BACHELOR OF COMPUTER APPLICATIONS

COURSE OUTCOME

Sr. No.	Course Name	Course Code	Course Outcome
1	Business and Technical Communication Skills	1101	**CO1:** To learn the basics of English grammar **CO2:** To learn to create sentences in English and basic techniques for appearing the GD and Interviews **CO3:** To learn basics of letter writing **CO4:** To learn to write different types of applications and report writing techniques.
2	Principles and Practice of Accounting	1102	**CO1:** Acquire conceptual knowledge of basics of accounting **CO2:** To understand the basics of Journal entries and ledger entries. **CO3:** To learn to prepare the different types of documents for accounting **CO4:** To learn to maintain the accounts of a business
3	Introduction to Programming and Problem Solving using C	1103	**CO1:** To understand the concept of program and its development procedure. **CO2:** To understand the concept of algorithms and Flowcharts for solving problems **CO3:** To understand the use of the C programming language to implement various algorithms, and develops the basic concepts and terminology of programming in general. **CO4:** Introduces the more advanced features of the C language
4	Computer Fundamentals and Operating Systems	1104	**CO1:** To introduce computer and its parts **CO2:** To understand the types of computers **CO3:** To understand the Concept of Operating system **CO4:** To understand the concept of memory management by Operating System
5	Problem Solving using C Lab	1201	**CO1:** To understand the concept of control statements in programming **CO2:** To learn the implementation of different operators and functions in C Programming Language **CO3:** To describe the files processing mechanism in C **CO4:** To develop programs using functions
6	GNU / Linux LAB	1202	**CO1:** To learn the basics of Unix Operating System **CO2:** To understand the file structure of Unix **CO3:** To learn the working of vi editor **CO4:** To perform shell scripting

7	INTRODUCTION TO LOGIC CIRCUITS AND DIGITAL DESIGN	2101	**CO1:** Able to perform the conversion among different number systems; Familiar with baisc logic gates -- AND, OR & NOT, XOR, XNOR; Independently or work in team to build simple logic circuits using basic. **CO2:** Understand Boolean algebra and basic properties of Boolean algebra; able to simplify simple Boolean functions by using the basic Boolean properties. C03: To understand the concept of combinational Circuits **CO4:** Familiar with basic sequential logic components: SR Latch, D Flip-Flop and their usage and able to analyze sequential logic circuits.
8	DISCRETE STRUCTURES AND GRAPH THEORY	2102	**CO1:** Define and relate basic notions in set theory **CO2:** Define and classify binary relations **CO3:** To understand the concept of permutation and combination **CO4:** Apply algorithms and theorems from graph theory on solving problems
9	ADVANCED C	2103	**CO1:** To learn the concept of creating multiple variables using arrays **CO2:** To understand the concept of pointers. **CO3:** To learn the mechanism of storage in C **CO4:** To describe the mechanism of graphics using C
10	ENVIRONMENTAL SCIENCE & RTI	2104	**CO1:** To understand the various energy recourses **CO2:** To make aware of different types of pollutions and issues caused by them. **CO3:** To make aware of disposable of e-waste. **CO4:** To understand the RTI and its mechanism.
11	ADVANCED C LAB	2201	**CO1:** To develop the programs using arrays and to implement the concept of pointers **CO2:** To understand and to develop the programs for memory management **CO3:** To develop program for file handling **CO4:** To develop the programs for computer graphics using C language.
12	OPEN SOURCE OPERATING SYSTEM AND APPLICATIONS SOFTWARE'S LAB*	2202	**CO1:** To learn the installation and management of Linux OS. **CO2:** To learn the installation and configuration of PHP **CO3:** To learn the installation and configuration of MySql **CO4:** To learn to develop programs using PHP and

			create database using MySql
13	Introduction to Microprocessor	3101	**CO1:** Understand the history and overview of microprocessors. **CO2:** Study the 8085 microprocessor with its architecture and pin out diagram. **CO3:** Understand the 8085 microprocessor programming and interrupt concept. **CO4:** Study I/O interface of 8237 and 8251 microprocessor. Overviewed different microprocessors and different types of memory.
14	Numerical Methods and Algorithms	3102	**CO1:** Understand the problem solving methods of linear and non-linear equations. **CO2:** Understand the interpolation using different methods. **CO3:** Study numerical integration of equation with different rules and formula. **CO4:** Implement numerical solution of differential and partial differential equations with different methods.
15	Computer Organization and Architecture	3103	**CO1:** Understand the computer structure with its components, instruction cycle and interrupts. **CO2:** Recognize the internal and external memory with its characteristics and different models. **CO3:** Understand the I/O modules, I/O channels and processes. Understand the DMA concept. **CO4:** Study advanced architecture of system with parallel processing models and RISC and CISC.
16	File Structure and Database Management System	3104	**CO1:** Understand the record organization in file, overview of indexing and hashing with their types. **CO2:** Understand the query processing overview, query expression and optimization. **CO3:** Understand the concept of transaction with states, properties and operations. Understand the schedule with its types. **CO4:** Understand the lock concept with its types and conversion. Understand deadlock handling and different protocols.

17	Microprocessor Lab	3201	**CO1:** Successfully run the programs to find the addition and subtraction of 8 bit and 16 bit numbers. **CO2:** Successfully run the programs to find the addition and subtraction of 8 bit and 16 bit BCD numbers. **CO3:** Successfully run the programs to find maximum and minimum numbers in array and sort numbers in ascending and descending order. **CO4:** Successfully run programs to convert HEX numbers to BCD. Study hardware and software interrupts.
18	Database Management System LAB	3202	**CO1:** Understand to create table and database using query. **CO2:** Study operations of database using query. **CO3:** Implemented nested query and understand to alter table. **CO4:** Understand Normalization and multi table query execution.
19	DATA STRUCTURES AND FILE ORGANISATION	4101	**CO1:** Understand the concept of various data structures, its classification and array. **CO2:** Understand basic concept, implementation, types and operations of data structures - Linked List, Stack, Queue **CO3:** Understand basic concept, terminology and traversals of Tree and Graph data structures. Apply Algorithm for solving problems like sorting, searching of data. **CO4:** Understand different ways of organization of file, operations of files, the hash function and its types.
20	INFORMATION SYSTEMS ANALYSIS AND DESIGN	4102	**CO1:** Understand the system concept, its development phases with different roles. **CO2:** Understand the feasibility analysis, information requirement analysis and normalization. **CO3:** Understand the tools of SSAD, system design models. **CO4:** Understand different development methodologies, testing methods with case studies.

21	INTRODUCTION TO SOFTWARE ENGINEERING	4103	**CO1:** Understand the software engineering methods, layers and process framework. Study of different software development life cycle model. **CO2:** Understand the software project planning, different cost estimation techniques, different software scheduling methods, software prototyping. **CO3:** Understand different software development levels with detail overview and methods. **CO4:** Understand different software management activity, product assurance concepts and configuration management.
22	OBJECT ORIENTED PROGRAMMING USING C++	4104	**CO1:** Understand the procedural and object oriented paradigm with concepts of streams, variables, functions, control statements. **CO2:** Understand dynamic memory management techniques using pointers, constructors, destructors, etc **CO3:** Understand the concept of Operator overloading, Inheritance, Virtual functions with programs. **CO4:** Understand the unformatted I/O operations, File handling concepts.
23	DATA STRUCTURES LAB	4201	**CO1:** Understand the array operations and singly linked list implementation with programs. **CO2:** Study doubly and circular linked list and stack operations using programs. **CO3:** Study queue implementation, operations of queue and tree traversals using programs. **CO4:** Implemented graph traversals, searching and sorting Algorithms using programs.
24	OBJECT ORIENTED PROGRAMMING C++ LAB	4202	CO1 : To understand the concept of I/O operators, data types, variables, functions, various decision control Statements using programs. **CO2:** Understand the object oriented paradigm with concepts of classes, functions and objects. Understand different types of constructors with programs. **CO3:** Demonstrate the operator overloading and inheritance concepts and its types with the help of programs.

			CO4: Understand the console I/O operations and file handling methods with the help of programs.
25	Data Communication and Networking	5101	**CO1:** Understand the concepts of communication, transmission and modulation. **CO2:** Understand the concepts of transmission media, multiplexing and channel allocation. **CO3:** Understand the fundamental of networking, network models etc **CO4:** Understand the network issues, types of services and collisions.
26	Java Programming	5102	**CO1:** Understand the overview of java language by variables, arrays, operators, classes, objects, constructors and their methods. **CO2:** Understand method overloading, inheritance, overriding, exception handling and special features of java. **CO3:** Understand the overview of threading, multithreading, I/O applets, applet initialization, termination with programs. **CO4:** Understand the overview of java library, networking, collection interface, AWT and layout managers with programs.
27	Visual and Database Programming	5103	**CO1:** Understand the .net framework, its architecture and different environment tabs. **CO2:** Understand VB.NET language with variables, arrays, functions, control flow statements etc **CO3:** Understand .net framework components with their properties, methods and events. Overview of object oriented programming and OLE with components. **CO4:** Understand database programming with ADO.NET. Successfully fetched records from database and Report generated from database.
28	Internet Programming	5104	**CO1:** Understand HTTP overview, session management, cookies etc **CO2:** Understand the concepts of web server and their security managements. **CO3:** Understand the structure and presentation of HTML document.

			CO4: Understand JavaScript and advanced JavaScript in detail.
29	JAVA Programming LAB	5201	**CO1:** Understand the java language with classes, objects, array, control statements, constructors and their methods by running java programs. **CO2:** Understand method overloading, overriding and special features of java with programs. **CO3:** Implemented exception handling, threading and I/O applet functions with programs. **CO4:** Understand and run java programs of implementation of Applet, implementation of string handling functions, implementation of AWT with different methods.
30	Internet Programming Lab	5202	**CO1:** Successfully created HTML document with Tables, Frames using different tags layout. **CO2:** Successfully run a HTML program using JavaScript with variables, control structures and popup boxes. **CO3:** Understand object based programming and run programs with function objects. **CO4:** Understand JavaScript and Successfully run programs of JavaScript with HTML.
31	Management Information System	6101	**CO1:** Understand the concepts of systems, Information system, information, their types, collection methods etc. **CO2:** Understand the MIS, its overview, subsystems, and hierarchy of management activity. **CO3:** Understand the levels of management, decision making concepts. **CO4:** Understand to develop information system, pitfalls in MIS development and functional MIS.
32	Enterprise Resource Planning	6102	**CO1:** Understand the detail overview of ERP, ERP business engineering. **CO2:** Understand the business engineering with IT, ERP with IT, ERP with management. **CO3:** Understand the business model for ERP, ERP implementation. **CO4:** Understand the ERP and competitive strategy, their guidelines.

33	Intelligent Property Rights, Patents and Cyber Laws	6103	**CO1:** Understand the concept of intelligent property rights, Information Technology Related Intellectual Property Rights, database, semiconductor chips and domain name protection. **CO2:** Understand the concept of Patents, copyright, trademark and designs with ownership and enforcement. **CO3:** Understand the Enforcement of Intellectual Property Rights, cyber law and law of digital contracts. **CO4:** Understand the concept of Information Technology Act 2000, Intellectual Property Issues in Cyber Space, Cyber Law Issues for Management.
34	Elective-3 Web Technology	6104	**CO1:** To understand the working of HTTP protocol. **CO2:** To learn the structure and various tags of HTML. **CO3:** To understand the architecture of CGI and to introduce ASP programming. **CO4:** To understand the installation and configuration of Apache Tomcat server.
35	Project	6201	**CO1:** To learn to collect the requirements of the software project **CO2:** To do analysis of the software requirements and finalize them. **CO3:** To prepare the various designs of the software project. **CO4:** To Develop, test and prepare the final project report