



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

### Program Outcomes

Department: Computer Science and Engineering

#### List of Program Outcomes(POs)

##### **A graduate of the Computer Science and Engineering Program will demonstrate:**

PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2: Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences

PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations

PO6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Program Specific Outcomes**

Department: Computer Science and Engineering

**List of Program Specific Outcomes (PSOs)**

**Graduates will be able to**

1. Computational skills: Apply the knowledge of Mathematics and Computational Science to solvesocietal problems in various domains.
2. Programming Skills: Design, Analyze and Implement various algorithms using broad range of programming languages.
3. Product Development Skills: Utilize Hardware and Software tools to develop solutions to IT problems.



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

I Semester

Course Name	Course Code	Course Outcomes	Statement
Mathematics-I for CSE Stream	BMATS101	CO1	Apply the knowledge of calculus to solve problems related to polar curves
		CO2	Learn the notion of partial differentiation to compute rate of change of multivariate functions.
		CO3	Analyze the solution of linear and nonlinear ordinary differential equations.
		CO4	Get acquainted and to apply modular arithmetic to computer algorithms.
		CO5	Make use of matrix theory for solving the system of linear equations and compute eigen values and eigen vectors.
Applied Physics for CSE stream	BPHYS102	CO1	Describe the principles of LASERS and Optical fibers and their relevant applications.
		CO2	Discuss the basic principles of the Quantum Mechanics and its application in Quantum Computing.
		CO3	Summarize the essential properties of superconductors and its applications in qubits.
		CO4	Illustrate the application of physics in design and data analysis.
		CO5	Practice working in groups to conduct experiments in physics and perform precise and honest measurements.
Principles of Programming using C	BPOPS103	CO1	Elucidate the basic architecture and functionalities of a computer and also recognize the hardware parts.
		CO2	Apply programming constructs of C language to solve the real world problem
		CO3	Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting
		CO4	Explore user-defined data structures like structures, unions and pointers in implementing solutions
		CO5	Design and Develop Solutions to problems using modular programming constructs using functions
Cyber Security	BETCK1051	CO1	Explain the cybercrime terminologies
		CO2	Describe Cyber offenses and Botnets
		CO3	Illustrate Tools and Methods used on Cybercrime
		CO4	Explain Phishing and Identity Theft
		CO5	Justify the need of computer forensic



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

**II Semester**

Course Name	Course Code	Course Outcomes	Statement
Mathematics-II forCSE Stream	BMATS201	CO1	Apply the concept of change of order of integration and variables to evaluate multiple integrals and their usage in computing area and volume.
		CO2	Understand the applications of vector calculus refer to solenoidal, and irrotational vectors.Orthogonal curvilinear coordinates.
		CO3	Demonstrate the idea of Linear dependence and independence of sets in the vector space and linear transformation
		CO4	Analyze approximate solutions to solve Computer science engineering problems involving numerical data
		CO5	Apply the knowledge of numerical methods in solving physical and engineering phenomena.
Applied Chemistry for CSE Stream	BCHES202	CO1	Identify the terms and applications processes involved in scientific and engineering applications.
		CO2	Explain the phenomena of chemistry to describe the methods of engineering processes.
		CO3	Solve the problems in chemistry that are pertinent in engineering applications.
		CO4	Apply the basic concepts of chemistry to explain the chemical properties and processes.
		CO5	Analyze properties and multi disciplinary situations.
Computer- Aided Engineering Drawing	BCEDK203	CO1	Use CAD tools for basic engineering drawing.
		CO2	Draw different views of points, lines and planes in different orientations.
		CO3	Draw the orthographic and isometric positions of right regular solids.
		CO4	Identify the cut position of the solids and draw the development of lateral surfaces.
Introduction to Python Programming	BPLCK205B	CO1	Demonstrate proficiency in handling loops and creation of functions.
		CO2	Identify the methods to create and manipulate lists, tuples and dictionaries.
		CO3	Develop programs for string processing and file organization
		CO4	Develop the programs using shutil module to organize files and work on zip file
		CO5	Interpret the concepts of Object-Oriented Programming as used in Python



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

**III Semester**

Course Name	Course Code	Course Outcomes	Statement
Principles of Programming using C	BPOPS103	CO1	Elucidate the basic architecture and functionalities of a computer and also recognize the hardware parts.
		CO2	Apply programming constructs of C language to solve the real world problem
		CO3	Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting
		CO4	Explore user-defined data structures like structures, unions and pointers in implementing solutions
		CO5	Design and Develop Solutions to problems using modular programming constructs using functions
(M-III) Transform Calculus, Fourier Series And Numerical Techniques	21MAT31	CO1	Solve ordinary differential equations using Laplace transform.
		CO2	Demonstrate the Fourier series to study the behaviour of periodic functions and their applications in system communications, digital signal processing and field theory.
		CO3	Use Fourier transforms to analyze problems involving continuous-time signals and to apply Z-Transform techniques to solve difference equations
		CO4	Solve mathematical models represented by initial or boundary value problems involving partial differential equations
		CO5	Determine the extremals of functionals using calculus of variations and solve problems arising in dynamics of rigid bodies and vibrational analysis.
(DS) Data Structures And Applications	21CS32	CO1	Define pointer,structure,union,stack,queue,linked list,trees and graphs
		CO2	Acquire knowledge of various types of data structure operations,searching ,sorting algorithms and different file structures .
		CO3	Analyze the performance of Stack,queue,linked list,trees,graphs,searching,sorting operations
		CO4	Analyze graph traversal algorithms and hashing functions
		CO5	Implement all applications of Data Structures in a high level language for problem solving



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

**III Semester**

Course Name	Course Code	Course Outcomes	Statement
(ADE)Analog And Digital Electronics	21CS33	CO1	Explain the use of photo electronics devices, 555 timer IC, Regulator ICs and uA741
		CO2	Make use of simplifying techniques in the design of combinational circuits
		CO3	Illustrate combinational and sequential digital circuits
		CO4	Demonstrate the use of flipflops and apply for registers
		CO5	Design and test counters, Analog-to-Digital and Digital-to-Analog conversion techniques.
(CO) Computer Organization And Architecture	21CS34	CO1	Understand the organization and architecture of computer systems, their structure and operation
		CO2	Illustrate the concept of machine instructions and programs
		CO3	Demonstrate different ways of communicating with I/O devices
		CO4	Describe different types memory devices and their functions
		CO5	Explain arithmetic and logical operations with different data types, Demonstrate processing unit with parallel processing and pipeline architecture
(OOC)Object Oriented Programming With Java	21CSL35	CO1	Use Eclipse/NetBeans IDE to design, develop, debug Java Projects.
		CO2	Analyze the necessity for Object Oriented Programming paradigm over structured programming and become familiar with the fundamental concepts in OOP.
		CO3	Demonstrate the ability to design and develop java programs, analyze, and interpret objectoriented data and document results.
		CO4	Apply the concepts of multiprogramming, exception/event handling, abstraction to develop robust programs.
		CO5	Develop user friendly applications using File I/O and GUI concepts.



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

**III Semester**

Course Name	Course Code	Course Outcomes	Statement
(DS) Data Structures And Applications Lab	21CS32	CO1	Identify different data structures and their applications.
		CO2	Apply stack and queues in solving problems.
		CO3	Demonstrate applications of linked list.
		CO4	Explore the applications of trees and graphs to model and solve the real-world problem.
		CO5	Make use of Hashing techniques and resolve collisions during mapping of key value pairs
(ADE)Analog And Digital Electronics Lab	21CS33	CO1	Analog components and circuits including Operational Amplifier, Timer, etc
		CO2	Combinational logic circuits
		CO3	Flip - Flops and their operations
		CO4	Counters and registers using flip-flop
		CO5	Synchronous and Asynchronous sequential circuits,
		CO6	A/D and D/A converters
(OOC)Object Oriented Programming With Java Lab	21CSL35	CO1	Use Eclipse/NetBeans IDE to design, develop, debug Java Projects.
		CO2	Analyze the necessity for Object Oriented Programming paradigm over structured programming and become familiar with the fundamental concepts in OOP.
		CO3	Demonstrate the ability to design and develop java programs, analyze, and interpret objectoriented data and document results.
		CO4	Apply the concepts of multiprogramming, exception/event handling, abstraction to develop robust programs.
		CO5	Develop user friendly applications using File I/O and GUI concepts.



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

**III Semester**

Course Name	Course Code	Course Outcomes	Statement
(SCR) Social Connect And Responsibility	21UH36	CO1	One will be able to Understands social responsibilty and will be connected with society.
		CO2	students have adopted a tree and take care of 4 year and so on
		CO3	Students got informaion of their own heritage
		CO4	Students got to know the importance of water and its conservation
		CO5	Students got knowledge about organic farming and waste manegmens
		CO6	Students differanciated the organic and jung foods and their importance
(CPC) Constitution of India, Professional Ethics	21CIP37	CO1	Analyse the basic structure of Indian Constitution.
		CO2	Remember their Fundamental Rights, DPSP's and Fundamental Duties (FD's) of our constitution.
		CO3	Know about our Union Government, political structure & codes, procedures.
		CO4	Understand our State Executive & Elections system of India.
		CO5	Remember the Amendments and Emergency Provisions, other important provisions given by the constitution
Ability enhancement course(C++)	21CS382	CO1	Understanding about object oriented programming and Gain knowledge about the capability to store information together in an object.
		CO2	Understand the capability of a class to rely upon another class and functions.
		CO3	Understand about constructors which are special type of functions.
		CO4	Create and process data in files using file I/O functions
		CO5	Use the generic programming features of C++ including Exception handling.





B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

IV Semester

Course Name	Course Code	Course Outcomes	Statement
Mathematical Foundations for Computing	BSC -21CS41	CO1	Apply the concepts of logic for effective computation and relating problems in the engineering domain
		CO2	Analyse the concepts of functions and relations to various fields of Engineering, comprehend the concepts of Graph theory and various applications of Computational sciences
		CO3	Make use of the correlation and regression analysis to fit a suitable mathematical model for the statistical data.
		CO4	Apply discrete and continuous probability distributions in analyzing the probability models arising in engineering field.
		CO5	Construct joint probability distributions and demonstrate the validity of testing the hypothesis.
Design and Analysis of Algorithms	21CS42	CO1	Analyze the performance of the algorithms, state the efficiency using asymptotic notations and analyze mathematically the complexity of the algorithm.
		CO2	Apply divide and conquer approaches and decrease and conquer approaches in solving the problems analyze the same
		CO3	Apply the appropriate algorithmic design technique like greedy method, transform and conquer approaches and compare the efficiency of algorithms to solve the given problem.
		CO4	Apply and analyze dynamic programming approaches to solve some problems. and improve an algorithm time efficiency by sacrificing space.
		CO5	Apply and analyze backtracking, branch and bound methods and to describe P, NP and NP-Complete problems.
Microcontroller and Embedded Systems	IPCC -21CS43	CO1	Understand the fundamentals of ARM-based systems, including programming modules with registers and the CPSR
		CO2	Use the various instructions to program the ARM controller.
		CO3	Program various embedded components using the embedded C program.



B.L.D.E. Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

IV Semester

Course Name	Course Code	Course Outcomes	Statement
		CO4	Identify various components, their purpose, and their application to the embedded system's applicability.
		CO5	Understand the embedded system's real-time operating system and its application in IoT.
Operating Systems	21CS44	CO1	Analyze fundamentals of perating systems,system structures
		CO2	Implement process management and process synchronization mechanisms
		CO3	Demonstrate Deadlock detection and recoverystrategies
		CO4	Apply Memory management and File system strategies
		CO5	Incorporate knowledge of different operating systems.
Biology For Engineers	21BE45	CO1	Elucidate the basic biological concepts via relevant industrial applications and case studies
		CO2	Evaluate the principles of design and development, for exploring novel bioengineering projects
		CO3	Corroborate the concepts of biomimetics for specific requirements.
		CO4	Think critically towards exploring innovative biobased solutions for socially relevant problems.
Python Programming Laboratory	21CSL46	CO1	Demonstrate proficiency in handling of loops and creation of functions.
		CO2	Identify the methods to create and manipulate lists, tuples and dictionaries.
		CO3	Discover the commonly used operations involving regular expressions and file system.
		CO4	Interpret the concepts of Object-Oriented Programming as used in Python.



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

**IV Semester**

Course Name	Course Code	Course Outcomes	Statement
		CO5	Determine the need for scraping websites and working with PDF, JSON and other file formats.
Web Technology (Ability Enhancement Course- IV) Laboratory	21CSL481	CO1	Define HTML and CSS syntax. Apply basic HTML5 semantic structure elements and CSS selectors to construct simple web pages.
		CO2	Use HTML tables, form and CSS layout to design standard web pages.
		CO3	Develop Client-side scripts using javascript and explain basic elements of php.
		CO4	Create Server-side scripts using php to generate and display the HTML contents dynamically.
		CO5	Illustrate Javascripts frameworks like JQuery and backbone which facilitates developer to focus on core features.
Universal Human Values	UHV -21UH49	CO1	To help the students appreciate the essential complementarity between 'VALUES' and 'SKILLS' to ensure sustained happiness and prosperity which are the core aspirations of all human beings
		CO2	To facilitate the development of a Holistic perspective among students towards life and profession as well as towards happiness and prosperity based on a correct understanding of the Human reality and the rest of existence. Such a holistic perspective forms the basis of Universal Human Values and movement towards value-based living in a natural way
		CO3	To highlight plausible implications of such a Holistic understanding in terms of ethical human conduct, trustful and mutually fulfilling human behaviour and mutually enriching interaction with Nature.



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

V Semester

Course Name	Course Code	Course Outcomes	Statement
(ME) Management and Entrepreneurship for IT Industry	18CS51	CO1	Define management, the nature and characteristics of management and different management approaches; analyze the functional area of management
		CO2	Define the term entrepreneur and entrepreneurship; analyze the evolution of Entrepreneurship and role of entrepreneur in economic development of India.
		CO3	Explain different management processes such as planning, staffing, directing, controlling and also importance of ERP.
		CO4	Evaluate the importance of small scale industries in economic development and also the intuitional support provided by Government of India in order to support the development of small scale industries.
		CO5	Write project reports on his/her business proposals. Explain importance of IPR and cyber law to protect infringement of secret documents.
(CN) Computer Networks and Security	18CS52	CO1	Explain principles of application layer protocols and demonstrate knowledge in using socket interface to design and implement network protocols
		CO2	Recognize transport layer services and infer UDP and TCP protocols
		CO3	Classify routers, IP and routing algorithms in network layer
		CO4	Understand the wireless and mobile networks covering IEEE 802.11 standard and identify different nodes and the interfaces of the 3G and beyond 3G network architecture
		CO5	Describe the system design principles of multimedia communications systems
(DBMS) Database Management System	18CS53	CO1	Develop ER diagrams using database objects, enforce integrity constraints on a database using RDBMS.
		CO2	Analyze relational models, relational algebra concepts & basic Structured Query Language (SQL) in the design of database systems.
		CO3	Design real-world database systems and Internet applications using advanced SQL.
		CO4	Implement normalization algorithms using database design theory for different Applications.
		CO5	Analyze transaction processing, concurrency control and database recovery protocols in databases.



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

V Semester

Course Name	Course Code	Course Outcomes	Statement
(ATC) Automata Theory and Computability	18CS54	CO1	Introduce core concepts in Automata and Theory of Computation
		CO2	Identify different Formal language Classes and their Relationships
		CO3	Design Grammars and Recognizers for different formal language
		CO4	Prove or disprove theorems in automata theory using their properties
		CO5	Determine the decidability and intractability of Computational problems
(ADP) Application Development Using Python	18CS55	CO1	Execute simple python programs using variables, expressions and statements, conditional statements and functions
		CO2	Compare different searching and sorting techniques by implementing python using loops. Demonstrate string built-in functions and store, read the data in files.
		CO3	Create, run and manipulate python programs using core data structures like lists, dictionaries and regular expressions.
		CO4	Demonstrate class and object creation and modify objects using methods and functions.
		CO5	Develop exemplary applications related to network programming using data bases and SQL
(UNIX) UNIX Programming	18CS56	CO1	Explain multi user OS UNIX and its basic features.
		CO2	Write simple unix shell programs to illustrate basic features of shell.
		CO3	Interpret UNIX Commands, Shell basics, and shell environments..
		CO4	Design and develop shell programming, communication, System calls and terminology.
		CO5	Design and develop UNIX File I/O and UNIX Processes..



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

V Semester

Course Name	Course Code	Course Outcomes	Statement
(CN LAB) Computer Network Laboratory	18CSL57	CO1	Recall and relate Various Networking protocols like point to point using duplex links between them.
		CO2	Illustrate the Knowledge about ping messages/trace route over a network topology and find congestion.
		CO3	Apply the obtained knowledge for simulation over Ethernet LAN, simple ESS.
		CO4	Analyze performance of GSM and CDMA on NS2/NS3.
		CO5	Design and Develop error detecting code using CRC-CCITT, TCP/IP sockets, client/server programs
(DBMS LAB) DBMS Laboratory with Mini Project	18CSL58	CO1	Define and apply the structural and integrity constraints on a database.
		CO2	Design and develop relational models, relational algebra concepts and ER diagrams.
		CO3	Demonstrate the Structured Query Language (SQL) in the design of database systems
		CO4	Apply normalization, triggers and stored procedures concepts on database design for different applications.
		CO5	Design and build simple real-world database systems and applications using GUI.
(CIV) Environmental Studies	18CIV59	CO1	Understand the principles of ecology and environmental issues that apply to air, land, and water issues on a global scale,
		CO2	Develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment.
		CO3	Demonstrate ecology knowledge of a complex relationship between biotic and abiotic components.
		CO4	Apply their ecological knowledge to illustrate and graph a problem and describe the realities that managers face when dealing with complex issues.



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

**VI Semester**

<b>Course Name</b>	<b>Course Code</b>	<b>Course Outcomes</b>	<b>Statement</b>
System Software and Compilers	18CS61	CO1	Analyze the fundamentals of Machine Architecture and examples using SIC and SIC/XE
		CO2	Design and develop lexical analyzers
		CO3	Design and develop parsers
		CO4	Utilize lex and yacc tools for implementing different concepts of system software
		CO5	understanding of SDDs, Intermediate code generation and code generation
Computer Graphics and Visualization	18CS62	CO1	List the different applications of computer science and imaging systems.
		CO2	Understand the working of OpenGL tool and Apply OpenGL API for programming.
		CO3	Design interactive program for various input and output devices used in computer graphics.
		CO4	Compare various types of transformations and develop programming skills accordingly.
		CO5	Select different types of viewing, lighting and shading techniques to design different applications in graphics programming.
Web Technology and its applications	18CS63	CO1	Define HTML and CSS syntax. Apply basic HTML5 semantic structure elements and CSS selectors to construct simple web pages.
		CO2	Use HTML tables, form and CSS layout to design standard web pages.
		CO3	Develop Client-side scripts using javascript and explain basic elements of php.
		CO4	Create Server-side scripts using php to generate and display the HTML contents dynamically.
		CO5	Illustrate Javascripts frameworks like JQuery and backbone which facilitates developer to focus on core features.



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

**VI Semester**

Course Name	Course Code	Course Outcomes	Statement
Advanced Java & J2EE (Professional Elective -1)	18CS644	CO1	Describe the fundamentals of enumerations, Auto-boxing and annotations and apply the same for developing modular and efficient programs.
		CO2	Contrast the features of collection framework classes and interfaces. And Apply the same for developing optimal real data structures for real time applications.
		CO3	Discuss different string classes and supporting methods and use the same for implementing string processing operations.
		CO4	Discuss the fundamentals of servlets and jsp technologies and incorporate the same for constructing efficient client server web applications.
		CO5	Use JDBC API and associated features to design and develop database applications for real world database applications.
Programming with Java	18CS653	CO1	Execute simple Java programs using variables and conditionsl statements
		CO2	Execute simple Java programs using Iterative statements and different operators
		CO3	Develop programs to create class and objects by OOPs concepts
		CO4	Create user defined packages and interfaces by using built in packages
		CO5	Understanding Enumerations, typewrapers and string handling functions
System Software Laboratory	18CSL66	CO1	Implement programs on Lexical Analysis phase of Compiler Design and
		CO2	Develop, Implement and Execute different program using YACC tool
		CO3	Demonstrate Shift Reduce Parsing technique
		CO4	Enable students to learn different types of CPU scheduling algorithms used in operating system
		CO5	To make students able to implement memory management - page replacement and deadlock handling algorithms





B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

**VI Semester**

<b>Course Name</b>	<b>Course Code</b>	<b>Course Outcomes</b>	<b>Statement</b>
Computer Graphics Laboratory with mini project	18CSL67	CO1	Analyze and demonstrate programming structure of Open GL.
		CO2	Develop and execute various programs using Open GL.
		CO3	Develop and execute programs for drawing various structures using implicit functions provided by Open GL.
		CO4	Develop and execute programs for developing dynamic structures using functions such as scale, rotate etc.
		CO5	Develop graphic project using Open GL functions
Mobile Application Development	18CSMP68	CO1	Learn to setup Android application development environment
		CO2	Build an application using Android development environment.
		CO3	Experiment with the method of storing, sharing and retrieving the data in Android Applications.
		CO4	Examine responsive user interface across wide range of devices.
		CO5	Create a mobile Application by using various components like activity, views, services, content providers and receivers.



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

**VII Semester**

Course Name	Course Code	Course Outcomes	Statement
(BDA)Big Data Analytics	18CS72	CO1	Understand fundamentals of Big Data analytics
		CO2	Explore the Hadoop framework and Hadoop Distributed File system
		CO3	Illustrate the concepts of NoSQL using MongoDB and Cassandra for Big Data
		CO4	Employ MapReduce programming model to process the big data
		CO5	Understand various machine learning algorithms for Big Data Analytics, Web Mining and Social Network Analysis
(UID)User Interface Design	18CS734	CO1	Define the concept of menus, windows, interfaces
		CO2	Understand about business functions
		CO3	Compare the characteristics and components of windows and the various controls for the windows.
		CO4	Understand about various problems in windows design with color, text, graphics.
		CO5	Compare Different Types of testing methods.
(CRY)Cryptography	18CS744	CO1	Define cryptography and its principles.
		CO2	Explain Cryptography algorithms and Illustrate Public and Private key cryptography.
		CO3	Explain Key management, distribution and certification.
		CO4	Evaluate the hash algorithm and Explain Key management, distribution and certification
		CO5	Describe about IPSec,Security database and different modes of transportation of packets in Network Layer.
Prython Application Programming	18CS752	CO1	Execute simple python programs using variables, expressions and statements, conditional statements and functions.

		C02	Compare different searching and sorting techniques by implementing python using loops. Demonstrate string built-in functions and store, read the data in files.
		C03	Create, run and manipulate python programs using core data structures like lists, dictionaries and regular expressions.
		C04	Demonstrate class and object creation and modify objects using methods and functions.
		C05	Develop exemplary applications related to network programming using data bases and SQL.



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

**VIII Semester**

Course Name	Course Code	Course Outcomes	Statement
Internet Of Things	18CS81	CO1	Illustrate the knowledge about Genesis of IoT, IoT Network Architecture, Sensors and Actuators Working and their connecting, IoT Access Technologies, and IP in IoT, Data and Analytics for IoT, IoT Physical Devices and Endpoints like Arduino UNO and Raspberry Pi.
		CO2	Apply the knowledge for Connecting Smart Objects, Optimizing IP for IoT, Big Data Analytics and Smart Cities.
		CO3	Analyze the protocol stack of the different wired and wireless access technology, IPv4 and IPv6 protocol stacks.
		CO4	Compare the functionality and performance of different IoT Architectures, IPv4 and IPv6 protocol, Information and Operational Technology.
		CO5	Propose the different IoT applications based on IoT Network Architecture like Home and Smart City Applications etc.
(SAN)Storage Area Network	18CS822	C01	Explain the importance of storage systems, Data Centers and different storage architecture and data centers.
		C02	Explain the data protection by different RAID levels in SAN, Intelligent Storage System and Fibre Channel SAN.
		C03	Explain importance of IP SAN, FCoE and Network Attached Storage.
		C04	Define and understand the Business Continuity, Backup and Archive in NAS environments.
		C05	Describe local replication, remote replication and securing storage infrastructure.
Project Work Phase-2	18CSP83	C01	Gain the knowledge of contemporary issues through literature surveys.
		C02	Formulate, design and apply programming skills to implement the solutions to global, economic, environmental and societal problems.
		C03	Apply modern technologies and engineering tools.
		C04	Effectively communicate verbally and literally.
		C05	Work individually and as a team member in multidisciplinary domains with ethical standards.



B.L.D.E.Association's  
Vachana Pitamaha Dr. P.G. Halakatti College of Engineering & Technology, Bijapur.

**Course Outcomes**

Department: Computer Science and Engineering

**VIII Semester**

Course Name	Course Code	Course Outcomes	Statement
Technical Seminar	18CSS84	C01	Gain the knowledge of contemporary issues through literature surveys.
		C02	Describe the ability to discern the assignment's intended audience and objectives and respond appropriately.
		C03	Demonstrate the ability to prepare appropriately to participate effectively in seminar discussion.
		C04	Effectively communicate verbally and literally.
		C05	Work individually in multidisciplinary domains with ethical standards.
Internship	18CSI85	CO1	Identify skills and capabilities that intersect effectively with the needs of industry
		CO2	Reflect when new engineering knowledge is required, and apply it
		CO3	Integrate existing and new technical knowledge ,Technologies and Engineering Tools for industrial application
		CO4	Demonstrate the impact of the internship on their learning and professional development through mapping to relevant competencies
		CO5	Work Individually for lifelong learning processes through critical reflection of internship experiences.