Sr. No.	Department of Computer Technology	
	Third Semester	
1	BECT201T	Applied Mathematics-III
2	BECT202T	Program Logic Design in "C"
3	BECT202P	Program Logic Design in "C" Practical
4	BECT203T	Digital Electronics and Microprocessor
5	BECT203P	Digital Electronics and Microprocessor Practical
6	BECT204T	Social and Ethical Aspects of IT
7	BECT205T	Computer Architecture And Organization
8	BECT206P	Computer Workshop-1 Practical
	Fourth Semester	
1	BECT208T	Discrete Mathematics and Graph Theory
2	BECT209T	Data Structure and Program Design
3	BECT209P	Data Structure and Program Design Practical
4	BECT210T	Advance Microprocessor and Interfacing
5	BECT210P	Advance Microprocessor and Interfacing Practical
6	BECT211T	Theory of Computation
7	BECT2012T	Introduction to Main-Frame Languages
8	BECT213P	Computer Workshop-2 Practical
	Fifth Semester	
1	BECT301T	Object Oriented Modeling
2	BECT301P	Object Oriented Modeling Practical
3	BECT302T	Database Management Systems
4	BECT302P	Database Management Systems Practical
5	BECT303T	Operating System
6	BECT303P	Operating System Practical
7	BECT304T	Design Analysis and Algorithm
8	BECT304P	Design Analysis and Algorithm Practical
9	BECT305T	Data Communication
	Sixth Semester	
1	BECT306T	Computer Graphics
2	BECT306P	Computer Graphics Practical
3	BECT307T	Computer Network
4	BECT307P	Computer Network Practical
5	BECT308T	Software Engineering And Project Management
6	BECT308P	Software Engineering And Project Management Practical
7	BECT309T	Embedded System Design
8	BECT310T	Communicative English & Technical Writing
9	BECT311P	Mini project
	Seventh Semester	
1	BECT401T	Compilers
2	BECT401P	Compilers Practical
3	BECT402T	Artificial Intelligence
4	BECT402P	Artificial Intelligence Practical
5	BECT403T	Advance Database Systems Elective-I
6	BECT404T	Advance Operating System Elective-II

7	BECT405P	Project and Seminar
	Eighth Semester	
1	BECT406T	Data Warehousing and Mining
2	BECT406P	Data Warehousing and Mining Practical
3	BECT407T	Cyber and Information Security
4	BECT407P	Cyber and Information Security
5	BECT408T	Parallel Computing Elective -III
6	BECT409T	Cloud Computing Elective-IV
7	BECT410P	Project

Department of Computer Technology

The department of Computer Technology has framed the following Program Specific Outcomes in consultation with concerned stakeholder and corresponding committees.

PSO1	Graduates should be able to demonstrate the understanding of the conceptual
PSO2	Graduates should be able to develop and manage complex application and system
PSO3	Graduates should to be able to adapt current and new developments in the field of

BE Computer Technology Third Semester	
	Applied Mathematics-III (BECT201T)
CO201.1	Having studied this course, student will have the ability to solve integral equation, integro-differential equations, convolution type integrals, differential
CO201.2	Students will attain considerable level of competence in being able to analyze the frequency response and representation of discrete time system in
CO201.3	Students will have a critical understanding of the methods for evaluation of integrals which provides the solution of numerous boundary value problems
CO201.4	Students will develop a deep understanding of laws of probabilities, random variables, expectations and distributions which provides a
CO201.5	Students will be familiar with the concepts of and applications of contour integration etc. which are useful in the study of numerous other fields of
CO201.6	Students will be able to simplify the power of matrices, system of linear
	Program Logic Design in "C" (BECT202T)
CO202.1	To learn basic programming constructs such as control statements, Arrays and
CO202.2	To study and understand functions of file handling and apply it to design
CO202.3	To learn basics of dynamic memory management and to construct a program that demonstrates effective use of pointers and dynamic memory
CO202.4	To develop the basic understanding of graphic functions and apply it to implement
CO202.5	To study and understand the various problem solving and programming
CO202.6	To get familiar with the paradigm such as procedural and Object Oriented

	Programming.
	Program Logic Design in "C" Practical (BECT202P)
CO202.1	To develop a ability to design algorithms and write programs that demonstrate
CO202.2	To be able to implement programs using various functions of file related
CO202.3	To be able to implement programs using various functions of file related operations. To study and compare different programming paradigm and also
	Digital Electronics and Microprocessor(BECT203T)
CO203.1	To explain the concept and terminology of digital electronics in terms of logic
CO203.2	To understand and examine the structure of various combinational circuits, code
CO203.3	To understand and examine the structure of various sequential circuits, arithmetic
CO203.4	To understand basic architecture of 8 bit microprocessors and its instruction set
CO203.5	To be able to identify and use addressing mode, timing diagram, PSW of any
CO203.6	To be able to understand programming techniques and interrupt structure along
	Digital Electronics and Microprocessor Practical (BECT203P)
CO203.1	To design and verify the logic GATES, De-morgan's law.
CO203.2	To design and examine the structure of various combinational and sequential
CO203.3	To write assembly language program based on arithmetic, looping indexing and
	Social and Ethical Aspects of IT(BECT204T)
CO204.1	To identify and analyze social, legal and ethical issues of IT workers and IT
CO204.2	To understand a professional code of ethics, Internet crime and common types of
CO204.3	To manage Professional Relationships, Freedom of expression and the concept of
CO204.4	To recognize computing and Information Systems that gives rise to social issues
CO204.5	To understand the importance of Software Quality development.
CO204.6	To analyze the issues of Social networking web sites, local and global impact of
	Computer Architecture And Organization (BECT205T)
CO205.1	To understand the organization of a computer system in terms of its main
CO205.2	To know basic operational concept of computer system, its functional units and

CO205.3	To understand the concepts of hardwired and micro program unit and design MPC
CO205.4	To understand binary arithmetic and design of arithmetic and logic units such as
CO205.5	To understand the memory hierarchy and the structure of cache and virtual
CO205.6	To understand different processors i.e., array processor, RISC, CISC,
	Computer Workshop-1 Practical (BECT206P)
CO206.1	To understand the structure of Unix Operating System and learn basic Linux
CO206.2	To learn basic HTML tags and able to develop web pages.
CO206.3	To learn fundamentals of computer networking.
BE Computer Technology Fourth Semester	
	Discrete Mathematics and Graph Theory (BECT208T)
CO208.1	After going through this course, students will understand the concept and language of sets which plays an important role in expressing mathematical ideas as well as concepts of logic theory which is used to verify correctness of
CO208.2	Students will be able to understand the concepts of relation and function, their
CO208.3	Students will understand the basic concepts of graphs, directed graphs, weighted graphs and able to present a graph by matrix. Also understand the properties
CO208.4	Students will be able to understand the statement of group theory and be able to explain the key steps in proofs. They will be able to simplify Boolean
CO208.5	Students will be able to use a combination of theatrical knowledge and independent mathematical thinking to investigate questions if ring theory and
CO208.6	Students will be able to use basic counting techniques and generating function to
	Data Structure and Program Design (BECT209T)
CO209.1	To develop basic understanding of various searching and sorting technique their
CO209.2	To study linear data structures such as stack and queue and to be able to apply it
CO209.3	To study, understand and implement various operations over linked list data
CO209.4	To study and understand the various operations on trees like searching, insertion,
CO209.5	To develop a basic understanding about graphs and to apply graphs related algorithms to solve real life problems such as shortest path, minimum
CO209.6	To know about fundamental concepts of hashing techniques and storage structures

	Data Structure and Program Design Practical (BECT209P)
CO209.1	To implement different sorting and searching techniques using C program.
CO209.2	To study and implement basic operations data structures such as stack, queues and
CO209.3	To analyze and implement different non-linear data structures techniques such as
	Advance Microprocessor and Interfacing (BECT210T)
CO210.1	To understand the generalized architecture of Advanced Microprocessors.
CO210.2	To understand Interfacing of Microprocessors with external peripherals.
CO210.3	To understand interrupt mode, DMA, USART 8251 and interfacing details.
CO210.4	To understand bus controller 8288, bus arbiter, coprocessor, NDP architecture.
CO210.5	To understand of advanced microcontroller 8051 with its instruction set and
CO210.6	To understand pipelining, branch prediction, protecting segment access,
	Advance Microprocessor and Interfacing Practical (BECT210P)
CO210.1	To implement assembly language program using arithmetic and logical
CO210.2	To understand and implement assembly language program using data transfer
CO210.3	To understand the concept of interfacing of 8255 and DAC with 8086
	Theory of Computation (BECT211T)
CO211.1	To develop understanding of the mathematical foundations such as sets, relations,
CO211.2	To learn finite automata and regular languages and to design finite automata,
CO211.3	To learn closure properties of regular languages, context free languages and to develop ability to design push down automata, context free grammar for
CO211.4	To develop ability to design of push down automata for context free languages.
CO211.5	To understand of linear bounded automat automata, Turing machines and to able
CO211.6	To learn recursive and recursively enumerable languages and develop understand
	Introduction to Main-Frame Languages (BECT2012T)
CO212.1	To understand the evolution of mainframes systems and characteristics of
CO212.2	To know the mainframes strengths like security, scalability, reliability, availability etc. in handling mainframe workloads i.e. batch processing and online
CO212.3	To study the buffer management, dataset management, job scheduling and other
CO212.4	To learn the History, Evolution and Features of COBOL programming along

	the JCL.
CO212.5	To understand the different file organizations and different file access methods in
CO212.6	To study the COBOL program interaction with database, COBOL – DB2 program execution (involving precompilation steps) and various ABEND codes to
	Computer Workshop-2 Practical (BECT213P)
CO213.1	To install Linux OS. Understand concept of shell and different usage of
CO213.2	To understand basic concept of shell programming and develop ability to write
CO213.3	To write shell script programs using functions, recursive functions, arrays and strings. To learn how to manage partitions, create make file, bootable USB
BE Computer Technology Fifth Semester	
	Object Oriented Modeling (BECT301T)
CO301.1	To understand fundamentals concepts of object oriented features and introduction
CO301.2	To perceive the concept of Basic Structural Modeling.
CO301.3	To comprehend and construct various basic behavioral, advance behavioral
CO301.4	To recognize abstractions of architectural modeling.
CO301.5	To understand the Unified process and apply the unified process approaches
CO301.6	To realize the significance of Architecture centric process and to develop an
	Object Oriented Modeling Practical (BECT301P)
CO301.1	To understand fundamentals of Rational Rose software, SDLC, SRS.
CO301.2	To construct use case view diagrams and component view diagrams using IBM
CO301.3	To learn the development model and practice the forward and reverse engineering
	Database Management Systems (BECT302T)
CO302.1	To differentiate database systems from file systems by enumerating the features
CO302.2	To demonstrate an understanding of the relational data model and
CO302.3	To analyze an information storage problem and understand the concepts of
CO302.4	To present concept and technology relating to query processing and its query
CO302.5	To understand the concepts of Transaction and Transaction processing.
CO302.6	To present the different issues and technology relating to Concurrency and

	Database Management Systems Practical (BECT302P)
CO302.1	To understand Data Definition and Data Manipulation Languages of relational
CO302.2	To be able to design relational databases for various problems and fabricate
CO302.3	To be able to design and implement PL/SQL procedures for different problems.
	Operating System (BECT303T)
CO303.1	To develop good understanding of the concepts, structure and design of operating
CO303.2	To understand basic concepts process management, inter-process communication
CO303.3	To understand the concept of deadlocks.
CO303.4	To master the concepts of main memory management and virtual memory
CO303.5	To gain knowledge regarding issues related to file system interface and
CO303.6	To understand basics of protection and security mechanisms, disk space
	Operating System Practical (BECT303P)
CO303.1	To make students able to learn different types of operating systems and to make
CO303.2	To be able to write programs using UNIX system calls to implement basic file system related commands of UNIX such as ls, cp etc. To demonstrate the understanding of multithreading concept by developing a multithreaded
CO303.3	To demonstrate understanding of concept of CPU scheduling algorithms, page replacement algorithms and disk scheduling algorithms and their
	Design Analysis and Algorithm (BECT304T)
CO304.1	To study and understand fundamental concepts of mathematics, recurrence
CO304.2	To understand divide and conquer strategy and develop algorithms based on this
CO304.3	To study, understand and analyze standard greedy techniques based algorithms
CO304.4	To understand, design and analyze various dynamic strategies based algorithms.
CO304.5	To develop the basic understanding of various problems based on backtracking
CO304.6	To know the limitations on the time complexity of algorithm and to learn basic
	Design Analysis and Algorithm Practical (BECT304P)
CO304.1	To Implement different searching and sorting techniques and compare their time
CO304.2	To implement and analyze various algorithms based on different algorithm design

	and backtracking.
CO304.3	To study various concepts of NP-Complete theory.
	Data Communication (BECT305T)
CO305.1	To understand and study basic concepts of data transmission and data
CO305.2	To illustrate the signal conversions and analyze the mathematical problems with
CO305.3	To get the knowledge of wired and wireless transmission media and its applications and study of cellular telephony, satellite networks
CO305.4	To study the concepts and the applications of multiplexing and spread spectrum
CO305.5	To understand the use of real time protocol in multimedia application.
CO305.6	To study and evaluation of different data compression techniques used in MP3,
BE Computer Technology Sixth Semester	
	Computer Graphics (BECT306T)
CO306.1	To identify and explain the core concepts of computer graphics, nderstand terminologies used in the graphic
CO306.2	To understand the concept of geometric, mathematical and algorithm concept for
CO306.3	To recognize and evaluate the 2D images and viewing transformation with
CO306.4	To understand 3D graphics, projection, hidden surfaces, line removal algorithms
CO306.5	To understand the concept of line and polygon clipping about convex/concave
CO306.6	To understand OpenGL software and develop applications based on interactive
	Computer Graphics Practical (BECT306P)
CO306.1	To implement the geometric, mathematical, polygon filling, and clipping
CO306.2	To develop programs based on image transformation, viewing transformation and
CO306.3	To understand OpenGL software and develop programs using interactive
	Computer Network (BECT307T)
CO307.1	To analyze the basics of data communications and network architecture, and
CO307.2	To evaluate essential features of specific protocols in the common protocol
CO307.3	To analyze the methodology and the rationale behind addressing, routing, and
CO307.4	To evaluate the various multiplexing and switching methods used in networks.
CO307.5	To evaluate wireless LANs, high-speed digital access, such DSL and cable

CO307.6	To design and build a network using routers.
	Computer Network Practical (BECT307P)
CO307.1	To analyze the basics of data communications and network architecture, and
CO307.2	To provide security using encryption/decryption algorithms.
CO307.3	To design and build a network using Riverbed and NS2.
	Software Engineering And Project Management (BECT308T)
CO308.1	To understand software characteristics and its various software process models.
CO308.2	To understand and examine the various Software Engineering Principles and
CO308.3	To analyze the software model and its design.
CO308.4	To understand the concept of software testing fundamentals and debugging
CO308.5	To identify the quality of software maintenance, project management spectrum
CO308.6	To identify the various risk management strategies.
	Software Engineering And Project Management Practical (BECT308P)
CO308.1	To create SRS and test plan document for software development, draw UML
CO308.2	To demonstrate web testing tool on any test program and implement different test
CO308.3	To evaluate cost estimation and function point of any software, also to draw entity
	Embedded System Design (BECT309T)
CO309.1	To define and explain embedded systems and the different embedded system design technologies, explain the various metrics or challenges in designing
CO309.2	To express tasks and states, semaphores. Clarify about message queues, mailboxes, and pipes. Ability to solve shared data problems that may occur
CO309.3	To understand the concept and applications of Real Time Operating System (RTOS). Task scheduling in Real time operating system, the Real –
CO309.4	To understand the internal architecture of 8051 microcontroller, solve problems based on timers and counters. Interfacing of different peripheral devices
CO309.5	To study the use of RS-232 for communicating with 8051. The concept of
CO309.6	To interface some external peripherals like external memory, keyboard etc. with
	Communicative English and Technical Writing (BECT310T)
CO310.1	will become adept in using functional grammar
CO310.2	would be able to write at workplaces
CO310.3	will be able to draft technical reports and write proposals
CO310.4	will be able to understand the planning and procedure of carrying out

	Work
CO310.5	will become well prepared to face competitive examinations and job interviews
CO310.6	will become dexterous in presentation skills
	Mini project (BECT311P)
CO311.1	To develop an ability to identify, formulate, and design creative solution to real
CO311.2	To demonstrate the knowledge of standard software project management
CO311.3	To be able to demonstrate interpersonal skill.
CO311.4	To develop an ability to work as an individual and in multidisciplinary teams in
CO311.5	To develop recognition of the need for, and an ability to engage in life-long
CO311.6	To be able to effectively demonstrate technical communication skills.
BE Computer Technology Seventh Semester	
	Compilers (BECT401T)
CO401.1	To understand different phases of a compiler and justify their relevance as well as
CO401.2	To learn the top-down and bottom-up parsers and also understand the design of
CO401.3	To comprehend Syntax Directed Translation Schemes and different intermediate
CO401.4	To realize the importance of code optimization phase and the study of various
CO401.5	To apprehend code generation algorithms and its implementation for the
CO401.6	To learn different table management techniques and its usage in various phases of
	Compilers Lab (BECT401P)
CO401.1	To implement lexical analyzer using LEX tool.
CO401.2	To implement top-down and bottom-up parsing techniques.
CO401.3	To implement intermediate code and object code generator using YACC tool
	Artificial Intelligence (BECT402T)
CO402.1	To learn basic concept of AI and various AI search algorithms (Uninformed,
CO402.2	To be able to represent the knowledge into the knowledge base using different
CO402.3	To understand the advanced Artificial Intelligence techniques (Artificial Neural
CO402.4	To be able to understand the learning strategies of the system and the processing
CO402.5	To understand the working of basic working of Game Playing search programs
CO402.6	To be able to analyze probability and fuzzy logic concept to solve a problem.

	Artificial Intelligence Practical (BECT402P)
CO402.1	To implement various AI search algorithms (Uninformed, Informed, Heuristic and
CO402.2	To implement medical diagnosis system using logic form to create knowledge
CO402.3	To study basic concept of computational intelligence and robotics.
	Advance Database Systems Elective-I (BECT403T)
CO403.1	To understand the concepts of Distributed Databases, types, and protocols to
CO403.2	To understand the need of Parallel Databases, various architectures, and query
CO403.3	To be able to understand Object Oriented Databases, concepts of objects, and
CO403.4	To be able to understand XML Databases as industry standard, data exchange
CO403.5	To understand the evolution of Data Warehouses, concepts of schemas and data
CO403.6	To understand the need of security in Databases, types of threats, permissions,
	Advance Operating System Elective-II (BECT404T)
CO404.1	To understand the basic functions and fundamental concerns in design of
CO404.2	To understand and analysis of different mutual exclusion algorithm and their
CO404.3	To study of various deadlock detection and handling techniques and agreement
CO404.4	To understand architecture of distributed file system and shared memory and
CO404.5	To analyze the distributed scheduling algorithm for load balancing and load
CO404.6	To understand basic concepts of synchronous and asynchronous check pointing
	Project and Seminar (BECT405P)
CO405.1	To develop an ability to identify, formulate, and design creative solution to real
CO405.2	To demonstrate the knowledge of standard software project management
CO405.3	To be able to demonstrate interpersonal skill.
CO405.4	To develop an ability to work as an individual and in multidisciplinary teams in
CO405.5	To develop recognition of the need for, and an ability to engage in life-long
CO405.6	To be able to effectively demonstrate technical communication skills.

BE Computer Technology Eighth Semester	
	Data Warehousing and Mining (BECT406T)
CO406.1	To understand architecture and design related issues of data warehouse.
CO406.2	To identify the data mining related common functionality and issues.
CO406.3	To describe and use various classification and clustering algorithms to solve real
CO406.4	To understand and apply various Association rule mining techniques.
CO406.5	To study the web data mining and analyze recent advances in web mining
CO406.6	To demonstrate basic understanding of recent trend of big data technology and
	Data Warehousing and Mining Practical (BECT406P)
CO406.1	To understand the concept of different programming construct and data structures
CO406.2	To design various data warehouse schemas and implement different data mining
CO406.3	To study basics of big data technology recent trends and issues.
	Cyber and Information Security (BECT407T)
CO407.1	To understand need of security in information world, legal and ethical issues, and
CO407.2	To demonstrate concepts of Secret Key cryptography, design principles, types of
CO407.3	To comprehend Public Key cryptographic architecture, prime number theory, theorems and modular arithmetic concepts in design of cipher systems,
CO407.4	To understand concept of message integrity and authentication, hash function
CO407.5	To demonstrate concept of firewalls and types, systems to prevent or detect
CO407.6	To understand different types of software vulnerabilities, remedies, card
	Cyber and Information Security (BECT407P)
CO407.1	To be able to design and implement encryption algorithms.
CO407.2	To be able to design and implement message digest and key management
CO407.3	To design and implement the software vulnerabilities and to be able to make use
	Parallel Computing Elective -III (BECT408T)
CO408.1	To understand parallel computing models, tools and its components.
CO408.2	To understand various types of dependencies in parallel processing environment and investigate parallel algorithm for dependencies and the study of
CO408.3	To understand and analysis of different parallel computing algorithms.
CO408.4	To understand message passing technique and to develop ability to

	message passing programs under parallel programming architecture.
CO408.5	To understand various debugging techniques for message passing and shared
CO408.6	To understand the different techniques for memory and I/O subsystem and evaluation of parallel programming architecture and performance of
	Cloud Computing Elective-IV (BECT409T)
CO409.1	To understand basic concepts of cloud computing technologies, architecture and
CO409.2	To evaluate the key trade-offs between multiple approaches to cloud system design and identify appropriate design choices when solving real-world
CO409.3	To perceive big data analysis and its application using Hadoop.
CO409.4	To comprehend security in cloud, challenges in cloud computing and different
CO409.5	To apprehend object oriented concepts in C#.NET, and application development
CO409.6	To develop small cloud applications and understand deployment issues.
	Project (BECT410P)
CO410.1	To develop an ability to identify, formulate, and design creative solution to real
CO410.2	To demonstrate the knowledge of standard software project management
CO410.3	To be able to demonstrate interpersonal skill.
CO410.4	To develop an ability to work as an individual and in multidisciplinary teams in
CO410.5	To develop recognition of the need for, and an ability to engage in life-long
CO410.6	To be able to effectively demonstrate technical communication skills.