SHRI DHARMASTHALA MANJUNATHESHWARA
COLLEGE OF BUSINESS MANAGEMENT
MANGALURU – 575 003 (DAKSHINA KANNADA)
Office : 0824-2494186
Principal : 0824-2496980
NAAC Reaccredited (2017) with 'A' Grade
Fax : 0824-2494186
Email : sdmcbm@sdmcbm.ac.in
Website : www.sdm.ac.in

BACHELOR OF COMPUTER APPLICATIONS (B.C.A.)

COURSE OUTCOMES

CREDIT BASED SEMESTER SYSTEM (CBSS)

(2012-13 Batch onwards)

COURSE OUTCOMES (COs)
FIRST SEMESTER

Semester	**I SEMESTER**
Subject	**GENERAL PROFICIENCY AND COMMUNICATIVE ENGLISH**
Code	**BCAENL 103**
Learning Objectives	1. To enable the learner to communicate in real-life situations effectively and appropriately. 2. To use English effectively throughout the curriculum for study purposes. 3. To develop interest in and appreciation of Literatur**e.** 4. To develop and integrate the use of the four language skills i.e., reading, listening, speaking andwriting.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Learn reading with comprehension which help the learners to acquire new vocabulary andcontent. **CO2:** Read with correct pronunciation, stress, intonation, pause and articulation of voice. **CO3:** Analyze the various elements of poetry, such as diction, tone, form, genre, imagery, figuresof speech, symbolism, and theme. **CO4:** Critically examine the value and standard of the poem. **CO5:** Acquire and improve their skills in the four literacy methods: writing, talking, reading andlistening. **CO6:** Increase their awareness of the correct use in writing and speaking of English grammar.

Semester	**I SEMESTER**
Subject	**KANNADA**
Code	**BCAKAL 103**
Learning Objectives	ಗಣಕ ಕ್ಷೇತ್ರದಲ್ಲಿ ಕನ್ನಡವನ್ನು ಪರಿಣಾಮಕಾರಿಯಾಗಿ ಬಳಸುವುದಕ್ಕೆ ಹಾಗೂ ತಿಳಿದುಕೊಳ್ಳುವಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳನ್ನು ಸಜ್ಜುಗೊಳಿಸುವುದು
Learning Outcomes	ಕನ್ನಡ ಕಲಿಕೆಯಿಂದ ಗಣಕ ನಿಕಾಯದ ವಿದ್ಯಾರ್ಥಿಗಳು ಪಡೆಯುವ ಪ್ರಯೋಜನ: **CO1:** ಗಣಕ ಕ್ಷೇತ್ರದಲ್ಲಿ ಕನ್ನಡವನ್ನು ಪರಿಣಾಮಕಾರಿಯಾಗಿ ಬಳಸುವುದಕ್ಕೆ ಹಾಗೂ ತಿಳಿದುಕೊಳ್ಳುವಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ಸಜ್ಜಾಗುವರು. **CO2:** ಇಂದಿನ ತಂತ್ರಜ್ಞಾನ ಯುಗದಲ್ಲಿ ಅಗತ್ಯವಾದ ಕನ್ನಡವನ್ನು ರೂಪಿಸಿ, ಗಣಕ ಕ್ಷೇತ್ರಕ್ಕೆ ಬೇಕಾದ ತಾಂತ್ರಿಕ ವಿಷಯಗಳನ್ನು, ಪರಿಭಾಷೆಯನ್ನು ಕನ್ನಡದಲ್ಲಿ ತಿಳಿದುಕೊಳ್ಳುವರು. **CO3:** ವಿದ್ಯುನ್ಮಾನ ಯುಗದಲ್ಲಿ ಸಾಹಿತ್ಯದಿಂದ ವಿಮುಖರಾಗುತ್ತಿರುವ ಯುವ ಪೀಳಿಗೆಗೆ ಸಾಹಿತ್ಯದೆಡೆಗೆ ಒಲವು ಮೂಡುವಂತೆ ಮಾಡುವುದು.

Semester	**I SEMESTER**
Subject	**HINDI**
Code	**BCAHDL 103**
Learning Objectives	1. अवकाश के सदुपयोग का उद्देश्य 2. जीविकोपार्जन का उद्धेश्य
Learning Outcomes	**CO1:** कहानी के माध्यम से जीवन की वास्तविकता और आदर्श का चिंतन। **CO2:** हिन्दी कहानी के बारे में जानकारी प्राप्त होगी। **CO3:** परिवेश सृजन और रचनात्मक अभिव्यक्ति।

Semester	**I SEMESTER**
Subject	**FUNDAMENTALS OF INFORMATION TECHNOLOGY**
Code	**BCACAC 103**
Learning Objectives	To impart the knowledge about the evolution of computers, classification, various peripherals of computers, types of softwares etc.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Identify various devices and their working principles. **CO2:** Use various features of word document. **CO3:** Create power point presentation with variety of animation and transition. **CO4:** Manipulate spreadsheet viz., how to use the formula easily, designing the graph, filtering. **CO5:** Design database, insert records and querying in various ways.

Semester	**I SEMESTER**
Subject	**PROGRAMMING IN C**
Code	**BCACAC 104**
Learning Objectives	1. To develop skills in solving problems. 2. To obtain knowledge about the structure of the programming language C. 3. To develop the logical thinking and program writing skill.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Understand the basic procedure of algorithm and flowchart which are basic concepts aprogrammer needs to know. **CO2:** Know about decision making and looping concepts. **CO3:** Know the meaning and advantages of using arrays. **CO4:** Apply programming knowledge to create solutions to challenging problems, includingspecifying, designing, implementing and validating solutions for new problems. **CO5:** Design structures and file related programs.

Semester	I SEMESTER
Subject	**COMPUTER ORGANIZATION**
Code	**BCACAC 105**
Learning Objectives	1. To introduce the number system and Boolean algebra. 2. To enable the students to understand the design components of a digital subsystem that requiredfor realizing the various components such as Register, Counter etc.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1**: Solve the problems in various number systems. **CO2**: Simplify the Boolean expressions by applying various postulates and theorems. **CO3**: Design and verify the truth table of Components of Computer System like logical gates usingUniversal gates. **CO4**: Design combinational circuits such as adders, comparator, multiplexer, decoder, subtract oretc. **CO5**: Design the sequential circuit such as registers and various counters.

Semester	I SEMESTER
Subject	**FIT LAB**
Code	**BCACAC 106**
Learning Objectives	1. To learn MS Office Applications. 2. To learn document creation in MS Word, MS Excel, MS PowerPoint and MS Access.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1**: Create a word document with in various formats including images and columns. **CO2:** Mailing letter to multiple addresses. **CO3:** Create a spreadsheet with formulae, charts, filtering etc. **CO4**: Prepare a presentation using Power point. **CO5**: Design Database and accessing it according to the user request.

Semester	I SEMESTER
Subject	**C PROGRAMMING LAB**
Code	**BCACAC 107**
Learning Objectives	To learn the programming logic for problems with decision making, looping, arrays, structures andfiles.
Learning Outcomes	Upon the completion of this course, the students will be able to write programs with: **CO1:** Simple logic involving if, switch, for and while loops. **CO2:** Single- and two-dimensional arrays. **CO3:** User defined and recursive functions. **CO4:** Pointer concepts. **CO5:** Structures and files.

Semester	**I SEMESTER**
Subject	**CONSTITUTION OF INDIA**
Code	**BCACIF 102**
Learning Objectives	To enable the students to: 1. Acquire a complete and detailed understanding on Constitution of India. 2. Elicit the knowledge on Constitutional issues and concerns.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Understand the principle and structure of the Constitution of India. **CO2:** Generate Awareness on Fundamental Rights and Fundamental Duties. **CO3:** Enrich the knowledge on Constitutional Functionaries of the state. **CO4:** Understand the organization and Structure of Central / State Government. **CO5:** Develop insight on Role of Judiciary in India.

SECOND SEMESTER

Semester	**II SEMESTER**
Subject	**GENERAL PROFICIENCY AND COMMUNICATIVE ENGLISH**
Code	**BCAENL 153**
Learning Objectives	1. To enable the learner to communicate in real-life situations effectively and appropriately. 2. To use English effectively throughout the curriculum for study purposes. 3. To develop interest in and appreciation of Literature. 4. To develop and integrate the use of the four language skills i.e., reading, listening, speaking andwriting.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Learn reading with comprehension which help the learners to acquire new vocabulary andcontent **CO2:** Read with correct pronunciation, stress, intonation, pause and articulation of voice. **CO3:** Analyze the various elements of poetry, such as diction, tone, form, genre, imagery,figures of speech, symbolism, and theme. **CO4:** Critically examine the value and standard of the poem. **CO5:** Acquire and improve their skills in the four literacy methods: writing, talking, reading andlistening. **CO6:** Increase their awareness of the correct use in writing and speaking of English grammar.

Semester	**II SEMESTER**
Subject	**KANNADA**
Code	**BCAKAL 153**
Learning Objectives	ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಮೂಲಕ ಇಂದಿನ ತಂತ್ರಜ್ಞಾನಕ್ಕೆ ಅನುಗುಣವಾಗಿ, ಗಣಕ ನಿಕಾಯದ ವಿಧ್ಯಾರ್ಥಿಗಳಿಗೆ ಗಳಿಗೆ ಬೇಕಾದ ತಾಂತ್ರಿಕ ವಿಷಯಗಳನ್ನು, ಅದರ ಪರಿಭಾಷೆಯಲ್ಲಿ ತಿಳಿಸುವುದು
Learning Outcomes	**CO1:** ಗಣಕ ಕ್ಷೇತ್ರದಲ್ಲಿ ಕನ್ನಡವನ್ನು ಪರಿಣಾಮಕಾರಿಯಾಗಿ ಬಳಸುವುದಕ್ಕೆ ಹಾಗೂ ತಿಳಿದುಕೊಳ್ಳುವಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ಸಜ್ಜಾಗುವರು. **CO2:** ಇಂದಿನ ತಂತ್ರಜ್ಞಾನ ಯುಗದಲ್ಲಿ ಅಗತ್ಯವಾದ ಕನ್ನಡವನ್ನು ರೂಪಿಸಿ, ಗಣಕ ಕ್ಷೇತ್ರಕ್ಕೆ ಬೇಕಾದ ತಾಂತ್ರಿಕ ವಿಷಯಗಳನ್ನು, ಅದರ ಪರಿಭಾಷೆಯನ್ನು ಕನ್ನಡದಲ್ಲಿ ತಿಳಿದುಕೊಳ್ಳುವರು. **CO3:** ವಿದ್ಯುನ್ಮಾನ ಯುಗದಲ್ಲಿ ಸಾಹಿತ್ಯದಿಂದ ವಿಮುಖರಾಗುತ್ತಿರುವ ಯುವ ಪೀಳಿಗೆಗೆ ಸಾಹಿತ್ಯದೆಡೆಗೆ ಒಲವು ಮೂಡುವಂತೆ ಮಾಡುವುದು, ಹಾಗೂ ಕನ್ನಡದ ಬಗೆಗೆ ಒಲವು ವ್ಯಕ್ತಪಡಿಸುವರು

Semester	**II SEMESTER**
Subject	**HINDI**
Code	**BCAHDL 154**
Learning Objectives	1. छात्रों के चरित्र का उद्देश्य 2. किसी भी परिस्थिति या वातावरण के समयोजना का उद्देश्य
Learning Outcomes	**CO1:** कविता के विविध रूप का परिचय मिलना **CO2:** व्यवहारिक हिन्दी का परिचय मिलना **CO3:** भाषा कौशल का निर्माण

Semester	**II SEMESTER**
Subject	**BASICS OF NETWORKING**
Code	**BCACAC 203**
Learning Objectives	To learn about constructing networks, its communication standards, various topologies, components,protocols and networking addressing.
Learning Outcomes	Upon the completion of this course, the students will be able to **CO1:** Understand Network Topologies and LAN Components. **CO2:** Understand LAN Protocols and Network Addressing. **CO3:** Understand WAN hardware and protocols. **CO4:** Understand Network Operating Systems.

Semester	**II SEMESTER**
Subject	**OBJECT ORIENTED PROGRAMMING USING C++**
Code	**BCACAC 204**
Learning Objectives	To learn the concept of Object-Oriented Programming and Create Software applications using OOPsConcept in C++.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Realize the various operators statements used in C++. **CO2:** Create class and objects with constructors, destructors, friend functions etc. **CO3:** Know the concepts such as Operator overloading, inheritance, containership etc. **CO4:** Apply the major object-oriented concepts to implement object-oriented programs in C++. **CO5:** Learn any other OOP language such as Java, C# easily.

Semester	**II SEMESTER**
Subject	**DATABASE CONCEPTS AND ORACLE**
Code	**BCACAC 205**
Learning Objectives	1. To provide knowledge about RDBMS Concepts, SQL Concepts and PL / SQL Programming and database normalization . 2. To learn theory involved in data models and query Languages.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Describe data models and schemas in DBMS. **CO2:** Understand the features of database management systems and Relational database. **CO3:** Demonstrate the relational data model and use of SQL. **CO4:** Know the functional dependencies and use of SQL solutions to a broad range of query anddata update problems. **CO5**: Apply the concepts such as procedures, triggers, cursors and packages in a PL / SQL program.

Semester	**II SEMESTER**
Subject	**C++ PROGRAMMING LAB**
Code	**BCACAC 206**
Learning Objectives	1. To create classes and objects with constructors, destructors, friend functions etc. 2. To implement the concepts such as Operator overloading, inheritance, containership, etc.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Create programs with classes and objects. **CO2:** use member functions and friend functions. **CO3:** Write programs for real world problems. **CO4:** Illustrate operator overloading concepts. **CO5:** Write programs applying various types of inheritance.

Semester	**II SEMESTER**
Subject	**ORACLE LAB**
Code	**BCACAC 207**
Learning Objectives	1. To provide knowledge about RDBMS Concepts, SQL Concepts and PL/SQL Programming anddatabase normalization. 2. To implement different types of data models and query Languages.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1**: Describe data models and schemas in DBMS. **CO2**: Understand the features of database management systems and Relational database. **CO3**: Demonstrate the relational data model and use of SQL. **CO4**: Know the functional dependencies and use of SQL solutions to a broad range of query anddata update problems. **CO5**: Apply the concepts such as procedures, triggers, cursors and packages in a PL/SQL program.

Semester	**II SEMESTER**
Subject	**HUMAN RIGHTS, GENDER EQUITY AND ENVIRONMENT STUDIES**
Code	**BCAHGE 152**
Learning Objectives	To enable the students to: 1. Acquire awareness on issues and concerns pertaining to Human Rights. 2. Enhance citizenship sensitivity and initiatives. 3. To understand the basic concepts of Gender Equity. 4. To generate awareness on gender related issues and violence. 5. To enrich the knowledge on environmental studies. 6. To create awareness on Environmental Pollution, Resource Conservation and Management.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Enrich the knowledge on Human Rights and Human Values. **CO2:** Promote and protect Human Rights in India. **CO3:** Generate awareness on Gender Inequity, Gender Discrimination, Gender Violence. **CO4:** Gain knowledge on measures adopted and implemented for Gender Equity. **CO5:** Enrich the knowledge on Environment, Environmental Pollution, Legislative measures, etc.

THIRD SEMESTER

Semester	**III SEMESTER**
Subject	**MICROPROCESSOR**
Code	**BCACAC 302**
Learning Objectives	To learn architecture of 8086 microprocessor, various addressing modes, instruction sets andcreating the procedures.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Understand the various registers available in 8086 microprocessors. **CO2:** Know the purpose of various addressing modes such as data movement, program memory,and stack memory addressing modes. **CO3:** Perform computations using various instruction sets such as data transfer, ALU, branching,looping etc. **CO4:** Writing the procedures using above mentioned registers and instructions.

Semester	**III SEMESTER**
Subject	**DATA STRUCTURES**
Code	**BCACAC 303**
Learning Objectives	To learn about - 1. Choosing the appropriate data structure and algorithm design method for a specified application. 2. Systematic way of solving problems and various methods of organizing large amounts of data
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Demonstrate various methods of organizing large amounts of data. **CO2:** Choose the appropriate data structure to solve a programming problem. **CO3:** Apply various sorting and searching techniques. **CO4:** Understand the operations can be performed with stacks, queues, trees, linked lists andgraphs. **CO5:** Implement these data structures using C language. **CO6:** Analyze the graphs and their applications.

Semester	**III SEMESTER**
Subject	**OPERATING SYSTEMS**
Code	**BCACAC 304**
Learning Objectives	To learn - 1. The purpose, role, structure, functions and application of operating systems. 2. The Services provided by the operating systems. 3. Linux file system and commands
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Analyze the structure of OS. **CO2:** Understand the basic architectural components involved in designing OS **CO3:** Analyze the various resource management techniques. **CO4:** Conceptualize the components involved in designing a contemporary OS. **CO5:** Apply the basic commands of Linux Operating system.

Semester	**III SEMESTER**
Subject	**DATA MINING**
Code	**BCACAC 305**
Learning Objectives	1. To introduce the basic concepts and techniques of Data Mining. 2. To study the methodology of engineering legacy databases for data warehousing anddata mining to derive. 3. To learn Business rules for decision support systems 4. To develop and apply critical thinking, problem-solving, and decision-making skills.
Learning Outcomes	Upon the completion of this course, the students will be able to know: **CO1:** Various Data Mining concepts, Association rules and Clustering techniques. **CO2:** Web mining Concepts & Decision tress. **CO3:** Clustering algorithms **CO4:** How to select and implement data mining techniques suitable for the applicationsunder consideration

Semester	**III SEMESTER**
Subject	**8086 MP PROGRAMMING LAB**
Code	**BCACAC 306**
Learning Objectives	1. To learn 8086 instructions sets and codes practically.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Use of computer registers and its instructions. **CO2:** Execution of interrupts. **CO3:** Solve string related problems **CO4:** Know the use of procedures.

Semester	**III SEMESTER**
Subject	**OPERATING SYSTEM AND DATA STRUCTURE LAB**
Code	**BCACAC 234**
Learning Objectives	To learn - 1. Various Linux OS commands and Shell scripts 2. The applications of various data structures in technologies.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Create and remove folders and files, copy and rename files, searching a pattern in a file. **CO2:** Grant and remove privileges to the users for the files, creating groups. **CO3:** Execute simple file-oriented shell scripts. **CO4:** Sort and search the objects using various techniques. **CO5:** Use queue, stack, and linked list with various basic operations. **CO6:** Acquainted with various operations on binary tree.

FOURTH SEMESTER

Semester	**IV SEMESTER**
Subject	**COMPUTER GRAPHICS AND MULTIMEDIA**
Code	**BCACAC 401**
Learning Objectives	To learn about various technologies in computer graphics, animation and virtual reality system.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Draw primitive graphical shapes using existing built-in functions. **CO2:** Apply various algorithms to draw lines, circles and ellipses. **CO3:** Implement basic transformation such as translation, scaling and rotation using matrices. **CO4:** Perform Point clipping, line and polygon clipping. **CO5:** Know applications of Virtual reality system.

Semester	**IV SEMESTER**
Subject	**VISUAL BASIC .NET PROGRAMMING**
Code	**BCACAC 402**
Learning Objectives	To learn about open networks, various layers, routing the datagrams and various protocols used
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Understand layering system in open networks **CO2:** Identify IP addresses and MAC addresses. **CO3:** Know the various protocols in message passing **CO4:** Learn how the data will be transferred between the networks.

Semester	**IV SEMESTER**
Subject	**PRINCIPLES OF TCP / IP**
Code	**BCACAC 403**
Learning Objectives	To provide in-depth knowledge of network Security, Database Security, information Securityand Security laws.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Understand Various factors driving the need for network, Database and informationsecurity. **CO2:** Realize the Physical points of vulnerability in a network. **CO3:** Know the Basic cryptography Concepts. **CO4:** Gain the knowledge of Network Security Management. **CO5:** Use secured Internet banking system.

Semester	**IV SEMESTER**
Subject	**E-COMMERCE**
Code	**BCACAC 404**
Learning Objectives	To learn - 1. Concepts and principles E-commerce. 2. Modern technologies used to simplify business and banking processes through e- commerce. 3. Provision of E-commerce services, infrastructure, frameworks of web based and mobile systemsfor E-Commerce applications.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Understand the principles and practice of Electronic Commerce. **CO2:** Realize the components, functions and roles of the Electronic Commerce environment. **CO3:** Know about the E-Commerce payment systems. **CO4:** Practice the E-Commerce applications with secured transactions.

Semester	**IV SEMESTER**
Subject	**SYSTEM ANALYSIS AND DESIGN**
Code	**BCACAC 405 (E1.3)**
Learning Objectives	To study information system environment, designing various models and various design phases
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Understand concept of system analysis. **CO2:** Identify the role of System Analyst. **CO3:** Manage various techniques for requirement determination and specification. **CO4:** Design system development life cycle.

Semester	**IV SEMESTER**
Subject	**COMPUTER GRAPHICS AND ANIMATION LAB**
Code	**BCACAC 406**
Learning Objectives	To apply and learn various algorithms in computer graphics
Learning Outcomes	Upon the completion of this course, the students will be able to implement Programs: **CO1:** With built in functions to draw primitive graphics shapes. **CO2:** To draw lines, circles, ellipses using algorithms. **CO3:** For clipping operations. **CO4:** For various transformations. **CO5:** For any given problem using graphics methods

Semester	**IV SEMESTER**
Subject	**VB .Net Lab**
Code	**BCACAC 407**
Learning Objectives	To learn - 1. Programming with graphical interface using object-oriented concept. 2. Designing forms. 3. Database connectivity as back-end with VB interface.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Create interface including various tools available. **CO2:** Write the event driven procedures by identifying the suitable events. **CO3:** Create VB .Net forms with connectivity to the databases. **CO4:** Write console application. **CO5:** Design working interfaces for any applications.

FIFTH SEMESTER

Semester	**V SEMESTER**
Subject	**SOFTWARE ENGINEERING**
Code	**BCACAC 501**
Learning Objectives	1. To prepare students for successful careers in software engineering. 2. To develop skills in software development systematically.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Understand the various software development process models. **CO2:** Design DFD. **CO3:** Apply function-oriented design. **CO4:** Use various testing tools. **CO5:** Analyze and resolve information technology problems through the application of systematicapproaches and diagnostic tools.

Semester	**V SEMESTER**
Subject	**LINUX ENVIRONMENT**
Code	**BCACAC 502**
Learning Objectives	To learn Linux kernel architecture and basics of Linux administration.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Understand the design structure of Linux operating system. **CO2:** Manage File system in Linux. **CO3:** Manage I/O system. **CO4:** Applying various commands in Linux administration. **CO5:** Gain knowledge about using Internet applications in Linux.

Semester	**V SEMESTER**
Subject	**WEB DEVELOPMENT IN .NET**
Code	**BCACAC 503**
Learning Objectives	To learn - 1. The tools and technologies necessary for Web application design and development. 2. Client-side scripting like HTML, server-side scripting likes, ASP, PHP and database interfacing
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Understand Web Application Terminologies and Internet Tools. **CO2:** Select and apply markup languages for processing, identifying, and presenting informationin web pages. **CO3:** Use scripting languages and web services to add interactive components to web pages. **CO4:** Design to be reusable the software components in a variety of different environments. **CO5:** Design and implement websites with good aesthetic sense of designing.

Semester	**V SEMESTER**
Subject	**JAVA PROGRAMMING**
Code	**BCACAC 504**
Learning Objectives	1. To understand pure object-oriented programming paradigm. 2. To familiarize with the fundamentals of Java features. 3. To introduce console and GUI based applications using Java. 4. To know the basic approaches to the design of software applications.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Know the structure and model of the Java programming language. **CO2:** Use the Java programming language for various programming technologies. **CO3:** Develop software Packages, applets and threads. **CO4:** Create programs using Swings. **CO5:** Create Java interface with JDBC / ODBC connectivity.

Semester	**V SEMESTER**
Subject	**DISTRIBUTED COMPUTING**
Code	**BCACAC 505**
Learning Objectives	To learn - 1. To study concurrent, Client Server distributed paradigms. 2. To learn about Inter process Communication and Remote procedure calls
Learning Outcomes	Upon the completion of this course, the students will be able to : **CO1:** Understand Concepts of Distributed Systems. **CO2:** Design and build application programs on distributed systems. **CO3:** Develop, test and debug RPC based client-server programs. **CO4:** Write sample RMI application. **CO5:** Decide the type of server required for any application

Semester	**V SEMESTER**
Subject	**LAMP TECHNOLOGY**
Code	**BCA 506 (E2.3)**
Learning Objectives	1. To learn various components involved in LAMP technology
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Understand Concepts Linux operating system. **CO2:** Know more about SQL commands. **CO3:** Learn how Apache web server works. **CO4:** Learn PHP language.

Semester	**V SEMESTER**
Subject	**WEB APPLICATION LAB**
Code	**BCA 507**
Learning Objectives	1. To learn various concepts in JAVA practically
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Create programs using simple OOP concept. **CO2:** Use Thread applications. **CO3:** Design applets. **CO4:** Design forms using swings. **CO5:** Prepare projects using JAVA with database connectivity.

Semester	**V SEMESTER**
Subject	**JAVA AND DC LAB**
Code	**BCACAC 508**
Learning Objectives	1. To learn various concepts in JAVA practically.
Learning Outcomes	Upon the completion of this course, the students will be able to : **CO1:** Create programs using simple OOP concept. **CO2:** Use Thread applications. **CO3:** Design applets. **CO4:** Design forms using swings. **CO5:** Prepare projects using JAVA with database connectivity.

SIXTH SEMESTER

Semester	**VI SEMESTER**
Subject	**PROJECT WORK**
Code	**BCACAC 601**
Learning Objectives	To involve the students in all the stages of the software development life cycle (SDLC) likerequirements analysis, systems design, software development/coding, testing and documentation, with an overall emphasis on the development of reliable software systems.
Learning Outcomes	Upon the completion of this course, the students will be able to: **CO1:** Plan for the project. **CO2:** Prepare System design, Database design, Detailed design. **CO3:** Implement the project by coding, testing. **CO4:** Prepare the mandatory documents. **CO5:** Demonstrate their project effectively.