	Learn the characteristics of Local Area Networks and Medium
			CO5	Identify in details with examples LAN Standard – Ethernet and

Program	CourseCode	CourseName	COCODE	CO
BCA-Bachelor of Computer Application	BCA502T	Artificial Intelligence	CO1	Learn about Artificial Intelligence,Heuristic search techniques
			CO2	Knowledge representation using predicate logic,non-monotonic
			CO3	Planning: block world, strips, Implementation using goal stack,
			CO4	Learn about matching algorithm,neural networks
			CO5	Natural language processing and understanding and pragmatic,

Program	CourseCode	CourseName	COCODE	CO
Application	BCA503T	JAVA Programming	CO1	Write down in details with examples Introduction to JAVA
Application	BCA503T		CO2	Write down in depth Classes, Arrays, Strings and Vectors
Application	BCA503T		CO3	Write down the details of Interfaces, Packages, and Multi
Application	BCA503T		CO4	Understand the classification and characteristics of Managing
Application	BCA503T		CO5	Identify the classification and characteristics of Graphics

Program	CourseCode	CourseName	COCODE	CO
Application	BCA504T	Analysis and Design of Algorithm	CO1	Deliberate definition of algorithm and analysis of algorithm
Application	BCA504T		CO2	Understand about Divide and Conquer
Application	BCA504T		CO3	Learn about greedy method
Application	BCA504T		CO4	Understand about dynamic programming and multistage graph
Application	BCA504T		CO5	learn about basic traversal &search techniques

Program	CourseCode	CourseName	COCODE	CO
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Application	BCA601T	System Programming	CO1	Specify in details with examples Introduction of System
Application	BCA601T		CO2	Specify the classification and characteristics of Assemblers, Pass
Application	BCA601T		CO3	Features of Macro Processor, Data structures, databases, Pass1
Application	BCA601T		CO4	Specify the characteristics of Loaders, different loader schemes,
Application	BCA601T		CO5	Understand the details of Compilers, stages of compilers with

Program	CourseCode	CourseName	COCODE	CO
Application	BCA602T	PROFESSIONAL AND BUSINESS COMMUNICATION	CO1	Learn about communication and leadership
Application	BCA602T		CO2	Understand about social style and culture difference in
Application	BCA602T		CO3	Learn to prepare for the interview
Application	BCA602T		CO4	Understand and improve team dynamics
Application	BCA602T		CO5	Preparing and organizing a presentation, writing business

Program	CourseCode	CourseName	COCODE	CO
Application	BCA603T	WEB Programming	CO1	Understand the details of Fundamentals of web
Application	BCA603T		CO2	Identify in depth HTML and XHTML
Application	BCA603T		CO3	Specify the classification and characteristics of Java Script
Application	BCA603T		CO4	Deliberate the details of Java Script and HTML documents
Application	BCA603T		CO5	Deliberate in details with examples Dynamic documents with

Program	CourseCode	CourseName	COCODE	CO
Application	BCA303T	Object Oriented Programming using C++	CO1	understand the c++ features, functions
Application	BCA303T		CO2	learn in depth about Objects and Classes, Constructors &
Application	BCA303T		CO3	Specify characteristics of Operator overloading
Application	BCA303T		CO4	Identify the purpose of Virtual functions, friend function
Application	BCA303T		CO5	Learn in details with examples about Template concept and

Program	CourseCode	CourseName	COCODE	CO
Application	BCA304T	Financial Accounting and Management	CO1	Write down the classification and characteristics of History and
Application	BCA304T		CO2	Learn in details with application, if applicable, Financial
Application	BCA304T		CO3	Specify the characteristics of Accounting for bills of Exchange
Application	BCA304T		CO4	Understand the details of Preparation of Final Accounts
Application	BCA304T		CO5	Learn in details with examples Accounting package like tally

**Department of BCA**  
**II Year**

Program	CourseCode	CourseName	COCODE	CO
Application	BCA305T	Operating System	CO1	Deliberate in details with application, if applicable, Batch
Application	BCA305T		CO2	Identify in details with application, if applicable, Process
Application	BCA305T		CO3	Learn the details of Memory Management
Application	BCA305T		CO4	Learn the details of File management
Application	BCA305T		CO5	Deliberate in details with examples Protection and Security

Program	CourseCode	CourseName	COCODE	CO
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Application	BCA403T	Visual Programming .NET	CO1	Understanding .Net framework,Features and IDE
Application	BCA403T		CO2	Creating application with VB.NET,Understanding Exception
Application	BCA403T		CO3	Programming n VB.NET and understanding scope and
Application	BCA403T		CO4	Building web application in ASP.NET,binding to databases using
Application	BCA403T		CO5	Learning SQL database usage in ADO.NET,LINQ

Program	CourseCode	CourseName	COCODE	CO
Application	BCA404T	UNIX programming	CO1	Deliberate the details of Introduction to Unix system
Application	BCA404T		CO2	Write down in depth Secondary Storage Management
Application	BCA404T		CO3	Identify in details with examples Shell Programming
Application	BCA404T		CO4	Deliberate in details with examples Conditional Control
Application	BCA404T		CO5	Specify the details of Unix System Communication

Program	CourseCode	CourseName	COCODE	CO
Application	BCA405T	Software Engineering	CO1	Identify in details with application, if applicable, Introduction to
Application	BCA405T		CO2	Learn the characteristics of Software prototyping;prototyping
Application	BCA405T		CO3	Identify the classification and characteristics of Object oriented
Application	BCA405T		CO4	Deliberate the characteristics of Software reliability and
Application	BCA405T		CO5	Learn the classification and characteristics of Software

#### Department of BCA

##### I Year

Program	CourseCode	CourseName	COCODE	CO
		Problem Solving Techniques		
Application	CA-C2T		CO1	the algorithms
Application	CA-C2T		CO2	Understanding the concepts of C programming
Application	CA-C2T		CO3	array techniques
Application	CA-C2T		CO4	Delibrate the concept of merging,sorting and searching

Program	CourseCode	CourseName	COCODE	CO
Application	CA-C3T		CO1	Perceive the Role of Data Organization and Data Structures
Application	CA-C3T		CO2	Understanding the concepts of Linked list,stack and queue
Application	CA-C3T		CO3	graphs
Application	CA-C3T		CO4	Delibrate the concept of Sorting,searching and hashing

Program	CourseCode	CourseName	COCODE	CO
		Computer Architecture		
Application	CA-C3T		CO1	computer
Application	CA-C6T		CO2	Learn the Basic organization and design of computer
Application	CA-C6T		CO3	Understanding the Micro-operations and register transfer
Application	CA-C6T		CO4	Delibrate the concept of Memory system

Program	CourseCode	CourseName	COCODE	CO
		JAVA Programming		
Application	CA67T		CO1	and classes
Application	CA67T		CO2	Learn Inheritance and Polymorphism

Application	CA67T		CO3	Understand the different events and GUI Programming
Application	CA67T		CO4	Learn multithreading in java

Program	CourseCode	CourseName	COCode	CO
Application	CA-C8T	DBMS	CO1	Learn Databases abd Database users,Data models
Application	CA-C8T		CO2	Learn Data modeling using ER model
Application	CA-C8T		CO3	Understand the concept of Relational Algebra,SQL
Application	CA-C8T		CO4	Understanding Transaction processing,Concurrency Control



























