E.M. GOPALAKRISHNA KONE YADAVA WOMEN'S COLLEGE

An Autonomous Institution –Affiliated to Madurai Kamaraj University
Re-accredited (3rd Cycle) with Grade A+ & CGPA 3.51 by NAAC

LESSON PLAN
2023-2024

DEPARTMENT OF COMPUTER APPLICATIONS

(UG – Odd & Even Semester)

DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2023 ODD SEMESTER

TITLE : Python Programming	**SEMESTER**	: I
SUB CODE : 23OUCA11	**CLASS**	: I BCA
NAME OF THE STAFF : P. Indhuja	**TOTAL HOURS**	: 75 Hrs

Month	Unit	Description	Hours	Mode of Teaching	Signature
July 2023	I	**Basics of Python Programming:** History of Python-Features of Python-Literal-Constants-Variables - Identifiers–Keywords-Built-in Data Types-Output Statements – Input Statements-Comments – Indentation-Operators-Expressions-Type conversions. **Python Arrays:** Defining and Processing Arrays – Array methods.	15	Chalk and Talk	
Aug 2023	II	**Control Statements:** Selection/Conditional Branching statements: if, if-else, nested if and if-elif-else statements. Iterative Statements: while loop, for loop, else suite in loop and nested loops. **Jump Statements:** break, continue and pass statements.	15	Chalk and Talk	
	III	**Functions:** Function Definition – Function Call – Variable Scope and its Lifetime-Return Statement. **Function Arguments:** Required Arguments, Keyword Arguments, Default Arguments	15	Chalk and Talk, PPT	

Sep 2023		and Variable Length Arguments- Recursion. **Python Strings:** String operations- Immutable Strings - Built-in String Methods and Functions - String Comparison. **Modules:** import statement- The Python module – dir() function –Modules and Namespace – Defining our own modules.			
Oct 2023	IV	**Lists:** Creating a list -Access values in List-Updating values in Lists- Nested lists -Basic list Operations-List Methods. **Tuples:** Creating, Accessing, Updating and Deleting Elements in a tuple – Nested tuples– Difference between lists and tuples. **Dictionaries:** Creating, Accessing, Updating and Deleting Elements in a Dictionary – Dictionary Functions and Methods - Difference between Lists and Dictionaries.	15	Chalk and Talk, Assignment	P.folly
Nov 2023	V	**Python File Handling:** Types of files in Python - Opening and Closing files- Reading and Writing files: write () and wirelines() methods- append() method – read() and readlines() methods – with keyword – Splitting words – File methods - File Positions- Renaming and deleting files.	15	Seminar	P.folly

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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2023 ODD SEMESTER

TITLE : Digital Logic Fundamentals   **SEMESTER :I**
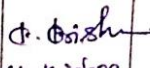**SUB CODE** : 23OUCADSE1   **CLASS : 1 BCA**
NAME OF THE STAFF :K. Krishnaveni   **TOTAL HOURS : 60Hours**

Month	Unit	Description	Hours	Teaching Methods	Signature
June 2023	I	Number Systems and Codes: Number System– Base Conversion – Binary Codes – Code Conversion. Digital Logic: Logic Gates – Truth Tables – Universal Gates.	10 hrs	Chalk & Talk	(k. krishna Veni)
July 2023	II	Boolean Algebra: Laws and Theorems – SOP, POS Methods – Simplification of Boolean Functions – Using Theorems, K-Map, Prime – Implicant Method – Binary Arithmetic: Binary Addition – Subtraction – Various Representations of Binary Numbers–Arithmetic Building Blocks–Adder–Subtractor.	15 hrs	Chalk & Talk	(k. krishna Veni)
Aug 2023	III	Combinational Logic: Logic: Multiplexers -16 to 1 Multiplexer-nibble multiplexer Demultiplexers –1 to 16 Demultiplexer Decoders – 1 of 16 Decoder- BCD- to Decimal Decoder- Encoders- Decimal to BCD encoders –Parity Generators and Checkers.	15 hrs	PPT	(k. krishna Veni)
Sep 2023	IV	Sequential Logic: RS, JK, D, and T Flip-Flops– Master-Slave Flip Flops. Registers: Shift Registers -Types of Shift Registers.	10 hrs	PPT	(k. krishna Veni)

| Oct 2023 | V | Asynchronous and Synchronous Counters - Ripple, Mod, Up- Down Counters– Ring Counters. Memory: Basic Terms and Ideas – Types of ROMs –Types of RAMs. | 10 hrs | Chalk & Talk | Φ. βπολι (k. krishna Veni) |

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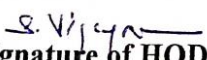
DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2023 ODD SEMESTER
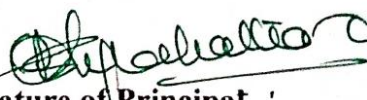
TITLE : Java Programming	**SEMESTER :III**	
SUB CODE : 22OUCA31	**CLASS : II BCA**	
NAME OF THE STAFF :K. Krishnaveni	**TOTAL HOURS : 60 Hours**	

Month	Unit	Description	Hours	Teaching Methods	Signature
June 2023	I	Fundamentals of Object-Oriented Programming: Introduction-Basic concepts of OOPs. Java Evolution: Java Features. Overview of Java Language: Simple Java Program-Java program Structure-Implementing a Java Program - Java Virtual Machine-Command Line Arguments. Constants, Variables & Data types: Introduction-Constants-Variables-Data Types-Declaration of Variables-Giving Values to Variables-Scope of Variables-Symbolic Constants-Type Casting-Getting Values of Variables. Operators and Expressions: Introduction-Arithmetic Operators-Relational Operators –Logical Operators – Assignment Operators -Increment and Decrement Operators-Conditional Operator – Bitwise Operators -Special Operators-Mathematical functions.	15 hrs	Chalk & Talk	Φ. Φοιολυ (K. Krishna Veni)

Month	Unit	Topic	Hours	Method	Signature
July 2023	II	Decision Making and Branching: Introduction-Decision making with if statement-Simple if Statement-The if...Else statement-Nesting of if...Else Statements-The Else if Ladder-Switch statement-The ? : Operator. Decision Making and Looping: Introduction-while Statement-do Statement-for Statement-Jumps in Loops-Labeled Loops. Classes, Objects and Methods: Introduction-Defining a Class-Fields Declaration-Method of Declaration-Creating Objects-Accessing Class Members-Constructors-Method Overloading-Static Members-Nesting of Methods-Inheritance: Extending a Class-Overriding Methods-Final Variables and Methods-Final classes - Finalizer Methods-Abstract Methods and Classes-Visibility control.	10 hrs	Chalk & Talk	D. krishn (k. krishna Vani)
Aug 2023	III	Arrays, Strings and Vectors: Introduction-One-dimensional Arrays-Creating An Array-Two-dimensional Arrays-Strings-Vectors-Wrapper Classes-Enumerated types. Interfaces: Multiple Inheritances: Introduction-Defining Interfaces-Extending Interfaces-Implementing Interfaces-Accessing Interface Variables. Packages: Putting Classes Together: Introduction-Java API Packages-Using System packages -Naming Conventions-Creating Packages-Accessing a Package-Using a Package-Adding a Class to a Package-Hiding Classes-Static Import.	10 hrs	PPT	D. krishn (k. krishna Vani)
Sep 2023	IV	Multithreaded Programming: Introduction-Creating Threads-Extending the thread Class-Stopping and Blocking a Thread-Life Cycle of a Thread. Managing Errors and Exceptions: Introduction-Types of errors - Exceptions-Syntax of Exception Handling Code-Multiple Catch Statements-Using Finally Statement.	12 hrs	PPT	D. krishn (k. krishna Vani)

Oct 2023	V	Applet Programming: Introduction- Applet Life Cycle- Applet tag. Managing Input/output Files in Java: Byte Stream classes - Character stream classes- Other Stream classes. Java Database Connectivity: Introduction – JDBC Architecture. Java Servlets & Java Server: Introduction – Evolution of N-Tier Architecture – Overview Servlets.	13 hrs	Chalk & Talk	d.krishn (Ck.krishna Veni)

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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2023 ODD SEMESTER

TITLE : Relational Database Management System
SEMESTER : III
SUB CODE : 22OUCA32 CLASS : II BCA
NAME OF THE STAFF :R.Keerthana TOTAL HOURS : 60 Hrs

Month	Unit	Description	Hours	Mode of Teaching	Signature
July 2023	I	**Overview of Database Systems:** Managing Data – A Historical Perspective – File Systems Versus a DBMS – Advantages of a DBMS – Describing and Storing Data in a DBMS – Queries in a DBMS – Transaction Management – Structure of a DBMS – People Who Work with Databases. **Introduction to Database Design:** Database Design and ER Diagrams – Entities, Attributes, and Entity Sets – Relationships and Relationship Sets – Additional Features of ER Model – Conceptual Design with the ER Model.	12	Chalk and Talk	
Aug 2023	II	**The Relational Model:** Introduction to the Relational Model – Integrity Constraints over Relations – Enforcing Integrity Constraints – Querying Relational Data – Logical Database Design: ER to Relational – Introduction to Views – Destroying / Altering Tables and Views. **Overview of Storage And Indexing:** Data on External Storage – File organizations	12	Chalk and Talk	

		and Indexing - Index Data Structures – Comparison of File Organization.			
Sep 2023	III	**SQL Queries, Constraints, Triggers:** The Form of a Basic SQL Query - UNION, INTERSECT, and EXCEPT – Nested Queries – Aggregate Operators – Null Values – Complex Integrity Constraints in SQL – Triggers and Active Databases – Designing Active Databases.	12	Chalk and Talk, PPT	R Latha
Oct 2023	IV	Schema **Refinement and Normal Forms:** Introduction to Schema Refinement – Functional Dependencies – Reasoning about FD's – Normal Forms – Properties of Decompositions – Normalization – Schema Refinement in Database Design – Other Kinds of Dependencies	12	Chalk and Talk, Assignment	R Latha
Nov 2023	V	**Internet Applications:** Introduction-Internet Concepts-HTML Documents-XML Documents-The Three-Tier Application Architecture. **Security and Authorization:** Introduction to Database Security - Access Control – Discretionary Access Control – Mandatory Access Control – Security for Internet Applications – Additional Issues Related to Security.	12	Seminar	R Latha

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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2023 ODD SEMESTER

TITLE : Operating System   **SEMESTER** : V

SUB CODE : 21J51   **CLASS** : III BCA

NAME OF THE STAFF : P. Indhuja   **TOTAL HOURS : 60 Hrs**

Month	Unit	Description	Hours	Mode of Teaching	Signature
July 2023	I	**Introduction:** What Operating Systems Do-Computer System Organization-Computer System Architecture-Operating System Structure-Operating System Operations-Process Management – Memory management – Distributed Systems. **System Structures:** Operating System Services- User Operating System Interface-System Calls-Types of System Calls-System Programs.	12 hrs	Chalk and Talk	P. ᴵᵈᵈᵖ
Aug 2023	Ii	**Processes:** Process Concept-Process scheduling-Operation on process-Inter process communication- Examples of IPC Systems-Communication in Client Server Systems- **Threads:** Overview-Multithreading Models-Thread Libraries-Threading Issues Operating System Examples.	12 hrs	Chalk and Talk	P. ᴵᵈᵈᵖ
Sep 2023	Iii	**CPU Scheduling:** Basic concepts- Scheduling criteria-Scheduling algorithms. Thread Scheduling-Multiple			

		Processor Scheduling-**Process Synchronization:** Background – The Critical Section Problem- Semaphores-Monitors. Deadlocks: Deadlock Characterization – Methods of Handling Deadlocks – Deadlock Prevention – Deadlock Avoidance.	12 hrs	Chalk and Talk, PPT	ℛ ᵗᵈⁿᵖ
Oct 2023	IV	**Main Memory:** Background-swapping-Contiguous Memory allocation-Paging-Structure of the Page Table-Segmentation-**Virtual Memory Management**: Background-Demand Paging-Copy on Write-Page Replacement-Allocation of Frames.	12 hrs	Chalk and Talk, Assignment	ℛ ᵗᵈⁿᵖ
Nov 2023	V	**File System:** File concepts -Access methods-**File System Implementation:** File System Structure-Allocation Methods-Free Space Management. **Secondary Storage Structure:** Overview of Mass Storage Structure-Disk structure- Disk Scheduling-Disk Management-Swap Space Management.	12 hrs	Seminar	ℛ ᵗᵈⁿᵖ

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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2023 ODD SEMESTER

TITLE	: Software Engineering	**SEMESTER :V**
SUB CODE	: 21J52	**CLASS : III BCA**
NAME OF THE STAFF	:K. Krishnaveni	**TOTAL HOURS : 90 Hours**

Month	Unit	Description	Hours	Teaching Methods	Signature
June 2023	I	Software and Software Engineering: The Nature of Software – Software Engineering–The Software Process- Process Models: A Generic Process Model Process Assessment and Improvement–PrescriptiveProcessModels– SpecializedProcessModels–TheUnifiedProcess – Personal and Team Process Models. Agile Development: What is Agility? – Agility and the Cost of Change – What is an Agility process?.	18 hrs	Chalk & Talk	Φ.dnshu (K. trishna vart)
July 2023	II	Understanding Requirements: Requirements Engineering – Establishing the Groundwork - Eliciting Requirements - Developing Use Cases. Requirements Modeling: Requirements Analysis – Data Modeling Concepts – Class-Based Modeling.	18 hrs	Chalk & Talk	Φ.dnshu (k. trishna Vani)
Aug 2023	III	Design Concepts: Design Concepts -The Design Model. Architectural design: Architectural Design. Component – Level Design: What is a Component?–Designing Class-Based Components – Components-Level Design for Web Apps. User Interface Design: User Interface Analysis and Design.	18 hrs	PPT	Φ.dnshu (Jr. krishna Vani)

Sep 2023	IV	Review Techniques: Informal Reviews- Formal Technical Reviews-Software0020Quality Assurance: SQA Tasks, Goals and Metrics- Software Reliability -- The ISO 9000 Quality Standards - The SQA Plan. Software Testing Strategies: A Strategic Approach to Software Testing –Test Strategies for conventional Software- Validation Testing-System Testing – The Art of Debugging. Software Configuration Management: Software Configuration Management – The SCM Repository – The SCM Process.	18 hrs	PPT	φ. θιοδη (k. Krishna Vani)
Oct 2023	V	Estimation for Software Projects: Software Project Estimation - Empirical Estimation Models. Project Scheduling: Project Scheduling – Defining a Task Set for the Software Project – Defining a Task Network – Scheduling. Risk Management: Software Risk – Risk Identification – Risk Projection – Risk Refinement–Risk Mitigation, Monitoring and management-The RMMM Plan.	18 hrs	Chalk & Talk	φ. θιοδη (k. Krishna Vani).

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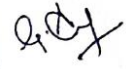# DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2023 ODD SEMESTER

TITLE   : Core- Python Programming   SEMESTER :V

SUB CODE   : 21J53   CLASS : III BCA

NAME OF THE STAFF   : G.Alamelu   TOTAL HOURS : 60 Hours

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
June 2023	I	Introduction to Computer and Python Programming: History of Python – Installing Python in Ubuntu - Executing Python Programs – Commenting in Python – Internal Working of Python – Python Implementations. Basics of Python programming: Python Character Set – Token – Python Core Data Type – The print ( ) Function – Assigning Value to a Variable – Multiple Assignments – Writing Simple Program in Python – The input( ) Function – The eval ( ) Function – Formatting Number and Strings – Python Inbuilt Functions.	12 hrs	Chalk & Talk	
July 2023	II	Operators and Expressions: Introduction – Operators and Expressions – Arithmetic Operators Precedence and Associativity – Changing Precedence and Associativity – Translating Mathematical Formulae into Equivalent Python Expressions – Bitwise Operator – The Compound Assignment Operator. Decision Statements: Introduction – Boolean Type – Boolean Operators – Using Numbers with Boolean Operators – Using String with Boolean Operators – Boolean	12 hrs	Chalk & Talk	

		Expressions and Relational Operators – Decision Making Statements – Conditional Expressions.			
Aug 2023	III	Loop Control Statements: Introduction – The while Loop – The range ( ) Function – The for Loop – Nested Loops – The break Statement – The continue Statement. Functions: Introduction – Syntax and Basics of a Function – Use of a Function – Parameters and Arguments in a Function – The Local and Global Scope of a Variable - The return Statement – Recursive Functions	12 hrs	PPT	
Sep 2023	IV	Strings: Introduction – The str class – The String Operators – String Operations. Lists: Introduction – Creating Lists – Accessing the Elements of a List – Negative List Indices – List Slicing [Start: end] – List Slicing with Step Size – Python Inbuilt Functions for Lists – The List Operator.	12 hrs	PPT	
Oct 2023	V	Object-Oriented Programming: Class, Object and Inheritance: Introduction – Defining Classes –The Self-parameter and Adding Methods to a Class – Display Class Attributes and Methods – Special Class Attributes – Accessibility – The_init_Method (Constructor) - Passing an Object as Parameter to a Method - _del_( ) (Destructor Method) – Class Membership Tests – Method Overloading in Python – Operator Overloading – Inheritance – Types of Inheritance – Method Overriding. Tuples, Sets and Dictionaries: Introduction to Tuples – Sets.	12 hrs	Chalk & Talk	

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LESSON PLAN
2023 ODD SEMESTER
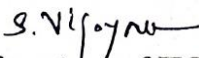
Title : Computer Graphics   Semester : V

Sub Code : 21JE5A   Class : III BCA

Name of The Staff : G.Alamelu   Total Hours : 60Hours

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
June 2023	I	A Survey of computer graphics: Computer –Aided Design – Presentation Graphics – Computer Art – Entertainment – Education and Training – Visualization – Image Processing – Graphical user Interfaces. Overview of Graphics system: Video display devices- Refresh Cathode-Ray Tubes, Raster scan Displays, Random-Scan Displays, Color CRT Monitors, Direct-View Storage Tubes, Flat - Panal Displays, Three-Dimensional Viewing Devices, Stereoscopic and Virtual-Reality Systems- Raster-Scan systems-Random-Scan systems –Graphics Monitors and Workstations-Input Devices-Hard copy devices.	12 hrs	Chalk & Talk	
July 2023	II	Output Primitives: Points and lines-Line Drawing Algorithms: DDA Algorithm, Bresenham's Line Algorithm, Parallel Line Algorithms-Loading the frame buffer-Circle generating algorithms- Other curves-Pixel Addressing-Filled area primitives: Inside-Outside Tests- Boundary-Fill Algorithm -Flood-Fill Algorithm -Fill-Area Functions-Cell Array- Character Generation.	12 hrs	Chalk & Talk	
Aug 2023	III	Attributes of Output Primitives: Line attributes: Line Type, Line Width, Line Color-Color and grayscale levels-Area fill attributes-Character		PPT	

		attributes-Bundled attributes-Antialising: Antialising Area Boundaries.	12 hrs		
Sep 2023	IV	Two- Dimensional Geometric Transformations: Basic Transformations: Translation- Rotation-Scaling-Matrix representations and homogeneous coordinates-Composite transformations: Translations-Rotations-Scaling-General pivot point Rotation-General Scaling Directions-Concatenation Properties. Structure & Hierarchical Modeling: Structure Concepts: Basic Structure Functions– Setting Structure Attributes– Editing Structures: Structure Lists and the Element Pointer– Setting the Edit Mode-Inserting Structure Elements-Replacing Structure Elements-Deleting Structure Elements-Labeling Structure Elements. Basic Modeling Concepts: Model Representations-Symbol Hierarchies- Modeling Packages.	12 hrs	PPT	
Oct 2023	V	Two –Dimensional Viewing: The Viewing Pipeline-Window-to-View port Coordinate transformation-Two-Dimensional Viewing functions-Clipping Operations-Point clipping-Line clipping: Cohen-Sutherland Line Clipping, Liang-Barsky Line Clipping, Nicholle-Lee-Nicholl Line Clipping- Line Clipping using Non Rectangular – Clip Windows – Splitting Concave Polygon - Polygon Clipping: Sutherland-Hodgeman Polygon Clipping – Weiler Atherton Polygon Clipping - Other Polygon Clipping Algorithms-Curve Clipping-Text clipping –Exterior Clipping.	12 hrs	Chalk & Talk	

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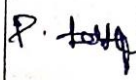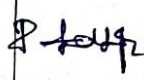
DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2023 EVEN SEMESTER

TITLE	: Object Oriented Programming Concepts using C++
SUB CODE	: 23OUCA21 **SEMESTER : II**
NAME OF THE STAFF	: P. Indhuja **CLASS : I BCA**
TOTAL HOURS	: 75 Hours

Month	Unit	Description	Hours	Mode of Teaching	Signature
Dec 2023	I	Introduction to C++ - key concepts of Object-Oriented Programming – Advantages – Object Oriented Languages - C++ Declarations. - new and delete operators - Control Structures: Decision Making and Statements: If..else, jump, goto, break, continue, Switch case statements - Loops in C++ :for, while, do - Functions in C++: inline functions – Function Overloading.	15	Chalk and Talk	P. Indhuja
Jan 2024	II	Classes and Objects: Declaring Objects – Defining Member Functions – Static Member variables and functions – array of objects – friend functions – Constructor & Destructor: Constructor – Destructor – Parameterized Constructor	15	Chalk and Talk	P. Indhuja
Feb 2024	III	Operator Overloading: Overloading unary, binary operators – Overloading Friend functions –type conversion – Inheritance: Types of Inheritance – Single, Multilevel,	15	Chalk and Talk, PPT	P. Indhuja

Feb 2024	lii	**Clustering:** Introduction – Similarity and Decision Measures – Outliers – Hierarchical Algorithms – Partitional Algorithms – Clustering Large Databases – Clustering with Categorical Attributes.	15 hrs	Chalk and Talk, PPT	
Mar 2024	IV	**Association Rules:** Introduction – Large Itemsets –Basic Algorithms – Parallel and Distributed Algorithms. **Web Mining:** Introduction – Web Content Mining - Web Structure Mining.	15 hrs	Chalk and Talk, Assignm ent	P. lolly
Apr 2024	V	**Spatial Mining:** Introduction – Spatial Data Overview – Spatial Data Mining Primitives – Generalization and Specialization – Spatial Classification Algorithms – Spatial Clustering Algorithm. **Temporal Mining:** Introduction – Modeling Temporal Events – Time Series.	15 hrs	Seminar	P. lolly

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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2024 EVEN SEMESTER

TITLE: Data Structures and Computer Algorithms   **SEMESTER :IV**
SUB CODE   : 22OUCA41   **CLASS : II BCA**
NAME OF THE STAFF   :K. Krishnaveni   **TOTAL HOURS : 60Hours**

Month	Unit	Description	Hours	Teaching Methods	Signature
Dec 2023	I	Unit-I Introduction And Overview: Introduction- Basic Terminology; Elementary Data Organization - Data Structures - Data Structure Operations. String Processing: Introduction – Basic Terminology – Storing Strings - Character Data Type – String Operation. Arrays Records and Pointers: Introduction-Linear Arrays- Representation of Linear Arrays in Memory- Traversing Linear Arrays-Inserting and Deleting-Searching; Linear Search - Multidimensional Arrays.	12 hrs	Chalk & Talk	₵. ₵oíɾʃʰ (K. ƀɾiʃʰɳɑ Vaɾi)
Jan 2024	II	Linked Lists: Introduction-Linked Lists- Header Linked Lists -Two-way Lists. Stacks, Queues, Recursion: Introduction - Stacks – Array Representation of Stack- Linked Representation of Stack- Towers of Hanoi - Queues – Linked Representation of Queues -Deques-Priority Queues.	10 hrs	Chalk & Talk	₵. ₵oíɾʃʰ (K. ƀɾiʃʰɳɑ Vaɳi)
Feb 2024	III	Trees: Introduction- Binary Trees - Representation of Binary Trees in Memory – Traversing Binary Trees – Binary Search Trees. Graphs and Their Applications: Introduction-	10 hrs	PPT	₵. ₵oíɾʃʰ (K. ƀɾiʃʰɳɑ Vaɳi)

		Graph Theory Terminology- Warshall's Representation of a graph - Operations on Graphs.			
Mar 2024	IV	Introduction: What is an Algorithm? – Algorithm Specification – Performance Analysis – Divide and Conquer: General method – Binary Search – Finding the Maximum and Minimum – Merge Sort – Quick Sort.	14 hrs	PPT	k.dishu (K·Krishna Veni)
Apr 2024	V	The Greedy Method: General Method – Knapsack problem – Job Sequencing with Deadlines – Minimum cost Spanning trees- Prim's Algorithm – Kruskal Algorithm – Optimal Storage on tapes – Optimal merge patterns – Single –sources Shortest Paths-Backtracking: The General Method – The 8-Queens Problem.	14 hrs	Chalk & Talk	k.dishu (k·Krishna Veni)

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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2024 EVEN SEMESTER

TITLE: Data Communication and Computer Networks   **SEMESTER :IV**
SUB CODE   : 22OUCA42   **CLASS : II BCA**
NAME OF THE STAFF   :K. Krishnaveni   **TOTAL HOURS : 60 Hours**

Month	Unit	Description	Hours	Teaching Methods	Signature
Dec 2023	I	Introduction: A Brief History – Application – Computer Networks – Categories of Networks – Standards and Standards Organizations. Network Architectures and OSI Model: Network Architecture – Open Systems and OSI Model - TCP/IP Architecture – Advantages and Disadvantages of Layer Architectures - Distributed Systems and Client-Server Models.	12 hrs	Chalk & Talk	P. Krishn (k. krishna Veni).
Jan 2024	II	Communication Media and Data Transmission: Data Representation and Transmission –Fourier Analysis–Analog and Digital Data Transmission – Modulation and Demodulation - Transmission media –Wireless Communications – Data Transmission Basics – Transmission Mode – Interfacing - Multiplexing. Error Detection and Correction: Types of Errors – Error Detection – Error Correction.	10 hrs	Chalk & Talk	P. Krishn (k. krishna Veni)
Feb 2024	III	Data Link Control and Protocol Concepts: Flow Control – Error Control–Asynchronous Protocols – Synchronous Protocols – High-Level Data Link Control (HDLC). Wide Area Networks: WAN Transmission Methods - WAN Transmission	10 hrs	PPT	P. Krishn (k. krishna Veni)

		Equipments – WAN Design and Multicast Considerations – WAN Protocols.			
Mar 2024	IV	Integrated Services and Routing Protocols: Integrating Services – ISDN Services –ISDN Topology – ISDN Protocols – Broadband ISDN – Asynchronous Transfer Mode (ATM) – Principal Characteristics of ATM–Frame Relay. Internetworking: Principles of Internetworking – Datagram and Virtual Circuit Services - Routing Principles – Internetwork Protocols (IP) – Shortcomings of IPv4 - IP Next Generation.	14 hrs	PPT	d. Boishu (K. Krishna Veni)
Apr 2024	V	Network Applications: Client-Server Model – Domain Name System (DNS) – Telnet – File transfer And Remote File Access – Electronic Mail – World Wide Web (WWW). Networking Security: Fundamental Concepts – A Model for Network Security–Malicious Software – Security Services and Cryptography–Security Network Using Firewall– Intrusion Detection – Network Security Tools	14 hrs	Chalk & Talk	d. Boishu (K. Krishna Veni)

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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2023-2024 EVEN SEMESTER

Title : Core-Web Technology		**Semester : VI**
Sub Code : 21J681		**Class:III BCA**
Name Of The Staff : G.Alamelu		**Total Hours : 60 Hours**

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Dec 2023	I	**Introduction to HTML5:** Introduction-Editing HTML5-First HTML5 Example-W3C HTML5 Validation Service-Headings-Linking - Images: Alt Attribute- Void Elements – Using Images as Hyperlinks -Special Characters and Horizontal Rules-Lists-Tables-Forms-Internal Linking-Meta Element-New HTML5 Form input Types.	12 hrs	Chalk & Talk	
Jan 2024	II	**Introduction to Cascading Style SheetsTM(CSS):** Introduction –Inline Styles-Embedded Style Sheets-Conflicting Styles-Linking External Style Sheets-Positioning Elements: Absolute Positioning, Z-index-Positioning Elements: Relative Positioning, span-Backgrounds-Text Shadows-Rounded Corners-Color-Box Shadows-Linear Gradients; Introducing Vendor Prefixes-Radial Gradients – (Optional: WebKit Only)Text Stroke-Multiple Background Images-(Optional: WebKit Only)Reflections-Image Borders-Animation; Selectors-Transitions and Transformations.	12 hrs	Chalk & Talk	

Feb 2024	III	**JavaScript:** Introduction to Scripting: Introduction-Your First Script: Displaying a Line of Text with JavaScript in a Web Page-Memory Concepts- JavaScript: Function : Function Definitions-JavaScript Global Functions-JavaScript: Arrays: Arrays- Declaring and Allocating Arrays- Passing Arrays to Functions-Multidimensional Arrays - JavaScript: Objects: String Objects-Date Object-Boolean and Number Objects-Document Object-Using JSON to Represent Objects.	12 hrs	Chalk & Talk	ℛ.ᵱ𝒴
Mar 2024	IV	**Database:** SQL, MySQL, LINQ and Java DB : Introduction - Relational Databases - Relational Database Overview: A books Database - SQL - Basic SELECT Query - WHERE Clause - ORDER BY Clause - Merging Data from Multiple Tables: INNER JOIN - INSERT Statement -UPDATE Statement - DELETE Statement - MySQL - Instructions for Setting Up a MySQL User Account - Creating Databases in MySQL.	12 hrs	PPT	ℛ.ᵱ𝒴
April 2024	V	**XML:** Introduction - XML Basics-Structuring Data-XML Namespaces-Document Type Definition(DTDs). **PHP:** Introduction-Simple PHP Program-Converting Between Data Types-Arithmetic Operators-Initializing and Manipulating Arrays-String Comparisons-String Processing with Regular Expressions.	12 hrs	PPT	ℛ.ᵱ𝒴

S. Vijaya
Signature of HOD

Signature of Principal
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MADURAI-625 014

DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2023-2024 EVEN SEMESTER

Title	: Core-Data Communication and Computer Networks
Semester	: VI **Class: III BCA**
Sub Code	: 21J62 **Total Hours : 60 Hours**
Name of The Staff	: G. Alamelu

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Dec 2023	I	**Introduction:** A Brief History – Application – Computer Networks – Categories of Networks – Standards and Standards Organizations. **Network Architectures and OSI Model :** Network Architecture – Open Systems and OSI Model - TCP/IP Architecture – Advantages and Disadvantages of Layer Architectures - Distributed Systems and Client-Server Models.	12 hrs	Chalk & Talk	
Jan 2024	II	**Communication Media and Data Transmission:** Data Representation and Transmission – Fourier Analysis–Analog and Digital Data Transmission – Modulation and Demodulation - Transmission media –Wireless Communications – Data Transmission Basics – Transmission Mode – Interfacing - Multiplexing. **Error Detection and Correction:** Types of Errors – Error Detection – Error Correction.	12 hrs	Chalk & Talk	

Month	Unit	Content	Hours	Method	Signature
Feb 2024	III	**Data Link Control and Protocol Concepts:** Flow Control – Error Control–Asynchronous Protocols – Synchronous Protocols – High-Level Data Link Control (HDLC).**Local Area Networks:** LAN Transmission Equipment – Ethernet: IEEE Standard 802.3 - Token Bus: IEEE Standard 802.4 - Token Ring: IEEE Standard 802.5 – Fiber Distributed Data Interface (FDDI) – Distributed Queue Dual Bus - (DQDB): IEEE Standard 802.6 – Ethernet Technologies.	12 hrs	PPT	
Mar 2024	IV	**Integrated Services and Routing Protocols:** Integrating Services – ISDN Services –ISDN Topology – ISDN Protocols – Broadband ISDN – Asynchronous Transfer Mode (ATM) – Principal Characteristics of ATM–Frame Relay. **Internetworking:** Principles of Internetworking – Datagram and Virtual Circuit Services - Routing Principles – Internetwork Protocols (IP) – Shortcomings of IPv4 - IP Next Generation.	12 hrs	PPT	
April 2024	V	**Network Applications:** Client-Server Model – Domain Name System (DNS) – Telnet – File transfer And Remote File Access – Electronic Mail – World Wide Web (WWW). **Networking Security:** Fundamental Concepts – A Model for Network Security– Malicious Software – Security Services and Cryptography– Security Network Using Firewall– Intrusion Detection – Network Security Tools.	12 hrs	Chalk & Talk	

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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2023 EVEN SEMESTER

TITLE : Data Mining	**SEMESTER** : VI	
SUB CODE : 21JE6A	**CLASS** : III BCA	
NAME OF THE STAFF : P. Indhuja	**TOTAL HOURS : 75 Hrs**	

Month	Unit	Description	Hours	Mode of Teaching	Signature
Dec 2023	I	**Introduction:** Basic Data Mining –Data Mining Versus Knowledge Discovery in Databases – Data Mining Issues – Data Mining Metrics – Social Implications of Data Mining – Data Mining from a Database Perspective. **Related Concepts:** Database / OLTP Systems – Fuzzy Sets and Fuzzy Logic – Information Retrieval – Decision Support Systems – Dimensional Modeling – Data Warehousing – OLAP.	15 hrs	Chalk and Talk	P Indu
Jan 2024	Ii	**Data Mining Techniques:** Introduction – A Statistical Perspective on Data Mining – Similarity Measures – Decision Tress – Neural Networks – Genetic Algorithms. **Classification:** Introduction – Statistical-Based Algorithms –Distance-Based Algorithms –Decision Tree-Based Algorithms.	15 hrs	Chalk and Talk	P Indu

Feb 2024	lii	**Clustering:** Introduction – Similarity and Decision Measures – Outliers – Hierarchical Algorithms – Partitional Algorithms – Clustering Large Databases – Clustering with Categorical Attributes.	15 hrs	Chalk and Talk, PPT	P. ᚤᛚ
Mar 2024	IV	**Association Rules:** Introduction – Large Itemsets –Basic Algorithms – Parallel and Distributed Algorithms. **Web Mining:** Introduction – Web Content Mining - Web Structure Mining.	15 hrs	Chalk and Talk, Assignm ent	P. ᚤᛚ
Apr 2024	V	**Spatial Mining:** Introduction – Spatial Data Overview – Spatial Data Mining Primitives – Generalization and Specialization – Spatial Classification Algorithms – Spatial Clustering Algorithm. **Temporal Mining:** Introduction – Modeling Temporal Events – Time Series.	15 hrs	Seminar	P. ᚤᛚ

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