School of Science Studies

BCA (General) Batch [2021-24]

Semester 1

8CSPL1011: C PROGRAMMING AND DATA STRUCTURES
CO1: Define and implement the algorithms and draw flowcharts for solving Mathematical problems. (Level 2) CO2: Demonstrate the understanding of computer programming language concepts.(Level 3) CO3: Design and develop programs using decision making, and looping statements.(Level 4) CO4: Define, develop and analyze the core concepts of C programming. (Level 4) 04)

8CSGC1011 :DIGITAL ELECTRONICS AND COMPUTER ORGANIZATION
CO1: Examine the structure of various number systems and its application in digital design.(Level 2) CO2: Analyse and design various combinational and sequential circuits.(Level 3) CO3: Analyse and design various registers and counters. (Level 4) CO4: Identify the basic structure and functional units of a digital computer.(Level 2) CO5: Analyse appropriate interfacing standards for I/O devices and memory organization.(Level 4)

8CSGC1011 :DIGITAL ELECTRONICS AND COMPUTER ORGANIZATION
CO1: Examine the structure of various number systems and its application in digital design.(Level 2) CO2: Analyse and design various combinational and sequential circuits.(Level 3) CO3: Analyse and design various registers and counters. (Level 4) CO4: Identify the basic structure and functional units of a digital computer.(Level 2) CO5: Analyse appropriate interfacing standards for I/O devices and memory organization.(Level 4)

8MATH1011: DISCRETE MATHEMATICS
CO1: Solve problems in the language of sets and perform set operations, apply basic concepts and prove facts about ordinals and well ordered sets. (Level 3) CO2: Apply and interpret properties of linear systems and will be able to solve them by matrix techniques. (Level 3) CO3: Apply logical concepts in the field of Computer Science. (Level 3) CO4: Apply principles and concepts of Graph theory in practical situations and also will be able to formulate the concepts as a base for other related courses. (Level 3)

8CSPL1021:C PROGRAMMING AND DATA STRUCTURES LAB

CO1: Define and implement the algorithms and draw flowcharts for solving Mathematical problems. (Level 2)

CO2: Demonstrate the understanding of computer programming language concepts. (Level 3)

CO3: Design and develop programs using decision making and looping Statements. (Level 4)

CO4: Define, develop and analyze the core concepts of C programming. (Level 4)

CO5: Design different data structures and its operations using C Programming.(Level 4)

8CSGC1021: DIGITAL ELECTRONICS LAB

CO1 :Implement the various basic concepts of digital circuits and verify their unctionalities.(Level 3)

CO2 : Demonstrate the universal properties of NAND and NOR gates(Level 3)

CO3 : Design and implement combinational circuits(Level 3)

CO4 : Design and verify the operation of various shift registers(Level 4)

CO5 : Design and verify the operations of asynchronous counters(Level 4)

Semester 2

8CSPL1031: Python Programming
CO1: Understand basic fundamental programming concepts of Python.(L2) CO2: Design and develop programs using decision making and looping statements.(L4) CO3: Understand the different data structures and its operations .(L2) CO4: Apply the concepts of Modules ,Packages and file handling (L3) CO5 : Develop programs using Object Oriented Programming. (L4)

8CSGC1031 : DATABASE MANAGEMENT SYSTEMS
CO1: understand the fundamentals of a database system.(Level 2) CO2: Design and draw ER diagram for the real life problem.(Level 3) CO3: Design relational models for a given application using schema definition and constraint.(Level 3) CO4: Develop complex queries using SQL and PL/SQL to retrieve the required information from the database. (Level 4) CO5: Apply suitable normal forms to normalize the given database(Level 2) CO6: Determine the roles of transaction and concurrency control in database design. (Level

8STAT2011: STATISTICS
CO1: Apply/formulate the concepts and theories of measures of central tendency in the functional areas of business and research. (Level 3) CO2: Apply/formulate the concepts and theories of measures of Dispersion in the functional areas of business and research. (Level 3) CO3: Identify the direction and degree of association between two variables and will be able to predict the future value with the help of previous data. (Level 3) CO4: Formulate the trend values which enables in predicting the future values with the help of previous data's. (Level 3)

8CSPL1041: PYTHON PROGRAMMING LAB
CO1: Apply basic constructs to create simple Python programs.(L3) CO2: Design and develop programs using decision making and looping statements.(L4) CO3: Understand the different data structures and its operations .(L2) CO4: Apply the concepts of Modules ,Packages and file handling (L3) CO5 : Develop programs using Object Oriented Programming. (L4)

8CSGC1041: DATABASE MANAGEMENT SYSTEMS LAB
CO1: Apply the basic concepts of Database Systems and Applications.(Level 3) CO2: Construct queries using SQL in database creation and interaction.(Level 3) CO3: Create the procedures and Functions in PL/SQL.(Level 6) CO4: Design PL/SQL Triggers and Cursors.(Level 3)

Semester 3

8CSGC1051: OPERATING SYSTEM AND LINUX FOUNDATION
CO1: Identify the structure of the operating system, CPU scheduling with different scheduling algorithms (L2) CO2: Identify the classic problems of Synchronization. (L2) CO3: Analyze different methods of handling deadlocks , the memory management and its allocation policies.(L4) CO4: Demonstrate file management, secondary storage structure and its various allocation methods.(L3) CO5: Apply the concepts of Linux programming. (L3)

8CSPL1051: OBJECT ORIENTED PROGRAMMING USING JAVA
CO1: Interpret various object oriented principles in the software design process. (L2) CO2: Analyze the importance of classes and inheritance. (L4) CO3: Impart the concepts of packages, threads ,interfaces and exception Handling .(L2) CO4: Implement GUI using swings (L4). CO5: Implement Database connectivity using JDBC.(L4)

8CSGC2061: DESIGN AND ANALYSIS OF ALGORITHMS
CO1: Design an efficient algorithm for any specific problem and to explain different methods for computing space and time complexity of various types of algorithms.(L6) CO2: Describe the divide-and-conquer paradigm and compare various sorting techniques.(L1) CO3: Generate optimal solution for different problems using Greedy approach.(L6) CO4: Illustrate the dynamic-programming paradigm and explain the major graph algorithms and the analysis.(L2) CO5: Demonstrate backtracking technique and implement a state space tree.(L2)

8CSPL1061: Linux Foundation Lab

CO1: Demonstrate all types of commands in LINUX. (L3)
CO2: Explore files and directories. (L3)
CO3: Implement Shell programming that involves decision control, looping Statements (L3)
CO4: Demonstrate knowledge of the role and responsibilities of a Unix system administrator. (L3)
CO5: Create reports using reporting tools. (L3)

8CSPL1071: OBJECT ORIENTED PROGRAMMING USING JAVA LAB
CO1: Interpret various object oriented principles in the software design process. (Level 2)
CO2: Analyze the importance of classes and inheritance. (Level 4)
CO3: Impart the concepts of packages, threads ,interfaces and exception Handling .(Level 2)
CO4: Implement GUI using swings (Level 4).
CO5: Implement Database connectivity using JDBC.(Level 4)

Semester 4

8CSAI3011 - Artificial Intelligence
CO1: Demonstrate fundamental understanding of the role of agents,types, how it is related to the environment and uninformed search strategies. (L2)
CO2: Apply basic principles of AI in solutions that require problem solving.(L4)
CO3: Acquire the knowledge of real world knowledge representation.(L3)
CO4: Describe various techniques involved in learning a system.(L2)
CO5: Describe the libraries available in python for various applications of AI(L2)

8CSPL1081:WEB TECHNOLOGIES
CO1: Design a static website using HTML.(L3)
CO2: Apply styles to web pages using CSS.(L3)
CO3: Demonstrate JavaScript elements and the ways to use it with HTML.(L3)
CO4: Apply Client side validation scripts and additional functionalities (utility) to a web page.(L3)
CO5: Create a dynamic website using PHP with MySQL database. (L4)

8CSGC1071: DATA COMMUNICATION AND NETWORKS
CO1: Identify the layered architecture of OSI (Open System Interconnection) model and TCP/IP (Transmission Control Protocol / Internet Protocol) model in the areas of Data Communication and Networking (L2)
CO2: Analyze how Physical layer transmits data as analog / digital signals using guided and unguided transmission medium (L3)
CO3: Demonstrate error detection and correction techniques to ensure flow control and error control of data at the receiving node. (L4)
CO4: Analyze the different protocols used at the data link layer to provide access to the medium (L3)
CO5: Apply different routing algorithms to calculate the optimum route to reach the destination node(L4)

8CSAI3021: ARTIFICIAL INTELLIGENCE LAB
CO1: Apply preprocessing and transform data. (L3)
CO2: Apply and demonstrate supervised regression and classification algorithms. (L3)
CO3: Apply basic operations of natural language processing. (L3)
CO4: Design algorithms for basic game playing. (L3)
CO5: Develop speech recognition system using Python packages(L3).

8CSPL1091:WEB TECHNOLOGIES LAB
CO1: Design a static website using HTML. (L3) CO2: Apply styles to web pages using CSS. (L3) CO3: Demonstrate JavaScript elements and the ways to use it with HTML. (L3) CO4: Apply Client side validation scripts and additional functionalities (utility) to a web page. (L3) CO5: Create a dynamic website using PHP with MySQL database. (L4)

Semester 5

8CSPL2101: C# Programming
CO1: Identify the role of .Net framework in supporting multiple languages / applications under one environment (L2) CO2: Demonstrate OOP concepts using C#.net (L3) CO3: Design Windows forms applications using various drag and drop controls (L3) CO4: Design dynamic websites using ASP.NET. (L3) CO5: Analyze the features of ADO.NET and handle sql commands for data manipulation (L4)

8CSGC1081- SOFTWARE ENGINEERING
CO1: Apply software engineering principles and techniques.(L3) CO2: Formulate and document the software requirements for solving given problems (L2). CO3: Demonstrate the design aspects and visually represent the system using various models / diagrams.(L3) CO4: Demonstrate various aspects, types of reuse and techniques for developing reliable systems. (L3) CO5: Evaluate the project using various testing strategies and assess its quality. (L5) CO6: Apply COCOMO model for estimating project cost.(L3)

8CSPL2111: C# Programming Lab
CO1: Demonstrate OOP concepts in C# Console applications (L3)
CO2: Design windows applications using windows controls (L4)
CO3: Design websites and web services using ASP.NET (L4)
CO4: Judge the data using Validation controls (L4)
CO5: Apply the concept of ADO.NET with SQL commands (L3)

8CSGC3091 :NETWORK INFORMATION SECURITY
CO1:Explain the system security goals and concepts, classical encryption techniques. (L2)
CO2:Compare and apply different encryption and decryption techniques to solve problems related to confidentiality and authentication (L3)
CO3:Apply different digital signature algorithms to achieve authentication and design secure applications. (L3)
CO4:Use different network security protocols like SSL, IPSec, and PGP. (L4)
CO5: Analyze and apply system security concepts to recognize malicious code.(L4)

8CSGC2101: DATA WAREHOUSING AND MINING
CO1: Demonstrate the architecture and various components of a data warehouse.(L2) CO2: Illustrate schemas for multidimensional model , difference between OLAP and OLTP and types of OLAP servers.(L4) CO3: Apply the appropriate visualization technique and preprocess data for mining applications.(L3) CO4: Generate frequent patterns and association rules for mining data.(L6) CO5: Implement appropriate classification techniques and cluster the high dimensional data for better organization of data. (L4)

8CSPL2121: Mobile Applications
CO1: Identify various Platforms to build App for Mobile Devices and also to create a Basic app for Android OS using Eclipse and Android Studio IDE Tools (Level 1) CO2: Identify various user interface View and ViewGroups to build app for Android device.(Level 6) CO3: Create app using multimedia content like images, audio, video recording using camera.(Level 6) CO4: Create app which can store data using various data storing techniques and also create app which can send mail and SMS.(Level 6) CO5: Create an app that can add widget, wallpapers to home screen, locate current location of the device, and finally deploy applications to the Android marketplace for distribution.(Level 6)

8CSGC2121: DATA WAREHOUSING AND MINING LAB
CO1: Demonstrate fundamental concepts of data mining using R. CO2: Apply basic pre-processing operations on given data. CO3: Understand the importance of dimensionality reduction. CO4: Demonstrate various data mining techniques like association, classification and clustering. CO5: Demonstrate and apply various statistical techniques critical to Data Analysis (L3)

8CSGC3111: NETWORK INFORMATION SECURITY LAB
CO1: Demonstrate the process of operating on mobile security apps. (L2) CO2: Outline the Connection Security Rules. (L3) CO3:: Point out the limitations that exist in currently used protocols. (L4)

8CSPL2131: Mobile Applications Lab
CO1: Identify various Platforms to build App for Mobile Devices and also to create a Basic app for Android OS using Eclipse and Android Studio IDE Tools. (Level 4) CO2: Identify various user interface View and ViewGroups to build app for Android device. (Level 4) CO3: Create apps using multimedia content like images, audio, video recording using camera. (Level 6) CO4: Create an app which can store data using various data storing techniques and also create app which can send mail and SMS. (Level 6) CO5: Create an app that can add widget, wallpapers to home screen, locate current location of the device, and finally deploy applications to the Android marketplace for distribution. (Level 6)

Semester 6

8CSCC3011: Cloud Computing
CO1: Identify the significance of implementing virtualization techniques.(L1)
CO2: Interpret the various cloud computing models and services.(L2)
CO3: Understanding the working methodologies for cloud based storage. (L3)
CO4: Apply deployment and management options of AWS Cloud Architecture (L3)
CO5: Evaluate the deployment of web services from Cloud Architecture (L3)

8CSCC3021: Cloud Computing Lab
CO1: To Work with all the options available with AWS EC2(L4)
CO2: To Work with all the options available with AWS S3.(L5)
CO3: Apply deployment and management options of AWS Cloud Architecture (L4)
CO4: Evaluate the deployment of web services from Cloud Architecture (L4)

8CSAI3031: Internet of Things
CO1: Explain about IoT and its network architecture.(L2)
CO2: Explain IoT things and various access technologies.(L2)
CO3: Demonstrate various hardware and software components of IoT.(L3)
CO4: Creating codes for IoT . (L6)
CO5: Illustrate Data and Analytics for IoT. (L4)

8CSAI3041: Internet of Things Lab
CO1: Explain about IoT and its network architecture.(L2) CO2: Explain IoT things and various access technologies.(L2) CO3: Demonstrate various hardware and software components of IoT.(L3) CO4: Creating codes for IoT . (L6) CO5: Illustrate Data and Analytics for IoT. (L4)

8CSGC3131: ETHICAL HACKING AND CYBER LAW
CO1: Explain the importance of ethical hacking in achieving the goals of information security CO2: Gain knowledge of the tools, techniques and ethical issues likely to face the domain of ethical hacking and ethical responsibilities. CO3: Identify and analyze statutory, regulatory, constitutional, and organizational laws that affect the information technology professional. CO4: Locate and apply case law and common law to current legal dilemmas in the technology field. CO5: Gain knowledge of the cyber law with reference to IT Act.

8CSGC3141: ETHICAL HACKING AND CYBER LAW LAB
CO1: Demonstrate the process of operating on different types of user accounts. CO2: Outline the Steps to protect Microsoft Word Document of different versions, hack a strong password and secure database. CO3: Gain the knowledge of the use and availability of tools to support an ethical hack. CO4: Gain the knowledge of interpreting the results of a controlled attack. CO5: Evaluate best practices in security concepts to maintain confidentiality, integrity and availability of computer systems.

8CSDS3011 Big Data Analytics
CO1:Identify Big Data and its Business Implications. CO2: List the components of Hadoop and Hadoop Eco-System CO3:Access and Process Data on Distributed File System CO4:Manage Job Execution in Hadoop Environment and Develop Big Data Solutions using Hadoop Eco System CO5:Analyze Infosphere BigInsights Big Data Recommendations and Apply Machine Learning Techniques using R

8CSDS3021: BIG DATA ANALYTICS LAB
CO1: Get familiar with Hadoop distributions, configuring Hadoop and performing File management tasks CO2: Experiment MapReduce in Hadoop frameworks CO3: Implement MapReduce programs in variety applications CO4: Explore MapReduce support for debugging CO5: Understand different approaches for building Hadoop MapReduce programs for real-time applications

8CAPS4010:Capstone
CO1: Design and develop solutions (L6) CO2: Use various software tools/platforms (L3) CO3:Prepare project documentation (L2)

CMR UNIVERSITY

Private University Established in Karnataka State by Act No. 45 of 2013

School of Science and Computer Studies

BCA (General)

Course Outcome(COs)

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BCA (G) Programme

First Semester

8CSPL1141: Problem Solving Techniques Using C
CO1: Define and implement the algorithms and draw flowcharts for solving Mathematical problems. (L3) CO2: Demonstrate the understanding of computer programming language concepts.(L3) CO3: Design and develop programs using decision making, and looping statements.(L4) CO4: Define, develop and analyze the concepts like arrays, strings and user defined functions, structures, union and pointers using C language.(L4) CO5: Develop programs using file concepts in simple data processing applications. (L4)

8CSPL1151: PYTHON PROGRAMMING WITH DATA STRUCTURE
CO1: Understand the basic programming concepts in Python (L2) **CO2:** Analyze different collection data types (L4) **CO3:** Apply different searching and sorting techniques (L3) **CO4:** Develop python applications using Linear data structures (L4) **CO5:** Develop python applications using Non-Linear data structures (L4)

8MATH1011: DISCRETE MATHEMATICS
CO1: Solve problems in the language of sets and perform set operations, apply basic concepts and prove facts about ordinals and well ordered sets. (L 3) **CO2**: Apply and interpret properties of linear systems and will be able to solve them by matrix techniques. (L3) **CO3:** Apply logical concepts in the field of Computer Science. (L3) **CO4**: Apply principles and concepts of Graph theory in practical situations and also will be able to formulate the concepts as a base for other related courses. (L3)

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8CSPL1161: Problem Solving using C Lab
CO1 : Implement various concepts of C programming and demonstrate their execution.(L3) CO2 : Design and debug simple to complex programs.(L4) CO3 : Design and debug programs using various string functions (L4) CO4 : Design and debug programs using arrays, structures and pointers. (L4) CO5 : Design and debug simple file handling programs (L4)

8CSPL1171: Python Programming with Data Structures Lab
CO1: Understand basic programming constructs to solve a given problem (L2) CO2: Analyse various collections and its operations such as List, Dictionary, Tuple and Set. (L4) CO3: Analyse and implement different searching and sorting techniques (L4) CO4: Implement various operations on linear data structures(L3) CO5: Implement various operations on non-linear data structures (L3)

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Second Semester Syllabus

8CSPL1301: Web Development using Python and Django
CO1: Design a static website using HTML.(L3) CO2: Apply styles to web pages using CSS.(L3) CO3: Demonstrate JavaScript elements and the ways to use it with HTML.(L3) CO4: Apply Client side validation scripts and additional functionalities (utility) to a web page.(L3) CO5: Create a dynamic website using PHP with MySQL database. (L4)

8CSGC1031 : DATABASE MANAGEMENT SYSTEMS
CO1: understand the fundamentals of a database system.(Level 2) **CO2:** Design and draw ER diagram for the real life problem.(Level 3) **CO3**: Design relational models for a given application using schema definition and constraint.(Level 3) **CO4**: Develop complex queries using SQL and PL/SQL to retrieve the required information from the database. (Level 4) **CO5**: Apply suitable normal forms to normalize the given database(Level 2) **CO6**: Determine the roles of transaction and concurrency control in database design. (Level 3)

8STAT2031: PROBABILITY AND STATISTICS
CO1: Apply/formulate the concepts and theories of measures of central tendency in the functional areas of business and research. (L3) CO2: Apply/formulate the concepts and theories of measures of Dispersion in the functional areas of business and research. (L3) CO3: Identify the direction and degree of association between two variables and will be able to predict the future value with the help of previous data. (L4) CO4: Calculate probabilities by applying probability laws and theoretical results.(L3)

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8CSPL1311: Web Development Using Python and Django Lab
CO1: Design a static website using HTML. (L3)
CO2: Apply styles to web pages using CSS. (L3)
CO3: Demonstrate JavaScript elements and the ways to use it with HTML. (L3)
CO4: Apply Client side validation scripts and additional functionalities (utility) to a web page. (L3)
CO5: Create a dynamic website using PHP with MySQL database. (L4)

8CSGC1041: DATABASE MANAGEMENT SYSTEMS LAB
CO1: Apply the basic concepts of Database Systems and Applications.(Level 3)
CO2: Construct queries using SQL in database creation and interaction.(Level 3)
CO3: Create the procedures and Functions in PL/SQL.(Level 6)
CO4: Design PL/SQL Triggers and Cursors.(Level 3)

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Third Semester

8CSGC1051: OPERATING SYSTEM AND LINUX FOUNDATION
CO1: Identify the structure of the operating system, CPU scheduling with different scheduling algorithms (L2) **CO2:** Identify the classic problems of Synchronization. (L2) **CO3:** Analyze different methods of handling deadlocks , the memory management and its allocation policies.(L4) **CO4**: Demonstrate file management, secondary storage structure and its various allocation methods.(L3) **CO5:** Apply the concepts of Linux programming. (L3)

8CSPL1201: Python For Data Science
CO1: Identify the need for data science and solve basic problems using Python built-in data types and their methods(L2) **CO2**: Design an application with user-defined modules and packages using OOP concept(L6) **CO3**: Employ efficient storage and data operations using NumPy arrays.(L5) **CO4**: Apply powerful data manipulations using Pandas.(L3) **CO5:** Do data preprocessing and visualization using Pandas(L5)

8CSGC2061: DESIGN AND ANALYSIS OF ALGORITHMS
CO1: Design an efficient algorithm for any specific problem and to explain different methods for computing space and time complexity of various types of algorithms.(L6) **CO2**: Describe the divide-and-conquer paradigm and compare various sorting techniques.(L1)

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CO3: Generate optimal solution for different problems using Greedy approach.(L6)

CO4: Illustrate the dynamic-programming paradigm and explain the major graph algorithms and the analysis.(L2)

CO5: Demonstrate backtracking technique and implement a state space tree.(L2)

8CSPL1061: Linux Foundation Lab
CO1: Demonstrate all types of commands in LINUX. (L3)
CO2: Explore files and directories. (L3)
CO3: Implement Shell programming that involves decision control, looping Statements (L3)
CO4: Demonstrate knowledge of the role and responsibilities of a Unix system administrator. (L3)
CO5: Create reports using reporting tools. (L3)

8CSPL1211: Python For Data Science Lab
CO1: Identify the need for data science and solve basic problems using Python built-in data types and their methods(L2) **CO2**: Design an application with user-defined modules and packages using OOP concept(L6) **CO3**: Employ efficient storage and data operations using NumPy arrays.(L5) **CO4**: Apply powerful data manipulations using Pandas.(L3) **CO5:** Do data preprocessing and visualization using Pandas(L5)

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BCA (G) Programme

Fourth Semester

8CSAI3011 - Artificial Intelligence
CO1: Demonstrate fundamental understanding of the role of agents,types, how it is related to the environment and uninformed search strategies. (L2) **CO2:** Apply basic principles of AI in solutions that require problem solving.(L4) **CO3:** Acquire the knowledge of real world knowledge representation.(L3) **CO4:** Describe various techniques involved in learning a system.(L2) **CO5:** Describe the libraries available in python for various applications of AI(L2)

8CSPL1051: OBJECT ORIENTED PROGRAMMING USING JAVA
CO1: Interpret various object oriented principles in the software design process. (L2) **CO2**: Analyze the importance of classes and inheritance. (L4) **CO3**: Impart the concepts of packages, threads ,interfaces and exception Handling .(L2) **CO4**: Implement GUI using swings (L4). **CO5**: Implement Database connectivity using JDBC.(L4)

8CSGC1071: DATA COMMUNICATION AND NETWORKS
CO1: Identify the layered architecture of OSI (Open System Interconnection) model and TCP/IP (Transmission Control Protocol / Internet Protocol) model in the areas of Data Communication and Networking (L2) **CO2:** Analyze how Physical layer transmits data as analog / digital signals using guided and unguided transmission medium (L3) **CO3:** Demonstrate error detection and correction techniques to ensure flow control and error control of data at the receiving node. (L4) **CO4:** Analyze the different protocols used at the data link layer to provide access to the medium (L3) **CO5:** Apply different routing algorithms to calculate the optimum route to reach the destination node(L4)

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8CSPL1071: OBJECT ORIENTED PROGRAMMING USING JAVA LAB
CO1: Interpret various object oriented principles in the software design process. (Level 2)
CO2: Analyze the importance of classes and inheritance. (Level 4)
CO3: Impart the concepts of packages, threads ,interfaces and exception Handling .(Level 2)
CO4: Implement GUI using swings (Level 4).
CO5: Implement Database connectivity using JDBC.(Level 4)

8CSAI3021: ARTIFICIAL INTELLIGENCE LAB
CO1: Apply preprocessing and transform data. (L3)
CO2: Apply and demonstrate supervised regression and classification algorithms. (L3)
CO3: Apply basic operations of natural language processing. (L3)
CO4: Design algorithms for basic game playing. (L3)
CO5: Develop speech recognition system using Python packages(L3).

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V Semester

8CSPL2101: C# Programming
CO1: Identify the role of .Net framework in supporting multiple languages / applications under one environment (L2) **CO2**: Demonstrate OOP concepts using C#.net (L3) **CO3**: Design Windows forms applications using various drag and drop controls (L3) **CO4**: Design dynamic websites using ASP.NET. (L3) **CO5**: Analyze the features of ADO.NET and handle sql commands for data manipulation (L4)

8CSGC1081- SOFTWARE ENGINEERING
CO1: Apply software engineering principles and techniques.(L3) **CO2:** Formulate and document the software requirements for solving given problems (L2). **CO3:** Demonstrate the design aspects and visually represent the system using various models / diagrams.(L3) **CO4:** Demonstrate various aspects, types of reuse and techniques for developing reliable systems. (L3) **CO5:** Evaluate the project using various testing strategies and assess its quality. (L5) **CO6:** Apply COCOMO model for estimating project cost.(L3)

8CSPL2111: C# Programming Lab
CO1: Demonstrate OOP concepts in C# Console applications (L3) **CO2:** Design windows applications using windows controls (L4) **CO3:** Design websites and web services using ASP.NET (L4) **CO4:** Judge the data using Validation controls (L4)

CO5: Apply the concept of ADO.NET with SQL commands (L3**)**

8CSGC3091 :NETWORK INFORMATION SECURITY
CO1:Explain the system security goals and concepts, classical encryption techniques. (L2)
CO2:Compare and apply different encryption and decryption techniques to solve problems related to confidentiality and authentication (L3)
CO3:Apply different digital signature algorithms to achieve authentication and design secure applications. (L3)
CO4:Use different network security protocols like SSL, IPSec, and PGP. (L4)
CO5: Analyze and apply system security concepts to recognize malicious code.(L4)

8CSGC2101: DATA WAREHOUSING AND MINING
Course Outcomes: On successful completion of the course, Students will be able to,
CO1: Demonstrate the architecture and various components of a data warehouse.(L2)
CO2: Illustrate schemas for multidimensional model , difference between OLAP and OLTP and types of OLAP servers.(L4)
CO3: Apply the appropriate visualization technique and preprocess data for mining applications.(L3)
CO4: Generate frequent patterns and association rules for mining data.(L6)
CO5: Implement appropriate classification techniques and cluster the high dimensional data for better organization of data. (L4)

8CSPL2121: Mobile Applications
CO1: Identify various Platforms to build App for Mobile Devices and also to create a Basic app for Android OS using Eclipse and Android Studio IDE Tools (Level 1)
CO2: Identify various user interface View and ViewGroups to build app for Android device.(Level 6)
CO3: Create app using multimedia content like images, audio, video recording using camera.(Level 6)
CO4: Create app which can store data using various data storing techniques and also create app which

can send mail and SMS.(Level 6) CO5: Create an app that can add widget, wallpapers to home screen, locate current location of the device, and finally deploy applications to the Android marketplace for distribution.(Level 6)

8CSGC2121: DATA WAREHOUSING AND MINING LAB
CO1: Demonstrate fundamental concepts of data mining using R. CO2: Apply basic pre-processing operations on given data. CO3: Understand the importance of dimensionality reduction. CO4: Demonstrate various data mining techniques like association, classification and clustering. CO5: Demonstrate and apply various statistical techniques critical to Data Analysis (L3)

8CSGC3111: NETWORK INFORMATION SECURITY LAB
CO1: Demonstrate the process of operating on mobile security apps. (L2) CO2: Outline the Connection Security Rules. (L3) CO3:: Point out the limitations that exist in currently used protocols. (L4)

8CSPL2131: Mobile Applications Lab
CO1: Identify various Platforms to build App for Mobile Devices and also to create a Basic app for Android OS using Eclipse and Android Studio IDE Tools. (Level 4) **CO2**: Identify various user interface View and ViewGroups to build app for Android device. (Level 4) **CO3**: Create app using multimedia content like images, audio, video recording using camera. (Level 6) **CO4**: Create app which can store data using various data storing techniques and also create app which can send mail and SMS. (Level 6) **CO5**: Create app that can add widget, wallpapers to home screen, locate current location of the device, and finally deploy applications to the Android marketplace for distribution. (Level 6)

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VI Semester

8CSCC3011: Cloud Computing
CO1: Identify the significance of implementing virtualization techniques.(L1)
CO2: Interpret the various cloud computing models and services.(L2)
CO3: Understanding the working methodologies for cloud based storage. (L3)
CO4: Apply deployment and management options of AWS Cloud Architecture (L3)
CO5: Evaluate the deployment of web services from Cloud Architecture (L3)

8CSCC3021: Cloud Computing Lab
CO1: To Work with all the options available with AWS EC2(L4)
CO2: To Work with all the options available with AWS S3.(L5)
CO3: Apply deployment and management options of AWS Cloud Architecture (L4)
CO4: Evaluate the deployment of web services from Cloud Architecture (L4)

8CSAI3031: Internet of Things
CO1: Explain about IoT and its network architecture.(L2)
CO2: Explain IoT things and various access technologies.(L2)
CO3: Demonstrate various hardware and software components of IoT.(L3)
CO4: Creating codes for IoT . (L6)
CO5: Illustrate Data and Analytics for IoT. (L4)

School of Science and ComputerStudies

BCA (G) Programme

8CSAI3041: Internet of Things Lab
CO1: Explain about IoT and its network architecture.(L2) **CO2**: Explain IoT things and various access technologies.(L2) **CO3**: Demonstrate various hardware and software components of IoT.(L3) **CO4**: Creating codes for IoT . (L6) **CO5**: Illustrate Data and Analytics for IoT. (L4)

8CSGC3131: ETHICAL HACKING AND CYBER LAW
CO1: Explain the importance of ethical hacking in achieving the goals of information security **CO2**: Gain knowledge of the tools, techniques and ethical issues likely to face the domain of ethical hacking and ethical responsibilities. **CO3**: Identify and analyze statutory, regulatory, constitutional, and organizational laws that affect the information technology professional. **CO4**: Locate and apply case law and common law to current legal dilemmas in the technology field. **CO5**: Gain knowledge of the cyber law with reference to IT Act.

8CSGC3141: ETHICAL HACKING AND CYBER LAW LAB
CO1: Demonstrate the process of operating on different types of user accounts. **CO2**: Outline the Steps to protect Microsoft Word Document of different versions, hack a strong password and secure database. **CO3**: Gain the knowledge of the use and availability of tools to support an ethical hack. **CO4**: Gain the knowledge of interpreting the results of a controlled attack. **CO5**: Evaluate best practices in security concepts to maintain confidentiality, integrity and availability of computer systems.

School of Science and ComputerStudies

BCA (G) Programme

8CSDS3011 Big Data Analytics
CO1:Identify Big Data and its Business Implications. **CO2**: List the components of Hadoop and Hadoop Eco-System **CO3**:Access and Process Data on Distributed File System **CO4**:Manage Job Execution in Hadoop Environment and Develop Big Data Solutions using Hadoop Eco System **CO5**:Analyze Infosphere BigInsights Big Data Recommendations and Apply Machine Learning Techniques using R

8CSDS3021: BIG DATA ANALYTICS LAB
CO1: Get familiar with Hadoop distributions, configuring Hadoop and performing File management tasks **CO2**: Experiment MapReduce in Hadoop frameworks **CO3**: Implement MapReduce programs in variety applications **CO4:** Explore MapReduce support for debugging **CO5:** Understand different approaches for building Hadoop MapReduce programs for real-time applications

8CAPS4010:Capstone
CO1: Design and develop solutions (L6) **CO2**: Use various software tools/platforms (L3) **CO3**:Prepare project documentation (L2)

School of Science and Computer Studies

BCA (General)

FIRST SEMESTER

8CSPL1321: Problem Solving Techniques Using C and Lab
CO1: Devise algorithms and draw flowcharts for solving problems problems (L3,L6) **CO2**: Apply C programming syntax and semantics for problem solution(L3) **CO3**: Design and develop programs using decision making and looping statements.(L6) **CO4**: Define and develop problem solution using functions, structures, union and pointers (L6) **CO5**: Develop programs using file concepts in simple data processing applications. (L6)

8CSGC1461: Database Management Systems and Lab
CO1: Gain knowledge on fundamentals of a database system.(L2) **CO2:** Build relational model using Entity Relationship diagrams for real life systems(L3,L6) **CO3**: Organize data by eliminating redundancy and inconsistencies by applying normalization.(L3) **CO4**: Develop complex queries using SQL and PL/SQL to store, Manipulate and data from database. (L3,L4,L6) **CO5**: Gain knowledge on transaction processing and concurrency control in database design. (L2)

8MATH1031:Mathematical Foundation for Computer Science
CO1: Solve problems in the language of sets and perform set operations, apply basic concepts and prove facts about ordinals and well ordered sets. (L3) **CO2**: Apply and interpret properties of linear systems and will be able to solve them by matrix techniques. (L3) **CO3**: Apply logical concepts in the field of Computer Science. (L3) **CO4:** Apply principles and concepts of Graph theory in practical situations and also will be able to formulate the concepts as a base for other related courses. (L3)

Second Semester

8CSGC2391: Data Structures Using C and Lab
CO1: Select appropriate data structures as applied to specified problem definition.(L3)
CO2: Implement Linear and Non-Linear data structures.(L3)
CO3: Apply algorithms for sorting/searching technique for given problem.(L3)
CO4: Implement operations like searching, insertion, deletion, traversing on various data structures.(L4)
CO5: Implement the concept of Dynamic memory allocation.(L4)
CO6: Design advance data structure using Non Linear data structure.(L4)

8CSPL1331: OBJECT ORIENTED PROGRAMMING USING JAVA AND LAB
CO1: Interpret various object oriented principles in the software design process. (L2)
CO2: Analyze the importance of classes and inheritance. (L4)
CO3: Impart the concepts of packages, threads ,interfaces and exception Handling .(L 2)
CO4: Implement GUI using swings (L4).
CO5: Implement Database connectivity using JDBC.(L4)

8STAT2041: **Statistics**
CO1: Organize data and present it in the form of diagrams and graphs.(L3: Apply)
CO2: Solve the problems related to Measures of Central Tendency-Mean-Median-Mode. (L3)
CO3: Solve the problems related to Measures of Dispersion-Range-Quartile Deviation-Mean Deviation and Standard Deviation. (L3)
CO4: Solve the problems related to Correlation and Regression, interpret the direction and degree of association between two variables and also will be able to predict the value of one variable with the help of the known value of another variable. (L3)
CO5: Formulate the trend values which enables in predicting the future values with the help of previous data's. (L3: Apply)

III Semester

8CSPL1341: Operating System & Linux Foundation and Lab
CO1: Identify the structure of the operating system, CPU scheduling with different scheduling algorithms (L2) CO2: Identify the classic problems of Synchronization. (L2) CO3: Analyze different methods of handling deadlocks, the memory management and its allocation policies.(L4) CO4: Demonstrate file management, secondary storage structure and its various allocation methods. (L3) CO5: Apply the concepts of Linux programming. (L3)

8CSPL1351: Web Technologies and Lab
CO1: Design a static website using HTML.(L3) CO2: Apply styles to web pages using CSS.(L3) CO3: Demonstrate JavaScript elements and the ways to use it with HTML.(L3) CO4: Apply Client side validation scripts and additional functionalities (utility) to a web page.(L3) CO5: Create a dynamic website using PHP with MySQL database. (L4)

8CSGC2151: Optimization Techniques
CO1: Recall the theoretical foundations of various issues related to linear programming modeling to formulate real-world problems as a L P model using graphical and simplex methods **CO2**: Demonstrate the optimized material distribution schedule using transportation model to minimize total distribution cost and find the appropriate algorithm for allocation of resources to optimize the process of assignment **CO3**: implement the theoretical workings of network models to find shortest path for given network. **CO4:** Solve the complex problem with different strategies using integer programming and game theory. **CO5:** Develop a suitable queuing system to control important performance measures dynamically.

IV Semester

8CSPL1361: PYTHON PROGRAMMING AND LAB
CO1: Understand the basic programming concepts in Python (L2) **CO2:** Analyze different collection data types (L4) **CO3:** Know difference between Classes, Objects, Exception Handling (L3) **CO4:** Develop python applications using file handling and python modules (L4) **CO5:** Develop python applications using data visualization (L4)

8CSGC1472: Software Engineering and Lab
CO1: Apply software engineering principles and techniques.(L3) **CO2**: Formulate and document the software requirements for solving given problems (L2). **CO3**: Demonstrate the design aspects and visually represent the system using various models / diagrams.(L3) **CO4**: Demonstrate various aspects, types of reuse and techniques for developing reliable systems. (L3) **CO5**: Evaluate the project using various testing strategies and assess its quality. (L5) **CO6**: Apply COCOMO model for estimating project cost.(L3)

8CSGC2401: Cyber Security
CO1: Understand the concept of cyber security and cyber law.(L2) **CO2**: Apply the knowledge of cyber security safeguards in real time scenarios. (L3). **CO3**: Analyzing the ethical rules to monitor hacking for cyber security. (L4) **CO4**: Applying various roles of forensic investigator and auditing for management. (L3) **CO5**: Recognizing the architecture of Cyberspace.(L2)

School of Science and Computer Studies

BCA (General)

COURSE OUTCOMES : Batch [2024-27]

SEMESTER I

8CSPL1321: Problem Solving Techniques Using C and Lab
CO1: Devise algorithms and draw flowcharts for solving problems problems (L3,L6) **CO2**: Apply C programming syntax and semantics for problem solution(L3) **CO3**: Design and develop programs using decision making and looping statements.(L6) **CO4**: Define and develop problem solution using functions, structures, union and pointers (L6) **CO5**: Develop programs using file concepts in simple data processing applications. (L6)

8CSGC1461: Database Management Systems and Lab
CO1: Gain knowledge on fundamentals of a database system.(L2) **CO2:** Build relational model using Entity Relationship diagrams for real life systems(L3,L6) **CO3**: Organize data by eliminating redundancy and inconsistencies by applying normalization.(L3) **CO4**: Develop complex queries using SQL and PL/SQL to store,manipulate and data from database. (L3,L4,L6) **CO5**: Gain knowledge on transaction processing and concurrency control in database design. (L2)

8MATH1031:Mathematical Foundation for Computer Science
CO1: Solve problems in the language of sets and perform set operations, apply basic concepts and prove facts about ordinals and well ordered sets. (L3) **CO2**: Apply and interpret properties of linear systems and will be able to solve them by matrix techniques. (L3) **CO3**: Apply logical concepts in the field of Computer Science. (L3) **CO4:** Apply principles and concepts of Graph theory in practical situations and also will be able to formulate the concepts as a base for other related courses. (L3)

CPSSF1011: French –Level-1
CO1: Introduce themselves and others, and use common French salutations appropriately.(L1,L2)
CO2: Use polite expressions in French appropriately in social interactions. (L2)
CO3: Discuss daily activities with improved fluency and accuracy (L3)
CO4: Identify and use parts of speech correctly in sentences.

CPSSF1041: Spanish –Level-1
CO1: Introduce themselves and others, and use common Spanish salutations appropriately.(L1,L2)
CO2: Use polite expressions in Spanish appropriately in social interactions. (L2)
CO3: Discuss daily activities with improved fluency and accuracy (L3)
CO4: Identify and use parts of speech correctly in sentences.

FUNCTIONAL ENGLISH Course Code: CPSAL1111 Batch:2024
CO1: Define Social Values and Critical Thinking skills (L1)
CO2: Compare the poetical terms and integrate creative ideas in the English Language. (L2) CO3: Develop vocabulary and interpret in one academic and professional life.(L2)
CO4: Develop skills of comprehending and analytical to improve their language proficiency. (L3) CO5: Construct sentences to improve their Verbal Skills.(L3)

ಕನ್ನಡ ಕಲಿ-ನಲಿ		
Course Name: ಕನ್ನಡ		
Course Code: CPSAL1101		
A. Course Framework		
Credits: L-T-P-C: 2-0-0-2		Syllabus Version: 1
Contact Hours / Week: 2	Total Contact Hours: 30	Level: 100
Prerequisite: (If applicable)		
Course Learning Objectives:		
CLO1: ಕನ್ನಡ ಅಕ್ಷರ ಮಾಲೆಯನ್ನು ಪರಿಚಯಿಸುವುದು.		
CLO2: ಕನ್ನಡ ಅಕ್ಷರಗಳ ಉಚ್ಚಾರಣೆಯ ಬಗೆಗೆ ತಿಳಿಸುವುದು.		
CLO3: ಕನ್ನಡ ಗುಣಿತಾಕ್ಷರಗಳ ರಚನೆಯ ಬಗ್ಗೆ ತಿಳಿಸುವುದು.		
CLO4: ಕನ್ನಡ ಲಿಂಗ, ವಚನಗಳನ್ನು ಪರಿಚಯಿಸುವುದು.		
CLO5: ಕನ್ನಡ ಭಾಷೆಯಲ್ಲಿ ಸರಳ ಪದ ರಚನೆ ಮತ್ತು ವಾಕ್ಯ ರಚನೆಯ ಬಗ್ಗೆ ತಿಳಿಸುವುದು.		
Course Outcomes: On successful completion of the course, Students will be able to,		
CO1: [Level2] ಕನ್ನಡ ಅಕ್ಷರ ಮಾಲೆಯ ಬಗ್ಗೆ ತಿಳಿದುಕೊಳ್ಳುತ್ತಾರೆ.		
CO2: [Level 4] ಕನ್ನಡ ಅಕ್ಷರಗಳ ಉಚ್ಚಾರಣೆಯ ಬಗೆಗೆ ಅರಿತುಕೊಳ್ಳುತ್ತಾರೆ.		
CO3: [Level 4] ಕನ್ನಡ ಗುಣಿತಾಕ್ಷರಗಳ ರಚನೆಯ ಬಗ್ಗೆ ತಿಳಿದುಕೊಳ್ಳುತ್ತಾರೆ.		
CO4: [Level 5,6] ಕನ್ನಡ ಭಾಷೆಯಲ್ಲಿನ ಲಿಂಗ, ವಚನಗಳ ಸ್ವರೂಪವನ್ನು ಅರ್ಥೈಸಿಕೊಳ್ಳುತ್ತಾರೆ.		
CO5: [Level4] ಕನ್ನಡ ಭಾಷೆಯಲ್ಲಿ ಸರಳ ಪದ ಮತ್ತು ವಾಕ್ಯ ರಚನೆಯನ್ನು ಪ್ರಯೋಗಿಸುತ್ತಾರೆ.		
B. Syllabus		
Module:1: ಕನ್ನಡ ಅಕ್ಷರ ಮಾಲೆ		5 Hours
ಸ್ವರಗಳು, ವ್ಯಂಜನಗಳು, ಯೋಗವಾಹಕಗಳು, ವರ್ಗೀಯ ವ್ಯಂಜಗಳು ಮತ್ತು ಅವರ್ಗೀಯ ವ್ಯಂಜನಗಳು		
Module:2: ಗುಣಿತಾಕ್ಷರಗಳು		8 Hours
ಕ-ಳ ಗುಣಿತಾಕ್ಷರಗಳ ಸ್ವರೂಪ		
Module:3: ಒತ್ತಕ್ಷರಗಳು		6 Hours
ಸ್ವಜಾತೀಯ ಒತ್ತಕ್ಷರಗಳು, ವಿಜಾತಿಯ ಒತ್ತಕ್ಷರಗಳು		
Module:4: ಕನ್ನಡ ಭಾಷೆಯಲ್ಲಿ ಲಿಂಗ ಮತ್ತು ವಚನಗಳು		6 Hours
ಪುಲ್ಲಿಂಗ, ಸ್ತ್ರೀಲಿಂಗ, ನಪುಂಸಕ ಲಿಂಗ, ಏಕವಚನ, ಬಹುವಚನ		
Module:5: ಸರಳ ಪದ ಮತ್ತು ವಾಕ್ಯ ರಚನೆ		5 Hours
ಎರಡು ಅಕ್ಷರಗಳ ಪದಗಳು, ಮೂರು ಅಕ್ಷರಗಳ ಪದಗಳು, ಸರಳ ವಾಕ್ಯ		

Course Code: CPSAD1013 Course Name: Design Thinking Process
CO1: Implement design thinking methodologies to identify and address complex problems.**(Level 3) CO2:** Empathize with users and stakeholders to understand their needs effectively.**(Level 2)** **CO3:** Generate innovative ideas by engaging in ideation and prototyping processes**(Level 5) CO4:** Effectively communicate solutions using pitching techniques. **(Level 4)**

CKSAM1051: Indian Democracy, Participation & Social Change 2024
CO1: Study a particular event in Indian history and trace the impact that can be felt to the present day. CO2: Understand the impact of the way a democracy is structured. CO3: Understand the freedoms that a citizen of India has, and what those mean in daily life. CO4: Understand the duties of an Indian citizen and how they translate to daily life. CO5: Gain an understanding of the workings of the government in their residential locality. CO6: Trace the impact of a single vote from their area of residence to the national scale. CO7: Understand the Indian democratic process and their role in it. CO8: Identify ways in which they can contribute to the progress of the country.

SEMESTER 2

8CSGC2391: Data Structures Using C and Lab
CO1: Select appropriate data structures as applied to specified problem definition.(L3) **CO2**: Implement Linear and Non-Linear data structures.(L3) **CO3**: Apply algorithms for sorting/searching technique for given problem.(L3) **CO4**: Implement operations like searching, insertion, deletion, traversing on various data structures.(L4) **CO5**: Implement the concept of Dynamic memory allocation.(L4) **CO6**: Design advance data structure using Non Linear data structure.(L4)

8CSPL1341: OPERATING SYSTEM AND LINUX FOUNDATION AND LAB
CO1: Identify the structure of the operating system, CPU scheduling with different scheduling algorithms (Level 2) **CO2:** Identify the classic problems of Synchronization. (Level 2) **CO3:** Analyze different methods of handling deadlocks , the memory management and its allocation policies.(Level 4) **CO4**: Demonstrate file management, secondary storage structure and its various allocation methods.(Level 3) **CO5:** Apply the concepts of Linux programming. (Level 3)

8STAT2041: Statistics
CO1: Organize data and present it in the form of diagrams and graphs.(L3: Apply) **CO2**: Solve the problems related to Measures of Central Tendency-Mean-Median-Mode. (L3) **CO3**: Solve the problems related to Measures of Dispersion-Range-Quartile Deviation-Mean Deviation and Standard Deviation. (L3) **CO4:** Solve the problems related to Correlation and Regression, interpret the direction and degree of association between two variables and also will be able to predict the value of one variable with the help of the known value of another variable. (L3) **CO5:** Formulate the trend values which enables in predicting the future values with the help of previous data's. (L3: Apply)

BCA (G) Programme

CPSAL1061 : Hindi

A. Course Framework

Credit : L-T-P-C : 2 – 0 – 0 - 2		**Total Crédit : 2**
Contact Hours/Week : 2	**Direct Teaching Hour : 30**	**Total Contact Hour :30**

Course Learning Objectives : (सीखने का उद्देश्य)

CLO I : साहित्य के विविध पहलुओं का परिचय देने कहानी कविता और प्रायोगिक हिंदी पत्रकारिता संबंध सामग्री की गयी है |

CLO2 : पाठ्य सामग्री का चयन कुछ इस प्रकार किया गया है कि- विद्यार्थिय उसे अध्ययन करने के पश्चात् ऐसे मूल्य को जिस से राष्टीय एवं सामाजिक एकता का भाव संपुटित हो सके |

CLO 3 : भाषा विकास के विविध पक्षों का अनुप्रयोग करने हेतु श्रवण -मौखिक एवं लिखित कुशलता का अभ्यास |

Course Outcome : On successful completion of the course, students will be able to, (इस पाठ्यक्रमके अध्ययन के बाद विद्यार्थी निम्न तथ्यों से अवगत होगें)

CO1 : [**Level**] : इस सत्र के अंत तक विद्यार्थीयों को भाषायी कौशलता में उत्तरोत्तर विकास देखना |

CO 2 : [**Level**] हिंदी साहित्य की घनिष्ठता एवं उसकी विशदता का परिचय एवं उसका आश्वासन कराना

CO3 : बौद्धिक विकास के साथ -साथ निर्णयात्मक एवं सही गलत के बीच में अंतर परखने और उस पर दृढ़ता पूर्वक अपने विचारों को प्रकट करना एक मुख्य परिणाम होगा |

Course Name: ಕನ್ನಡ		
Course Code: CPSAL1071		
A. Course Framework		
Credits: L-T-P-C: 2-0-0-2		**Syllabus Version: 1**
Contact Hours / Week: 2	**Total Contact Hours: 30**	**Level: 100**
Prerequisite: (If applicable)		
Course Learning Objectives:		
CLO1: ಮಾನವನ ಸಂಬಂಧದಲ್ಲಿ ಪ್ರೀತಿಯ ಮಹತ್ವವನ್ನು ತಿಳಿಸುವುದು CLO2: ಜಾಗತಿಕರಣದ ಪ್ರಭಾವದಿಂದ ನಾಶವಾಗುತಿರುವ ಮಾನವೀಯ ಮೌಲ್ಯಗಳನ್ನು ಪರಿಚಯಿಸುವುದು CLO3: ಪ್ರಸ್ತುತ ರೈತರ ಸಮಸ್ಯೆಗಳನ್ನು ವಿವರಿಸುವುದು CLO4: ಪ್ರಕೃತಿಯೊಂದಿಗೆ ಮನುಷ್ಯನ ಸಂಬಂಧ ಮತ್ತು ಅದರ ಅಗತ್ಯತೆಯನ್ನು ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ತಿಳಿಸುವುದು CLO5: ಜಗತ್ತಿನಲ್ಲಿ ತಂದೆ–ತಾಯಿಗಳೇ ಪೂಜ್ಯನೀಯ ಎಂಬುದನ್ನು ತಿಳಿಸುವುದು.		
Course Outcomes: On successful completion of the course, Students will be able to,		
CO1: [Level2] ಬದುಕನ್ನು ಮೌಲ್ಯದೊಂದಿಗೆ ಸಾಗಿಸುವ ವಿಧಾನವನ್ನು ಕಲಿಯುತ್ತಾರೆ. CO2: [Level 4] ಜೀವನದಲ್ಲಿ ದುಡ್ಡೆ ಮುಖ್ಯವಲ್ಲ ಮನುಷ್ಯತ್ವವು ಮುಖ್ಯವೆಂಬುದನ್ನು ತಿಳಿದುಕೊಳ್ಳುತ್ತಾರೆ. CO3: [Level 4] ಆಧುನಿಕದಲ್ಲಿ ಎಲ್ಲವನ್ನು ತಾಂತ್ರಿಕ ಸಹಾಯದಿಂದ ಸೃಷ್ಟಿಸಬವುದು ಆದರೆ ಆಹಾರವನ್ನಲ್ಲ ಎಂಬುದನ್ನು ಅರಿತು ಆ ಮೂಲಕ ರೈತರ ಸಮಸ್ಯೆಗಳ ಬಗೆಗೆ ಚಿಂತಿಸುತ್ತಾರೆ. CO4: [Level 5,6] ಇಂದಿಗೂ ಜೀವಂತವಾಗಿರುವ ಜಾತಿಪದ್ಧತಿಯನ್ನು ವೈಜ್ಞಾನಿಕವಾಗಿ ಅರ್ಥಮಾಡಿಕೊಳ್ಳುತ್ತಾರೆ. CO5: [Level4] ತಾಯಿಯ ಮಹತ್ವ ಮತ್ತು ತಾಯಿಯ ವಾತ್ಸಲ್ಯವನ್ನು ಅರಿತುಕೊಳ್ಳುತ್ತಾರೆ.		
B. Syllabus		
Module:1: ಪ್ರೀತಿ ಇಲ್ಲದ ಮೇಲೆ – ಜಿ.ಎಸ್ ಶಿವರುದ್ರಪ್ಪ		**4 Hours**
ಕವಿ ಪರಿಚಯ, ಪ್ರೀತಿಯ ವಿವಿಧ ಆಯಾಮಗಳನ್ನು ಪರಿಚಯಿಸುವುದು, ಬದುಕಿನ ಚೈತನ್ಯವಾಗಿ ಪ್ರೀತಿ, ಆಧುನಿಕ ಜಗತ್ತಿನಲ್ಲಿ ಪ್ರೀತಿಯ ಅಸ್ತಿತ್ವವನ್ನು ಪರಿಚಯಿಸುವುದು, ಪ್ರಕೃತಿ ಮತ್ತು ಮನುಷ್ಯನ ನಡುವಿನ ಪ್ರೀತಿಯ ಸಂಬಂಧವನ್ನು ತಿಳಿಸುವುದು		
Module:2: ಬಸವಣ್ಣನವರ ವಚನಗಳು		**6 Hours**
ವಚನ ಸಾಹಿತ್ಯದ ಪರಿಚಯ, ಕನ್ನಡ ಸಾಹಿತ್ಯದಲ್ಲಿ ವಚನಗಳ ಮಹತ್ವ, ಪ್ರಮುಖ ವಚನಕಾರರ ಪರಿಚಯ, ವಚನ ಸಾಹಿತ್ಯ ಪ್ರಮುಖ ಅಂಶಗಳ ಬಗೆಗೆ ತಿಳಿಸುವುದು, ವಚನ ಸಾಹಿತ್ಯದಲ್ಲಿ ಇರುವ ಜೀವನ ಮೌಲ್ಯಗಳ ಬಗೆಗೆ ವಿಶ್ಲೇಷಣೆ, ಬಸವಣ್ಣನವರ ಪರಿಚಯ, ಬಸವಣ್ಣನವರ ಜೀವನದ ಪ್ರಮುಖ ಘಟನೆಗಳ ಬಗೆಗೆ ವಿವರಣೆ, ಬಸವಣ್ಣನವರ ವಚನಗಳ ತಾತ್ವಿಕ ವಿಚಾರದ ಬಗೆಗೆ ಚರ್ಚೆ.		
Module:3: ಧನ್ವಂತರಿ ಚಿಕಿತ್ಸೆ – ಕುವೆಂಪು		**8 Hours**
ಕತೆಯ ಲೇಖಕರ ಪರಿಚಯ, ಪುರಾಣಗಳ ಪರಿಚಯ, ಪುರಾಣ ಪಾತ್ರಗಳ ವಿವರಣೆ, ಕತೆಯ ವಿವರದೊಂದಿಗೆ ರೈತರ ಇಂದಿನ ಸಮಸ್ಯೆಗಳ ವಿಶ್ಲೇಷಣೆ, ಕತೆಯು ಪ್ರಸ್ತುತ ಸ್ಥಿತಿಯನ್ನು ವಿವರಿಸುವಲ್ಲಿ ಯಶಸ್ವಿಯಾಗಿದೆ ಎಂಬುದನ್ನು ತಿಳಿಸುವುದು, ಧನ್ವಂತರಿ ಕತೆಯ ಆಶಯವನ್ನು ವಿವರಿಸುವುದು, ರೈತರ ಸಮಸ್ಯೆಗಳಿಗೆ ಹೊಸ ಬಗೆಯ ಪರಿಹಾರಗಳನ್ನು ಕುರಿತು ಚಿಂತನೆಗೆ ತೊಡಗುವುದು.		

Course Code: CPSAL1081 English: (SOM/SOEC/SOSSH/SOSS/SOD/SOA) Batch-2024
CO1: Define Critical Thinking skills (L1) **CO2:** Compare the poetical terms and integrate creative ideas in the English Language. (L2) **CO3:** Interpret meaningful connectivity on the basis of characters with the plot.(L2) **CO4:** Develop Narrative skills to improve their writing proficiency. (L3) **CO5:** Construct sentences to improve their Verbal Skills.(L3)

Oral and Written Communication (4 group Schools) Course Code: CPSAL2032 Batch:2024
CO1: Apply different listening techniques to effectively engage with diverse speakers and situations. (L3) CO2:Demonstrate proficiency in both oral and written communication, effectively expressing ideas, opinions, and information in a clear and coherent manner. (L3) CO3: Use the different methods and strategies of reading. (L3) CO4: Apply acquired knowledge in writing using appropriate tone and structure. (L3) CO5: Analyze and interpret grammatical structure in texts to enhance communication skills in various contexts, including academic writing, professional correspondence, and interpersonal communication. (L2, L3)

GR Course

GPSDR1091 : Personality Development

CO1:Identify their personal strengths, weaknesses, and interests to develop a practical career plan. [Level 3]

CO2: Develop a well defined career objective aligned with their chosen career trajectory [Level 3]

CO3: Demonstrate their own understanding of 21st century skills critically, to identify their areas of strengths and weaknesses, and work on them consciously [Level-3].

CO4:Compare and contrast different strategies for regulating and managing emotions and evaluate the impact of emotions on personal and professional relationships [Level-4].

Preparing for Aptitude Tests [UG-1/3]
CO1: Determine the calculation techniques for quick calculations and manipulation of numbers. CO2: Apply the concepts of percentages, exponents, ratios, proportions, and averages for computing simple, compound interests and to calculate class /set relationships. CO3: Solve problems of various arrangements (Circular and Linear). CO4: Analyze the different graphs and interpret their specific components by solving problems. CO5: Improve their grasp of English grammar to understand problems relating to verbal ability.