

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
2021-2022

DEPARTMENT OF COMPUTER APPLICATIONS
(UG & PG – Odd & Even Semester)



F.M.G. YADAVA WOMEN'S COLLEGE, MADURAI - 625 014.
(An Autonomous Institution - Affiliated to Madurai Kamaraj University)
Re-accredited (2nd Cycle) with Grade 'A' & CGPA 3.54 by NAAC

DEPARTMENT OF COMPUTER APPLICATIONS

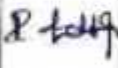
LESSON PLAN

2021 ODD SEMESTER

TITLE : Programming in C
SUB CODE : 2LJ11
NAME OF THE STAFF : P. Indhuja
TOTAL HOURS : 60 HOURS

Month	Unit	Syllabus	Hours	Teaching Methods	Signature
AUG 2021		Overview of C: History of C - Importance of C - Sample Programs-Data Structures of C Programs- Programming Style-Examining a 'C' Program- UNIX System-MS-DOS System- Windows System Constants, Variables and Data Types: Introduction - Character Set - C Tokens - Keywords and Identifiers - Constants - Variables - Data Types - Declaration of Variables - Declaration of Storage Class - Assigning Values to Variables - Defining Symbolic Constants - Declaring a Variable as Constant - Declaring a Variable as Volatile Operators and Expressions: Introduction - Arithmetic Operators - Relational Operators - Logical Operators - Assignment Operators - Increment and Decrement Operators - Conditional Operators - Bitwise Operators - Special Operators Arithmetic Expressions Evaluation of Expressions-Precedence of Arithmetic Operators- Some Computational Problems-Type Conversions in Expressions-Operator Precedence and Associativity.	12 HRS	Google Meet	P. Indhuja
		Managing Input and Output Operations: Introduction - Reading a Character - Writing a Character - Formatted Input - Formatted Output, 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 - The Switch Statement - The ? Operator -			

Sep 2021	II	The Goto Statement, Decision Making and Looping: Introduction - The while Statement - The do Statement - The for Statement - Jumps in Loops-Conditional Test Expression	12 HRS	Google meet	<i>P. Saha</i>
Oct 2021	III	Arrays: Introduction - One-Dimensional Arrays - Declaration of One-Dimensional Arrays - Initialization of One-Dimensional Arrays - Two-Dimensional Arrays - Initializing Two-Dimensional Arrays - Multi- Dimensional Arrays - Dynamic Arrays - More about Arrays, Character Arrays and Strings: Introduction - Declaring and Initializing String Variables - Reading Strings from Terminal - Writing Strings to Screen - Arithmetic Operations on Characters - Pasting Strings Together - Comparison of Two Strings - String- Handling Functions - Table of Strings - Other Features of String	12 HRS	Google Meet	<i>P. Saha</i>
Nov 2021	IV	User-Defined Functions: Introduction - Need for User-Defined Functions - A Multi-Function Program - Elements of User-Defined Functions - Definition of Functions - Return Values and Their Types - Function Calls - Function Declaration - Category of Functions - No Arguments and No Return Values - Arguments and but No Return Values - Arguments with Return Values - No Arguments and but Returns a Value - Nesting of Functions - Recursion - Passing Arrays to Functions - Searching and Sorting - Passing Strings to Functions - The Scope, Visibility and Lifetime of Variables - Multiple Programs, Structures and Unions: Introduction - Defining a Structure - Declaring Structure Variables - Accessing Structure Members - Structure Initialization - Copying and Comparing Structure Variables - Operations on Individual Members - Arrays of Structures - Arrays within Structures - Structures within Structures - Structures and Functions - Unions - Size of Structures - Bit Fields	12 HRS	Google Meet	<i>P. Saha</i>

Dec 2021	V	<p>Pointers: Introduction - Understanding Pointers - Accessing the Address of a Variable - Declaring Pointer Variables - Initialization of Pointer Variables - Accessing a Variable through its Pointer - Chain of Pointers - Pointer Expressions - Pointer Increments and Scale Factor - Pointers and Arrays - Pointers and Character Strings - Array of Pointers - Function that Return Multiple Values-Pointers as Function Arguments - Functions Returning Pointers - Pointers to Functions - Pointers and Structures - Troubles with Pointers.</p> <p>File Management in C: Introduction - Defining and Opening a File - Closing a File - Input/Output Operations on Files - Error Handling during IO Operations - Random Access to Files - Command Line Arguments.</p>	12 HR5	Google Meet	
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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2021 ODD SEMESTER

TITLE : Core-Digital Principles & Computer Organization
SUB CODE : 117J31 SEMESTER :III
NAME OF THE STAFF :K.Krishnaveni TOTAL HOURS : 60 hrs
CLASS : II BCA

Month	Unit	Syllabus	Hours	Teaching Methods	Signature
June 2021	I	Digital Logic: The Basic Gates – NOT, OR, AND - Universal Logic Gates - NOR, NAND- AND, OR Invert Gates. Number Systems and Codes: Binary Number System –Radix Representation of Numbers- Binary to decimal Conversion-Fixed point Representation-Decimal to binary Conversion-Octal Numbers-Hexadecimal Numbers-The ASCII code The Excess-3 Code The Gray code.	12 hrs	Google meet	<i>K. Krishnaveni</i>
July 2021	II	Combinational Logic Circuits: Boolean Laws and Theorems - Sum of Products Method - Truth table to Karnaugh Map - Pairs, Quads, Octets - Karnaugh Simplification- Don't Care Conditions- Product-of sums Method -Product-of sums Simplifications-Five variable Karnaugh Map. Data Processing Circuits: Multiplexers - Demultiplexers-1-of-16 Decoders - OCD-to-decimal Decoders - Seven-segment Decoders - Encoders - Exclusive-OR Gates- Parity Generators and Checkers.	12 hrs	Google meet	<i>K. Krishnaveni</i>
Aug 2021	III	Arithmetic Circuits: Binary Addition- Binary Subtraction -Flip-Flops: RS Flip Flops-Gated Flip-Flops-Edge triggered RS Flip Flops- Edge	12 hrs	Google meet	<i>K. Krishnaveni</i>



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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2022 ODD SEMESTER

TITLE : Core-Digital Principles & Computer Organization
SUB CODE : I7431 SEMESTER : III
NAME OF THE STAFF : G. Alamelu TOTAL HOURS : 60 hrs
CLASS : II BCA

Month	Unit	Syllabus	Hours	Teaching Methods	Signature
Sep 2022	IV	Basic Computer Organization and Design: Instruction codes - Computer Registers - Computer Instructions - Timing and Control - Instruction Cycle: Fetch and Decode - Determine the Type of Instruction- Register Reference Instructions. Micro programmed Control: Control memory - Address sequencing- Micro program Example: Computer Configuration- micro instruction format symbolic microinstructions - Fetch Routine-symbolic micro program - binary micro program.	12 hrs	Google meet	
Oct 2022	V	Central Processing Unit: Central Register Organization - Stack Organization - Instruction Formats - Addressing Modes - Data Transfer and Manipulation - Program Control-Reduced Instruction Set Computer (RISC) - Pipeline and Vector Processing: Parallel Processing - Pipelining. Input-output organization: Peripheral devices - Input Output Interface - Direct Memory Access (DMA)-DMA Controller-DMA Transfer-Memory organization: Memory	12 hrs	Google meet	



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DEPARTMENT OF COMPUTER APPLICATIONS

LESSON PLAN

2021 ODD SEMESTER

TITLE : Core- JAVA Programming
SUB CODE : 17J32 SEMESTER : III
NAME OF THE STAFF : K.Krishnaveni TOTAL HOURS : 60 hrs
CLASS : II BCA

Month	Unit	Syllabus	Hours	Teaching Methods	Signature
June 2021	I	Overview of Java Language: Introduction-Basic concepts of OOPs - Java Features - 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-Standard Default Values. Operators and Expressions: Introduction-Arithmetic Operators-Relational Operators -Logical Operators -Assignment Operators -Increment and Decrement Operators-Conditional Operator -Bitwise Operators -Special Operators-Arithmetic Expressions-Evaluation of Expressions-Precedence of Arithmetic Operators-Type Conversions in Expressions-Operator precedence and Associativity-Mathematical functions.	12 hrs	Google meet	
July 2021	II	Decision Making and Branching: Introduction-Decision making with if statement-Simple if Statement-The if...Else statement-Nesting of	12 hrs	Google meet	

		<p>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</p>			
Aug 2021	III	<p>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</p>	12 hrs	Google meet	<i>D. Singh</i>
Sep 2021	IV	<p>Multithreaded Programming: Introduction-Creating Threads-Extending the thread Class-Stopping and Blocking a Thread-Life Cycle of a Thread-Using Thread Methods-Thread Exceptions-Thread Priority-Synchronization-Implementing the 'Runnable' Interface-Inter-thread Communication. Managing Errors and Exceptions: Introduction-Types of errors-Exceptions-Syntax of Exception Handling Code-Multiple catch Statements-Using Finally Statement-Throwing our own Exceptions-Using Exception for Debugging.</p>	12 hrs	Google meet	<i>D. Singh</i>

Oct 2021	V	Applet Programming: Introduction-How Applets Differ from Applications-Preparing to Write Applets-Building Applet Code-Applet Life Cycle-Creating an Executable Applet-Designing a Web page-Applet tag-Adding Applet to HTML File-Running the Applet-More about Applet tag-Passing parameters to Applets-Aligning the Display-More about HTML tag-Displaying Numerical values-Getting input from the user- Managing Input/output Files in Java: Byte Stream classes-Character stream classes- Other Stream classes.	12 hrs	Google meet	D. Disha
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S. Mahalingam
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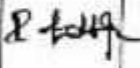



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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2021 ODD SEMESTER

TITLE : Operating System
SUB CODE : 17J51
NAME OF THE STAFF : P. Indhuja
TOTAL HOURS : 60 Hours

Month	Unit	Syllabus	Hours	Teaching Methods	Signature
Aug 2021	I	Introduction: What Operating Systems Do-Computer System Organization-Computer System Architecture-Operating System Structure-Operating System Operations- Process Management - Memory management, System Structures: Operating System Services- User Operating System Interface-System Calls-Types of System Calls-System Programs.	12 hrs	Google meet	P. Indhuja
Sep 2021	ii	Processes: Process Concept-Process scheduling- Operation on process- Interprocess communication- Examples of IPC Systems-Communication in Client Server Systems- Threads: Overview-Multithreading Models-Thread Libraries-Threading Issues.	12 hrs	Google meet	P. Indhuja
Oct 2021	iii	Process Synchronization: Background - The Critical Section Problem- Semaphores- Monitors. CPU Scheduling: Basic concepts- Scheduling criteria- Scheduling algorithms, Thread Scheduling - Multiple Processor Scheduling . Deadlocks: Deadlock Characterization - Methods of Handling Deadlocks - Deadlock Prevention - Deadlock Avoidance	12 hrs	Google Meet	P. Indhuja
Nov 2021	iv	Main Memory: Background-swapping-Contiguous Memory allocation - Segmentation- Paging-Structure of the Page Table . Virtual Memory. Background-	12 hrs		P. Indhuja

Dec 2021	V	<p>Pointers: Introduction - Understanding Pointers - Accessing the Address of a Variable - Declaring Pointer Variables - Initialization of Pointer Variables - Accessing a Variable through its Pointer - Chain of Pointers - Pointer Expressions - Pointer Increments and Scale Factor - Pointers and Arrays - Pointers and Character Strings - Array of Pointers - Function that Return Multiple Values-Pointers as Function Arguments - Functions Returning Pointers - Pointers to Functions - Pointers and Structures - Troubles with Pointers.</p> <p>File Management in C: Introduction - Defining and Opening a File - Closing a File - Input/Output Operations on Files - Error Handling during IO Operations - Random Access to Files - Command Line Arguments.</p>	12 HRS	Google Meet	
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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2021 ODD SEMESTER

TITLE : Core-Data Communication and Computer Networks
SUB CODE : 17J52 SEMESTER : V
NAME OF THE STAFF : K.Krishnaveni TOTAL HOURS : 60 hrs
CLASS : III BCA

Months	Unit	Syllabus	Hours	Teaching Methods	Signature
June 2021	I	Introduction: A Brief History - Application - Computer Networks - Categories of Networks - Standards and Standards Organizations. Network Architectures and OSI Model: Network Architecture - Open System and OSI Model - TCP/IP Architecture - Advantages and Disadvantages of Layer architectures - Distributed system and Client-Server Models.	12 hrs	Google meet	<i>K. Krishnaveni</i>
July 2021	II	Communication Media and Data 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	Google meet	<i>K. Krishnaveni</i>
Aug 2021	III	Data Link Control and Protocol Concepts: Flow Control - Error Control - Asynchronous Protocols - Synchronous Protocols - High-Level Data Link Control (HDLC). 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 - Comparison of ISDN,	12 hrs	Google meet	<i>K. Krishnaveni</i>



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LESSON PLAN

2021 ODD SEMESTER

TITLE : Core-Data Communication and Computer Networks
SUB CODE : 17J52 **SEMESTER** :V
NAME OF THE STAFF : G.Arunela **TOTAL HOURS** : 60 hrs
CLASS : III BCA

Month	Unit	Syllabus	Hours	Teaching Methods	Course Teacher Signature
Nov 2021	IV	Local Area Networks: Types of Networks and Topology -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) - Data local Queue Dual Bus (DQDB) - Internet technologies, Network Applications: Client-Server Model - Domain Name System (DNS) - Telnet - File transfer And Remote File Access - Electronic Mail - World Wide Web (WWW).	12 HRS	Google meet	
Dec 2021	V	Internetworking: Principles of Internetworking Routing Principles - Internetwork Protocols (IP) IP Next Generation. Networking Security: Fundamental Concepts - A Model for Network Security - Security Services and Cryptography - Security Network Jump Firewall - Intrusion Detection - Network Security Tools.	12 HRS	Google meet	

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LESSON PLAN
2021 ODD SEMESTER

TITLE : Core - Dot Net Programming SEMESTER : V
SUB CODE : 17J53 CLASS : III BCA
NAME OF THE STAFF : G. Alamelu TOTAL HOURS : 60 Hrs

Month	Unit	Syllabus	Hours	Teaching Methods	Signature
Aug 2021	I	Net Framework Overview: Net Framework .Net Architecture- namespace. Introduction to VB.NET: Visual Basic .NET - Programming Essentials - Boxing and Unboxing -Control Structures: If Statement - Else If Statement - Select Case Loop Structures: while Statement - Do Statement - Do until statement - For Statement.	12 hrs	Google meet	
Sep 2021	II	Arrays and Structure: One Dimensional Array Elements - Two Dimensional Arrays - Structures, Function and Procedures: Functions - Sub Procedure - OOP Concepts: Class and Object - constructor - Inheritance, Exception Handling: Exception Handling.	12 hrs	Google meet	
Oct 2021	III	Textbox, Button, Label and LinkLabel- Label, Button and LinkLabel -TextBox, ListBox, Scroll Bars, Checkbox and Radio Button: The List Box Control - Scroll Bar - Checkbox and Radio Button, Picture Box, Timer Box, and Menu Strip, Picture Box, Timer control - Menu strip - Combo Box, Month Calendar, Date Time Picker, Checked List Box: Date Time Picker - Month Calendar - Checked List Box, Delegates and	12 hrs	Google meet	

		Events: Delegates - Events - Different Kind of Execution.			
Nov 2021	IV	Creating Our Own Class Library: Creation of class Library and using them in an application - Authentication Form - Student Mark. OOP Concepts in Library: Constructor - Circle - triangle - Inheritance in Employee record - Sales and Servicing. Excel Application in VB.NET. Excel in VB.NET - Mark sheet. Database in VB.NET: Creating Database - Navigation of Records - Elementary Operation of Database. Report Generation: Crystal Report - Field Explorer and Database Expert. Graphics in VB.NET: Displaying a String - Displaying a Line - Displaying Lines - Displaying a Square - Displaying a Solid Rectangle - Displaying an image.	12 hrs	Google meet	R.D.K
Dec 2021	V	Working with ASP .NET Server Controls: Introduction to Server Controls- A Closer Look at ASP.NET Server Controls- Defining Controls in Your Pages- Common Properties for All Controls- Types of Controls- Standard Controls- HTML Controls- Data Controls- Validation Controls- Navigation Controls- Login Controls- Ajax Extensions- WebParts- Dynamic Data User Controls- Introduction to User Controls: Creating User Controls-Adding User Controls to a Content Page or Master Page- Sitewide Registration of User Controls-User Control Caveats-Adding Logic to Your User Controls: Creating Your Own Data Types for Properties-Implementing View State Properties-View State Considerations.	12 hrs	Google meet	R.D.K

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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN

2021 ODD SEMESTER

TITLE : Computer Graphics
SUB CODE : 17IE5A
NAME OF THE STAFF : G. Anand

SEMESTER : V
CLASS : III BCA
TOTAL HOURS : 60Hours

Month	Unit	Syllabus	Hours	Teaching Methods	Signature
Aug 2021	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, 3D Viewing Devices, Stereoscopic Reality Systems- Raster Scan systems-Raster scan system -EP devices-Hard copy devices-Graphics software.	12 hrs	Google meet	
Sep 2021	II	Output Primitives: Points and Lines-Line drawing algorithms: DDA Algorithms, Bresenham's Line Algorithm>Loading the frame buffer-Circle generating algorithms- Other curves-Pixel Addressing-Filled area primitives-Fill Area Functions-Cell Array- Character Generation.	12 hrs	Google meet	
Oct 2021	III	Attributes of Output Primitives: Line attributes: Line Type, Line Width, Line Color- Curve attribute: Color and grayscale levels-Area fill attributes-Character attributes-Bundled	12 hrs	Google meet	

		Events: Delegates - Events - Different Kind of Execution.			
Nov 2021	IV	Creating Our Own Class Library: Creation of class Library and using them in an application - Authentication Form - Student Mark OOP Concepts in Library: Constructor - Circle - triangle - Inheritance in Employee record - Sales and Servicing. Excel Application in VB.NET: Excel in VB.NET - Mark sheet. Database in VB.NET: Creating Database - Navigation of Records - Elementary Operation of Database. Report Generation: Crystal Report - Field Explorer and Database Export. Graphics in VB.NET: Displaying a String - Displaying a Line - Displaying Lines - Displaying a Square - Displaying a Solid Rectangle - Displaying an image.	12 hrs	Google meet	R.K.S
Dec 2021	V	Working with ASP .NET Server Controls: Introduction to Server Controls- A Closer Look at ASP.NET Server Controls- Defining Controls in Your Pages- Common Properties for All Controls- Types of Controls- Standard Controls- HTML Controls- Data Controls- Validation Controls- Navigation Controls- Login Controls- Ajax Extensions- WebParts- Dynamic Data. User Controls : Introduction to User Controls: Creating User Controls-Adding User Controls to a Content Page or Master Page- Sitewide Registration of User Controls-User Control Caveats-Adding Logic to Your User Controls. Creating Your Own Data Types for Properties- Implementing View State Properties-View State Considerations.	12 hrs	Google meet	R.K.S

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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN

2021 EVEN SEMESTER

TITLE : Object Oriented Programming with C++
SUB CODE : 22OUCA21
NAME OF THE STAFF : P. Indhuja
TOTAL HOURS : 60 hours

Month	Unit	Syllabus	Hours	Teaching Methods	Signature
Dec 2021	i	Principles of Object-Oriented Programming: Object-oriented Programming Paradigm - Basic concepts of Object Oriented Programming - Benefits of OOP - Object-Oriented Languages: Tokens, Expressions and Control Structures: Introduction - Tokens - Keywords - Identifiers and Constants - Basic Data Types - User-Defined Data Types - Storage Classes - Derived Data Types - Symbolic Constants - Type Compatibility - Declaration of Variables - Dynamic Initialization of Variables - Reference Variables - Operators in C++ - Scope Resolution Operator - Member Dereferencing Operators - Memory Management Operators - Manipulators - Type Cast Operator - Expression and their Types.	12 HRS	Chalk and Talk	P. Indhuja
Jan 2022	ii	Functions in C++ : Introduction - The Main Function - Function Prototyping - Call by Reference - Return by Reference - Inline Functions - Default Arguments - Const Arguments - Recursion - Function Overloading - Friend and Virtual Functions - Math Library Functions - Classes and Objects: Introduction - Specifying a Class - Defining Member Functions - A C++ Program with Class - Private Member Functions - Arrays within a Class - Memory Allocation for Objects - Static Data Members - Static Member Functions - Arrays of Objects - Objects as Function Arguments - Friendly Functions - Removing Objects.	12 HRS	Chalk & Talk, Assignment	P. Indhuja

Feb 2022	III	Arrays: Introduction - One-Dimensional Arrays - Declaration of One-Dimensional Arrays - Initialization of One-Dimensional Arrays - Two-Dimensional Arrays - Initializing Two-Dimensional Arrays - Multi-Dimensional Arrays - Dynamic Arrays - More about Arrays. Character Arrays and Strings: Introduction - Declaring and Initializing String Variables - Reading Strings from Terminal - Writing Strings to Screen - Arithmetic Operations on Characters - Putting Strings Together - Comparison of Two Strings - String-Handling Functions - Table of Strings- Other Features of String	12 HRS	Chalk & Talk, PPT	P. Sathya
Mar 2022	IV	Constructors and Destructors : Introduction - Constructors - Parameterized Constructors - Multiple Constructors in a Class - Constructors with Default Arguments - Dynamic Initialization of Objects - Copy Constructor - Dynamic Constructors - Constructing Two Dimensional Arrays - Const Objects - Destructors. Operator Overloading and Type Conversion: Introduction - Defining Operator Overloading - Overloading Unary Operators - Overloading Binary Operators - Manipulation of Strings using Operators - Rules for Overloading Operators.	12 HRS	Chalk & Talk, PPT	P. Sathya
Apr 2022	V	Managing Console I/O Operations: Introduction - C++ Streams - C++ Stream Classes - Unformatted I/O Operations - Formatted Console I/O Operations - Managing Output with Manipulators - Working with Files. Introduction - Classes for File Stream Operations - Opening and Closing a File - Detecting end-of-file - More about Open() File Modes - File Pointers and their Manipulations - Sequential Input and Output Operations - Updating a File - Random Access - Error Handling during File Operations - Command-line Arguments.	12 HRS	Chalk & Talk	P. Sathya

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DEPARTMENT OF COMPUTER APPLICATIONS

LESSON PLAN
2021-2022 EVEN SEMESTER

TITLE : Core-Data Structures and Computer Algorithms
SUB CODE :17J41 SEMESTER :II
NAME OF THE STAFF :K.Krishnaveni TOTAL HOURS : 60 hrs
CLASS : II BCA

Month	Unit	Syllabus	Hours	Teaching Methods	Signature
Dec 2021	I	Introduction And Overview: Introduction-Basic Terminology; Elementary Data Organization-Data Structures-Data Structure Operations - Arrays Records and Pointers: Introduction-Linear Arrays-Representation of Linear Arrays in Memory-Traversing Linear Arrays-Inserting and Deleting-Searching; Linear Search - Multidimensional Arrays - Linked Lists: Introduction-Linked Lists- Header Linked Lists-Two-way Lists.	12 hrs	Chalk & Talk	
Jan 2022	II	Stacks, Queues, Recursion: Introduction - Stacks - Array Representation of Stack- Linked Representation of Stack-Towers of Hanoi - Queues - Linked Representation of Queues -Dequeues-Priority Queues.	12 hrs	Chalk & Talk	

Feb 2022	III	Trees: Introduction- Binary Trees - Representation of Binary Trees in Memory - Traversing Binary Trees - Binary Search Trees- Graphs and Their Applications: Introduction- Graph Theory Terminology-Sequential Representation of Graphs; Adjacency Matrix; Path Matrix-Operations on Graphs.	12 hrs	Chalk & Talk	<i>[Signature]</i>
Mar 2022	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.	12 hrs	PPT	<i>[Signature]</i>
April 2022	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.	12 hrs	PPT	<i>[Signature]</i>

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LESSON PLAN
2021-2022 EVEN SEMESTER

TITLE : Core -Relational Database Management System
CLASS : II BCA **SEMESTER** :VI
SUB CODE : 17J42 **TOTAL HOURS** : 60 Hours
NAME OF THE STAFF : G.Alamelu

Month	Unit	Syllabus	Hours	Teaching Methods	Signature
Dec 2021	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 hrs	Chalk & Talk	
Jan 2022	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. Relational Algebra and Calculus: Preliminaries – Relational Algebra: Selection and Projection – Set Operations –Renaming – Joins - Division Relational Calculus: Tuple Relational Calculus – Domain Relational Calculus.	12 hrs	Chalk & Talk	
Feb 2022	III	SQL Queries, Constraints, Triggers: The Form of a Basic SQL Query - UNION, INTERSECT, and EXCEPT – Nested Queries –		Chalk & Talk	

		arbitrarily-Inquiry Functions-Antialiasing Antialiasing Area Boundaries			
Nov 2021	W	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 Directives-Concatenation Properties-General Composite Transformations and Computational Efficiency-Other Transformations: Reflection-Shear- Three Dimensional Concepts ; Three-Dimensional display methods: parallel project - perspective projection - depth cueing - visible Line and surface - Identification. Exploded and cutaway views - Three-Dimensional and stereoscopic-views- Three-Dimensional graphics Packages.	12 hrs	Google meet	R.A.J
Dec 2021	V	Two -Dimensional Viewing: The Viewing Pipeline-Viewing, Coordinate reference frame-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 NonRectangular - 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	Google meet	R.A.J

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Principal
Sri. S. S. Srinivasan
Principal




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DEPARTMENT OF COMPUTER APPLICATIONS


**LESSON PLAN
 2021-2022 EVEN SEMESTER**

COURSE CODE : Core- Software Engineering
COURSE CODE : 17J61
NAME OF THE STAFF : K. Krishnaveni
CLASS : III BCA
SEMESTER : VI
TOTAL HOURS : 60 hrs

Month	Unit	Syllabus	Hours	Teaching Methods	Signature
Dec 2021	I	Software and Software Engineering: The nature of Software - Software Engineering - The Software Process- Process Models: A Generic Process Model - Process Assessment and Improvement- Prescriptive Process Model- Specialized process model - The Unified Process - Personal and Team Process Model - Process Technology - Product and Process - Agile Development- What is Agility? - Agility and the Cost of Change - What is an Agility process?	12 hrs	Chalk & Talk	<i>K. Krishnaveni</i>
Jan 2022	II	Understanding Requirements: Requirements Engineering-Establishing the Groundwork-Eliciting requirements-Developing use case - Building the Requirements Model- Negotiating Requirements -Validating Requirements - Requirements Modeling: Requirements analysis- Data Modeling Concepts	12 hrs	Chalk & Talk	<i>K. Krishnaveni</i>
Feb 2022	III	Design Concepts: Design concepts- The Design model-Architectural design- Component Level Design: What is		Chalk & Talk	<i>K. Krishnaveni</i>

		Component? - Designing Class-Based Components-Conducting Components-level Design - Components-level Design for webApps-User interface Analysis and design.	12 hrs		
Mar 2022	IV	Review Techniques: Informal Reviews - Formal Technical Reviews - Software Quality Assurance: SQA Tasks, Goals and Metrics- -Software Reliability - The ISO 9000 Quality Standards-The SQA Plus- Software Testing Strategies: A Strategic Approach to Software Testing-Test Strategies for conventional Software - Validation Testing - System Testing-The Art of Debugging- Estimation for Software Projects: Software Project Estimation- Decomposition Techniques: Software Sizing-Problem Based Estimation-An Example of LOC Based Estimation-An Example of FP Based Estimation-Process Based Estimation-An Example of Process Based Estimation-Estimation with Use Cases-An Example of Use Case Based Estimation-Reconciling Estimates-Empirical Estimation Models: The Structure of Estimation Models-The COCOMO II Model-The Software Equation.	12 hrs	PPT	

Appno

April 2022	V	Software Configuration Management: SCM process – The SCM Repository – The SCM Process – Risk Management: Software Risk: Risk Identification – Risk Projection – Risk Refinement – Risk Mitigation, Monitoring, and management – The RMMM Plan. Project Scheduling: Project Scheduling: Basic Principles- The Relationship between People and Effort- Effort Distribution.	12 hrs	PPT	
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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2021-2022 EVEN SEMESTER

TITLE : Core-Web Technology Semester : VI
SUB CODE : 17J62 Class:III BCA
NAME OF THE STAFF : G.Alameila Total Hours : 60 Hours

Month	Unit	Syllabus	Hours	Teaching Methods	Signature
Dec 2021	I	Introduction to HTML5: Introduction-Editing HTML5-Form 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 2022	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-Downloading Web Fonts and the @font-face	12 hrs	Chalk & Talk	

		Aggregate Operators – Null Values – Complex Integrity Constraints in SQL – Triggers and Active Databases – Designing Active Databases.	12 hrs		
Mar 2022	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 hrs	PPT	<i>R.S.J.</i>
April 2022	V	Overview of Transaction management: The ACID Properties – Transactions and Schedules – Concurrent Execution of transactions – Lock Based Concurrency Control – Performance of Locking – Transaction Support in SQL – Introduction to Crash Recovery. 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 hrs	PPT	<i>R.S.J.</i>

S. Vijay
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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN

2022 EVEN SEMESTER

TITLE

: Data Mining

Semester :VI

SUB CODE

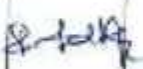

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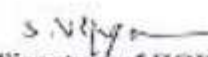
NAME OF THE STAFF

: Mrs.M.Murugeswari

Total Hours : 60 Hours

Month	Unit	Syllabus	Hours	Teaching Methods	Signature
Dec 2021	I	Data Mining: Introduction - What is Data Mining? - Data Mining Functionalities - KDD vs Data Mining - Other related Areas- DM Technique- Other mining problems - Issues and challenges in DM - DM applications areas- DM Applications case studies. Association Rules: Introduction - what is an Association Rule? - Methods to Discover Association Rules- Apriori Algorithm.	12 hrs	Chalk & Talk	H.M. (Mrs.Murugeswari)
Jan 2022	II	Data Warehousing: Introduction - Data warehouse Architecture - Dimensional Modeling - Categories of Hierarchies - Aggregate Function - Summarisability - Fact Dimension Relationship - OLAP operations - Lattice of Cubeids - OLAP Server - ROLAP - MOLAP - Data Marting - ETL - Data Cleaning - ETL vs ELT.	12 hrs	Chalk & Talk	H.M. (Mrs.Murugeswari)
Feb 2022	III	Decision Trees: Introduction-what is a Decision Tree?- Tree Construction Principle- Best Split - Splitting Indices - Splitting criteria - Decision Tree Construction algorithms - CART - ID3 -	12 hrs	PPT	H.M. (Mrs.Murugeswari)

		NN – Unsupervised Learning – support vector machine.			
Mar 2022	iv	Genetic algorithm: introduction-basic steps of GA- selection-crossover-mutation-data mining using GA. Web mining: Introduction – Web content mining – Web structure mining – Web usage mining. Temporal and Spatial mining: Introduction-what is temporal data mining?- temporal association rule – The GSP algorithm – SPADE-SPIRIT-event prediction problem-time series analysis-spatial mining- Spatial mining tasks	12 hrs	Chalk & Talk, PPT	
April 2022	v	Introduction to big data: characteristics of data- evolution of big data-definition of big data-challenge with big data-what is big data? what is changing in the realms of big data? Introduction to hadoop- hadoop overview-hadoop distributed file system- processing data with hadoop-interacting with hadoop ecosystem. Introduction to MAPREDUCE programming. Introduction – mapper-reducer-combiner-partitioner-searching-sorting-compression.	12 hrs	Chalk & Talk	


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LESSON PLAN
2021-2022

DEPARTMENT OF COMPUTER APPLICATIONS
(PG – Odd & Even Semester)



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DEPARTMENT OF COMPUTER APPLICATIONS
LESSON PLAN
2021 ODD SEMESTER

TITLE : Operating Systems
SUB CODE : 21OMCE1A
NAME OF THE STAFF : P. Indhuja
TOTAL HOURS : 60 Hours

Month	Unit	Syllabus	Hours	Teaching Methods	Signature
Aug 2021	I	Introduction: What Operating Systems Do - Computer System Organization - Computer System Architecture - Operating System Structure - Operating System Operations - Open Source Operating Systems - Operating System Structures: Operating System Services - User Operating System Interface - System Calls - Types of System Calls - System Programs.	12 hrs	Google meet	P. Indhuja
Sep 2021	II	Processes Management: Process Concept - Process Scheduling - Operation on Process. Process Scheduling: Basic Concepts - Scheduling Criteria - Scheduling Algorithms - Thread Scheduling- Multiple Processors Scheduling	12 hrs	Google meet	P. Indhuja
Oct 2021	III	Synchronization: Background - The Critical Section Problem - Peterson's Solution - Synchronization Hardware - Semaphores - Classic Problems - Monitors - Synchronization Examples- Deadlocks: System Model - Deadlock Characterization - Methods for Handling Deadlocks- Deadlock Prevention-Deadlock Avoidance- Deadlock Detection-Recovery from Deadlock.	12 hrs	Google meet	P. Indhuja
	IV	Main Memory: Background- Swapping- Contiguous Memory allocation - Segmentation - Paging- Structure of the Page Table- Virtual Memory : Background -	12 hrs		



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LESSON PLAN
2021-2022

Sub. Code : 210MC12


Title of the Paper : Object Oriented Programming in C++

Total Hours : 60 hrs

Semester : I

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Aug 2021	I	<ul style="list-style-type: none"> • Introduction to C++ : Evolution of C++ ANSI Standard - Preface to Object-Oriented Programming - Key Concepts of Object-Oriented Programming - Advantages of OOP - Object - Oriented Languages - Structure of a C++ Program. • Input and Output in C++ : Pre-Defined Streams - Stream Classes Formatted and Unformatted Data - Unformatted Console I/O Operations Formatted Console I/O Operations - Manipulators - User-Defined Manipulators. • C++ Declarations : Tokens - Variable Declaration and Initialization - Data Types in C++ - Scope Access Operator - Memory Management Operators - Comma Operator. 	12	Google Meet	M. Anand (M) MURUGAN WAS
Sept 2021	II	<ul style="list-style-type: none"> • Functions in C++ : Introduction - Parts of Function - Passing Arguments Return by Reference - Default Arguments - Const Arguments Inline Functions - Function Overloading - Principles of Function Overloading - Recursion. • Classes and Objects: Introduction - Structures in C++ - Classes in C++ Declaring Objects - The Public, Private, Protected Keywords - Defining Member Functions and its Characteristics- Outside Member Function as Inline - Rules for Inline functions • Data Hiding or Encapsulation - Classes, Objects and Memory - Static Member Variables and Functions - Static Object - Objects as Function Arguments - Friend Functions - Overloading Member Functions. 	12	Google Meet	M. Anand (M) MURUGAN WAS

Oct 2021	III	<ul style="list-style-type: none"> Constructors and Destructors : Introduction - Constructors and Destructors and its Characteristics - Constructors with Arguments - Overloading Constructors - Constructors with Default Arguments Copy Constructors - Destructors - Calling Constructors and Destructors - Local Versus Global Object Operator Overloading and Type Conversion : Introduction - The Keyword Operator - Overloading Unary Operators - Overloading with friend Function - Type Conversion - Rules for Overloading Operators 	12	Google Meet	H. P. ... (M. M. ...)
Nov 2021	IV	<ul style="list-style-type: none"> Inheritance: Introduction - Access Specifiers and Simple Inheritance - Protected Data with Private Inheritance - Types of Inheritances - Single Inheritance - Multilevel Inheritance - Multiple Inheritance - Hierarchical Inheritance Hybrid Inheritance - Multipath Inheritance - Virtual Base Classes Constructors, Destructors and Inheritance - Abstract Classes - Constructors in Derived Class. Binding, Polymorphism and Virtual Functions : introduction - Binding in C++ - Pointer to Base and Derived Class Objects Virtual Functions - Rules for Virtual Functions - Array of Pointers Pure Virtual Functions - Abstract Classes - Working of Virtual Functions - Virtual Functions in Derived Classes - Constructors and Virtual Functions Virtual Destructors - Destructors and Virtual Functions 	12	Google Meet	H. P. ... (M. M. ...)
Dec 2021	V	<ul style="list-style-type: none"> Application with Files : Introduction - File Stream Classes - Steps of File Operations Checking for Errors - Finding End of a File - File Opening Modes - File Pointers and Manipulators - Sequential Access Files - Random Access Operation - Command Line Arguments. Exception Handling : Introduction - Principles of Exception Handling - The Keywords try, throw and catch - Guidelines for Exception Handling - Multiple Catch Statements - Catching Multiple Exceptions - Re-throwing Exception - Exceptions in Constructors and Destructors Exception and Operator Overloading - Exception and Inheritance - Class Template with Exception Handling 	12	Google Meet	H. P. ... (M. M. ...)


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LESSON PLAN 2021-2022



Class : I MCA

Sub. Code : 210MC13

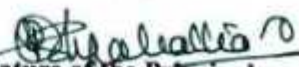
Title of the Paper : Relational Database Management Systems

Total Hours : 75 hrs.

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Aug 2021	I	Introduction : Database System Applications - Purpose of Database Systems - View of Data - Database Languages - Relational databases - Database Design -Data storage and querying - Transaction Management - Database Architecture Database Users and Administrators - History of Database Systems. Relational Databases: Introduction to the Relational Model : Structure of Relational Databases - Database Schema Keys - Schema Diagrams Relational Query Languages - The Relational Operations.	15	Google Meet	
Sep 2021	II	Introduction to SQL: SQL Data Definition - Basic Structure of SQL Queries - Additional Basic Operations - Set Operations - Null Values - Aggregate functions. Advanced SQL: Accessing SQL From a Programming Language - Functions and Procedures - Triggers - Recursive Queries - Advanced Aggregation Features.	15	Google Meet	
Oct 2021	III	Database Design and the E-R Model : Overview of the Design Process - The Entity-Relationship Model - Constraints - Removing Redundant Attributes in Entity Sets- Entity - Relationship Diagrams -	15	Google Meet	

		<p>Reduction to Relational Schemas - Entity Relationship Design Issues -</p> <p>Relationship Database Design: Decomposition using Functional Dependencies - Functional Dependency Theory- Decomposition using Multivalued Dependencies- More - Normal Forms</p>			
Nov 2021	IV	<p>Data Storage and File Structure : File Organization - Organization of Records in Files - Data-Dictionary Storage</p> <p>Indexing and Hashing : Basic Concepts - Ordered Indices - B+-Tree Index Files - B+-Tree Extensions - Multiple-key Access - Static Hashing - Dynamic Hashing</p> <p>Query Optimization : Transformation of Relational Expressions - Estimating Statistics of Expression Results - Choice of Evaluation Plans</p>	15	Google Meet	
Dec 2021	V	<p>Transactions : Transaction concept -A Simple Transaction Model -Storage Structure - Transaction Atomicity and Durability - Transaction Isolation - Serializability-</p> <p>Concurrency Control : Lock-based Protocols - Deadlock Handling -Time stamp-Based Protocols</p> <p>Recovery System: Failure Classification - Storage - Recovery and Atomicity - Recovery Algorithm - Buffer Management-Failure with Loss of Nonvolatile Storage</p>	15	Google Meet	

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LESSON PLAN
2021-2022

Sub. Code : 210MC14
Title of the Paper : Data Structures and Algorithms
Total Hours : 60 hrs

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Aug 2021	I	<ul style="list-style-type: none">Algorithm AnalysisListsStacksQueues	12	Google meet	S. Vijaya (S. Vijaya S.A. Kone)
Sep 2021	II	<ul style="list-style-type: none">TreesAVL TreeHashing, RehashingUniversal Hashing, Extendible Hashing.	12	Google meet	S. Vijaya (S. Vijaya S.A. Kone)
Oct 2021	III	<ul style="list-style-type: none">Model, Simple implementation, Binary HeapApplications of Priority Queues - d-Heaps - Leftist HeapsSkew Heaps, Binomial QueuesPreliminaries, Insertion Sort, A Lower Bound for Simple Sorting AlgorithmsShell Sort, Heap SortMerge Sort, Quick Sort, External Sorting.	12	Google meet	S. Vijaya (S. Vijaya S.A. Kone)
Nov 2021	IV	<ul style="list-style-type: none">Definitions, Topological Sort, Shortest Path AlgorithmsNetwork Flow Problems, Minimum Spanning TreeApplications of Depth First Search, Introduction to NP-Completeness	12	Google meet	S. Vijaya (S. Vijaya S.A. Kone)
Dec 2021	V	<ul style="list-style-type: none">Greedy Algorithms, Divide and ConquerDynamic Programming, Randomized AlgorithmsBacktracking Algorithms	12	Google meet	S. Vijaya (S. Vijaya S.A. Kone)

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LESSON PLAN 2021-2022

Sub. Code : 210MCNMI
Title of the Paper : Front End Web Development
Total Hours : 30 hrs

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Aug 2021	I	<ul style="list-style-type: none">Basic HTML, The Document BodyText, HyperlinksAdding More Formatting- Lists, Using Color and Images	6	Google meet	S. Vijaya (S. VIJAYA SARINJEE)
Sept 2021	II	<ul style="list-style-type: none">Using Styles, Simple Examples, Defining your own styles, Properties and values in StylesStylesheets, a Worked example, Formatting Blocks of Information	6	Google meet	S. Vijaya (S. VIJAYA SARINJEE)
Oct 2021	III	<ul style="list-style-type: none">Definition of Dynamic HTML, JavaScript, JavaScript, the basicsVariables, String Manipulation, Mathematical Functions, Statements	6	Google meet	S. Vijaya (S. VIJAYA SARINJEE)
Nov 2021	IV	<ul style="list-style-type: none">Data and Objects in JavaScript-Regular ExpressionsException Handling- Built-in objects	6	Google meet	S. Vijaya (S. VIJAYA SARINJEE)

Dec 2021	V	<ul style="list-style-type: none"> Opening a New Window, Messages and Confirmation Writing to a Different Frame, Rollover Buttons 	6	Google meet	<i>S. Vijaya</i> <i>S. Vijaya</i> <i>S. Anand</i>
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S. Vijaya
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S. Vijaya
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LESSON PLAN
2021-2022

Class : II MCA
Sub. Code : 20MC31
Title of the Paper : Web Technologies
Total Hours : 60 hrs

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Aug 2021	I	Introduction: The Internet - Basic Internet Protocols - The World Wide Web - HTTP Request Message - HTTP Response Message Mark Up Languages : Introduction to HTML - Basic XHTML Syntax and Semantics - Some Fundamental HTML Elements - Lists - Tables - Frames - Forms - Defining XHTML'S abstract Syntax: XML.	12	Google Meet	
Sept 2021	II	Style Sheets: CSS - Introduction to CSS - CSS Features -CSS Core Syntax - Style sheets and HTML - Style Rule Cascading and Inheritance Client - side Programming - Introduction to JavaScript - JavaScript in Perspective - Basic Syntax - Variables and Data Types - Statements -Operators - Literals - Functions - Objects - Arrays - Building -in Objects.	12	Google Meet	

		<p>Reduction to Relational Schemas - Entity Relationship Design Issues -</p> <p>Relationship Database Design: Decomposition using Functional Dependencies - Functional Dependency Theory- Decomposition using Multivalued Dependencies- More - Normal Forms.</p>			
Nov 2021	IV	<p>Data Storage and File Structure : File Organization - Organization of Records in Files - Data-Dictionary Storage</p> <p>- Indexing and Hashing : Basic Concepts - Ordered Indices - B+-Tree Index Files - B+-Tree Extensions - Multiple-key Access - Static Hashing - Dynamic Hashing.</p> <p>Query Optimization : Transformation of Relational Expressions - Estimating Statistics of Expression Results -</p> <p>Choice of Evaluation Plans</p>	15	Google Meet	<i>S. V. V.</i>
Dec 2021	V	<p>Transactions : Transaction concept -A Simple Transaction Model - Storage Structure - Transaction Atomicity and Durability - Transaction Isolation - Serializability.</p> <p>Concurrency Control : Lock-based Protocols - Deadlock Handling -Time stamp-Based Protocols</p> <p>Recovery System: Failure Classification - Storage - Recovery and Atomicity - Recovery Algorithm - Buffer Management-Failure with Loss of Nonvolatile Storage.</p>	15	Google Meet	<i>S. V. V.</i>

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LESSON PLAN 2021-2022

Class : II MCA
Sub. Code : 20MC32
Title of the Paper : Python Programming
Total Hours : 60 hrs

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Aug 2021	I	<ul style="list-style-type: none">• Introduction to Python: Python-Features of Python- Execution of a Python Program- Viewing the Byte Code-Flavors of Python-Python Virtual Machine(PVM).• Datatypes in Python: Comments in Python- Docstrings- Datatypes in Python- Built-in datatypes - bool Datatype- Sequences in Python-Sets-Literals in Python-User-defined Datatypes-Constants in Python.• Operators in Python: Operator-Arithmetic Operator-Assignment Operators-Unary Minus Operators-Relational Operators-Logical Operators- Boolean Operators-Membership Operators-Identity Operators-Operator Precedence and Associativity	12	Google meet	S.Vijaya SANGAR
Sep 2021	II	<ul style="list-style-type: none">• Input and Output: Output statements-Input statements- Command Line Arguments.• Control Statements: Control Statements- The if Statement-The if... else Statement - The if...elif... else Statement-The while loop- the for loop- Infinite Loops-Nested Loops-The else Suite-The break Statement- The continue Statement- the pass Statement- The assert Statement-The return statement• Arrays in Python: Array-Advantages of Arrays-Creating an Array-Types of Arrays- Comparing Arrays-Aliasing the Arrays- Viewing and Copying Arrays-Dimensions of Arrays- Attributes of an Array	12	Google meet	S.Vijaya SANGAR

Oct 2021	III	<ul style="list-style-type: none"> • Strings and Characters: Creating Strings- Length of a string-indexing in Strings-Slicing the strings-Repeating the Strings-Concatenation of Strings-Checking membership-Comparing Strings-Removing Spaces from a String-finding sub Strings-Counting Substrings in a String-strings are immutable-Replacing a String with another String • Splitting and joining Strings-Changing Case of a String-Checking starting and Ending of a String-String Testing Methods-Formatting the Strings-Working with Characters-Sorting Strings-Searching in the Strings-Finding Number of Characters and Words- Inserting Sub String into a String. • Functions: Difference between a Function and a Method-defining a Function- Calling a Function - returning Results from a Function-Returning Multiple values from a Function • Function Lists and Tuples: List-Creating Lists using range() Function-Updating the Elements of a List- Concatenation of Two Lists-Tuples-Creating Tuples-Accessing the Tuple Elements-Basic Operations on Tuples -Functions to Process Tuples 	12	Google meet	S. Vijaya S. Vijaya DANKAW
Nov 2021	IV	<ul style="list-style-type: none"> • Classes and Objects: Creating a Class - Constructor-types of Variables- Namespaces-Types of Methods-Passing Members of One Class to AnotherClass- Inner Classes. • Inheritance and Polymorphism: Constructors in Inheritance-Overriding Super Class Constructors and Methods- The super() Method- Types of Inheritance - Method Resolution Order(MRO) - Polymorphism - Operator Overloading - Method Overloading - Method Overriding- • Abstract Classes and Interfaces: Abstract Method and Abstract Class - interfaces in Python - Abstract classes vs. Interfaces . 	12	Google meet	S. Vijaya S. Vijaya DANKAW
Dec 2021	V	<ul style="list-style-type: none"> • Files in Python: Files-Types of Files in Python - Opening a File - Closing a file - Working with Text Files Containing Strings- Knowing whether a File exists or not- Working with Binary Files- The with statement- The seek() and tell() 	12	Google meet	

		<p>Method-Random Accessing of binary Files</p> <ul style="list-style-type: none"> • Python's database connectivity: DBMS- Advantages of a DBMS over files- Types of databases used with Python - Installation of MySQL Database Software - Verifying the MySQL in the Windows Operating System - Working with MySQL Database • Using MySQL from Python- Retrieving All Rows from a Table - Inserting Rows into a Table - Deleting Rows from a Table - Updating Rows in a Table - Creating Database Tables through Python. 			<p>S.Vijaya S.Vijaya S.Vijaya</p>
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LESSON PLAN 2021-2022

Sub. Code : 20MC33

Title of the Paper : Mobile Computing

Total Hours : 60 hrs

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Aug 2021	I	Introduction: Applications - A short history of wireless communication - Some open research topics A simplified reference model Wireless Transmission: Frequencies for radio transmission Signals - Antennas - Multiplexing.	12	Google Meet	H. S. S. S. (M. MURUGESHAN)
Sep 2021	II	Telecommunication Systems: GSM - Mobile services - System architecture - Radio interface DECT - System architecture - Protocol architecture - TETRA - Satellite Systems: History - Applications Basics - : GEO 173 - LEO 174 - MEO 175 - Routing - Localization - Handover.	12	Google Meet	H. S. S. S. (M. MURUGESHAN)
Oct 2021	III	Wireless LAN: IEEE 802.11 - System architecture - Protocol architecture - Physical layer Medium access control layer - MAC management - HIPERLAN - Historical - HIPERLAN I - WATM - BRAN	12	Google Meet	H. S. S. S. (M. MURUGESHAN)

		<p>HiperLAN2- Bluetooth - User scenarios - Architecture - Radio layer - Baseband layer - Link manager protocol.</p>		
Nov 2021	IV	<p>Mobile Network Layer: Mobile ad-hoc networks - Routing - Destination sequence distance vector - Dynamic source routing - Alternative metrics - Overview ad-hoc routing protocols.</p> <p>Support for Mobility: Wireless application protocol (version 1.x)- Architecture - Wireless datagram protocol - Wireless transport layer security - Wireless transaction protocol</p> <p>Wireless session protocol- Wireless application environment - Wireless markup language - WML Script - Wireless telephony application - Push architecture</p>	12	<p>Google Meet</p> <p>H.N. Murugesan</p>
Dec 2021	V	<p>Getting Started with Android programming: What is Android? - Obtaining the Required Tools - Creating Your First Android Application</p> <p>Anatomy of an Android Application.</p> <p>Activities, Fragments, and Intents: Understanding Activities - Linking Activities Using Intents</p> <p>Fragments - Calling Built- In Applications Using Intents - Displaying Notifications.</p>	12	<p>Google Meet</p> <p>H.N. Murugesan</p>

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LESSON PLAN
2021-2022

Sub. Code : 20MCE3A

Title of the Paper : Internet Of Things

Total Hours : 60 hrs

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Aug 2021	I	Introduction to Internet of Things: Introduction – Physical Design of IoT- Logical Design of IoT IoT Enabling Technologies- IOT Levels & Deployment Templates Domain Specific IoTs: Introduction – Home Automation- Cities-Environment	12	Google Meet	S.V. YI S. V. SIVA SANKAR
Sep 2021	II	Domain Specific IoTs: Energy-Retail- Logistics-Agriculture-Industry- Healthy & Lifestyle. IoT and M2M: Introduction- M2M- Difference between IoT and M2M-SDN and NFV for IoT. IoT System Management with NETCONF-YANG: Need for IoT Systems management - Simple Network Management Protocol(SNMP)-Network Operator Requirements- NETCONF- YANG- IoT Systems Management with NETCONF-YANG.	12	Google Meet	M. RA (M. RAJESH KANNI)

Oct 2021	III	<p>IoT Platforms Design Methodology: Introduction – IoT Design Methodology</p> <p>IoT Systems – Logical Design using Python: Introduction- Installing Python – Python Data Types & Data Structures</p> <p>Control Flow- Functions- Modules- Packages- File Handling – Date/ Time Operations- Classes- Python Packages of Interest for IoT</p>	12	Google Meet	H.N.S (M.MURUGESAN)
Nov 2021	IV	<p>IoT Physical Devices & Endpoints: What is an IoT Device-Exemplary Device:Raspberry Pi – About the Board – Linux on Raspberry Pi</p> <p>Raspberry Pi Interfaces – Programming Raspberry Pi with Python – Other IoT Devices. IoT Physical Servers & Cloud Offerings Introduction to Cloud Storage Models & Communication APIs-</p> <p>WAMP- AutoBahn for IoT . Xively Cloud for IoT- Python Web Application Framework – Django- Designing a RESTful Web API.</p>	12	Google Meet	S.Vijaya
Dec 2021	V	<p>Data Analytics for IoT: Introduction – Apache Hadoop – Using Hadoop MapReduce for Batch Data Analysis – Apache Oozie - Apache Spark- Apache Storm.</p>	12	Google Meet	S.Vijaya (S.VIJAYA SANGAR)

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LESSON PLAN 2021-2022

Sub. Code : 20MC42

Title of the Paper : Machine Learning

Total Hours : 60 hrs

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Feb 2022	I	<ul style="list-style-type: none">• Introduction : What is Machine Learning? - Examples of Machine Learning Applications.• Learning Associations - Classification - Regression - Unsupervised Learning - Reinforcement Learning. Supervised Learning : Vapnik - Chervonenkis (VC) Dimension• Probably Approximately Correct (PAC) Learning - Noise - Learning Multiple Classes - Regression - Model Selection and Generalization. Bayesian Decision Theory• Introductory- Classification - Losses and Risks - Discriminant Functions - Utility Theory Association Rules.	12	Chalk & Talk,	S. Vijay C.S. Vigneshwaran
Mar 2022	II	<ul style="list-style-type: none">• Parametric Methods : Introduction - Maximum Likelihood Estimation - Bernoulli Density - Multinomial Density - Gaussian (Normal) Density• Evaluating an Estimator: Bias and Variance - Multivariate Methods : Multivariate Data -	12	Chalk & Talk, Spot Test, PPT	S. Vijay C.S. Vigneshwaran

		<p>Parameter Estimation</p> <ul style="list-style-type: none"> • Estimation of Missing Values - Multivariate Normal Distribution - Tuning Complexity - • Discrete Features - Multivariate Regression Dimensionality Reduction : Introduction - Subset Selection - Isomap Locally Linear Embedding 			
Mar 2022 & Apr 2022	III	<ul style="list-style-type: none"> • Clustering : Introduction - Mixture Densities - k-Means Clustering - Mixtures of Latent Variable Models • Supervised Learning after Clustering - Hierarchical Clustering - Choosing the Number of Clusters - Nonparametric Methods • Introduction - Nonparametric Density Estimation - Histogram Estimator - Kernel Estimator - k-Nearest Neighbor Estimator - • Generalization to Multivariate Data - Nonparametric Classification • Decision Trees : Introduction - Univariate Trees - Classification Trees - Regression Trees - Pruning - Rule Extraction from Trees 	12	Chalk & Talk, Demo Coding	S. Vijay CA Vijayaram
Apr 2022 & May 2022	IV	<p>Linear Discrimination : Introduction - Generalizing the Linear Model - Geometry of the Linear Discriminant - Two Classes - Multiple Classes - Pairwise Separation - Parametric Discrimination Revisited - Gradient Descent, Multilayer Perceptrons :</p>	12		

		<p>Introduction - Understanding the Brain - Neural Networks as a Paradigm for Parallel Processing - The Perceptron - Training a Perceptron - Learning Boolean Functions - Multilayer Perceptrons MLP as a Universal Approximator - Back Propagation Algorithm - Nonlinear Regression - Two-Class Discrimination - Multiclass Discrimination.</p>		<p>Chalk & Talk</p>	<p>S. Vijaya (S.VS)@ASAN(AO)</p>
<p>May 2022</p>	<p>V</p>	<p>Hidden Markov Models : Introduction - Discrete Markov Processes - Hidden Markov Models - Three Basic Problems of HMMs. Combining Multiple Learners : Bagging - Boosting. Reinforcement Learning : Introduction - Single State Case - K- Armed Bandit - Elements of Reinforcement Learning - Model-Based Learning - Value Iteration - Policy Iteration - Temporal Difference Learning - Exploration Strategies - Deterministic Rewards and Actions - Nondeterministic Rewards and Actions - Eligibility Traces - Generalization - Partially Observable States - The Setting - Example: The Tiger Problem.</p>	<p>12</p>	<p>Chalk & Talk , PPT</p>	<p>S. Vijaya (S.VS)@ASAN(AO)</p>

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LESSON PLAN 2021-2022

Class : I MCA
Sub. Code : 210MC21
Title of the Paper : Open Source Technology
Total Hours : 75 hrs.

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Feb 2022	I	<ul style="list-style-type: none">• What is PHP – What is MySQL – Deciding on a Web Application Platform .Server• Side Scripting Overview : Static HTML – Client- Side Technologies – Server-Side Scripting• Learning PHP Syntax and Variables : PHP Syntax – Comments – Variables – Types in PHP – The Simple Types – Doubles – Booleans – NULL – Strings – Output	15	Chalk & Talk Chalk & Talk Chalk & Talk	
Mar 2022	II	<ul style="list-style-type: none">• PHP Control Structures and Functions : Boolean Expressions – Branching – Looping – Using Functions• Function Documentation – Own Functions – Functions and variable Scope – Function Scope , PHP String Handling : Strings in PHP , String Functions – Passing Information with PHP• HTTP Is Stateless – GET Arguments – A Better Use for GET Style URLs – POST Arguments – Formatting Form Variables – PHP- Superglobal Arrays	15	Chalk & Talk Chalk & Talk Chalk & Talk	

Mar 2022 & Apr 2022	III	<ul style="list-style-type: none"> Learning Arrays : Uses of Arrays – Creating Arrays – Retrieving Values – Multidimensional Arrays – Inspecting Arrays – Deleting from Arrays – Iteration PHP Number Handling : Numerical Types – Mathematical Operators – Mathematical Functions 	15	Chalk & Talk Chalk & Talk Chalk & Talk	
Apr 2022 & May 2022	IV	<ul style="list-style-type: none"> Introducing Databases And MySQL : What is a Database – Why a Database – PHP-Supported Databases – Structured Query Language (SQL) : Relational Databases and SQL – SQL Standards – SQL- Database Design – Privileges Security. Database Administration and Design : MySQL Client Commands MySQL User Administration – Backups – Replication- Recovery 	15	PPT, Group Discussion Chalk & Talk PPT.	Handwritten signature
May 2022	V	<ul style="list-style-type: none"> Performing Database Queries : HTML Tables and Database Tables – Complex Mappings – Creating sample Tables . Integrating Web Forms and Databases : HTML Forms – Basic Form Submission to a Database Editing Data with an HTML Form . Improving Database Efficiency : Connections – Indexing and Table Design 	15	Student's Seminar	Handwritten signature

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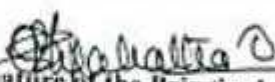
**LESSON PLAN
2021-2022**

Class : I MCA
Sub. Code : 210MC24
Title of the Paper : Java Programming
Total Hours : 75 hrs.

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Feb 2022	I	Data Types, Variables and Arrays: Integers - Floating-Point Types - Characters - Boolean - Variables, Operators: Arithmetic Operators - The Bitwise Operators - Relational Operators - Boolean Logical Operators, Control Statements: Java's Selection Statements - Iteration Statements - Jump Statements, Introducing Classes: Class Fundamentals - Declaring Objects - Introducing Methods - Constructors.	15	Chalk & Talk Chalk & Talk Chalk & Talk	
Mar 2022	II	Packages and Interfaces: Packages - Access Protection - Importing Packages - Interfaces, Exception Handling: Exception Handling Fundamentals - Exception Types - Uncaught Exceptions - Using try And catch - Multiple catch Clauses - Nested try Statements, Multithreaded Programming: The Java Thread Model - The Main Thread - Creating a Thread - Creating Multiple Threads - Thread Priorities - Synchronization - Inter thread Communication.	15	Chalk & Talk Chalk & Talk Chalk & Talk	

Mar 2022 & Apr2022	III	String Handling: The String Constructor - String Length - Special String Operations - Character Extraction - String Comparison - Searching Strings - Modifying Strings. Networking: Networking Basics - The Networking Classes and Interfaces - InetAddress - InetAddress and Inet6Address - TCP/IP Client Sockets - URL - URI Connection. The Applet Class: Applet Basics - Applet Architecture - An Applet Skeleton - Simple Applet Display Methods - The HTML-APPLET Tag.	15	Chalk & Talk Chalk & Talk	/
Apr 2022 & May 2022	IV	Event Handling: The Delegation Event Model - Event Classes- Sources of Events - Event Listener Interfaces - Introducing the AWT : Working With Windows , Graphics and Text : AWT Classes - Window Fundamentals - Introducing Graphics - Working with Color - Using AWT Controls, Layout Managers and Menus - Labels - Using Buttons - Applying Check Boxes - Using Lists - Using a TextField -Using a TextArea - Understanding Layout Managers.	15	PPT, Group Discussion Chalk & Talk PPT,	P. Prish P. Prish
May 2022	V	Introducing GUI Programming with Swing: Introducing Swing: Components and Containers - The Swing Packages - A Simple Swing Application. Java Beans: What is a Java Beans- Advantage of Java Beans - The Java Beans API. Introducing Servlets: The Life Cycle of a Servlet - Servlet Development Options - A Simple Servlets - The Servlets APL.	15	Student's Seminar	P. Prish

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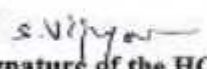
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LESSON PLAN 2021-2022

Class : I MCA
Sub. Code : 210MC23
Title of the Paper : Software Engineering
Total Hours : 75 hrs.

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Feb 2022	I	<ul style="list-style-type: none">▪ Software Engineering: Software Engineering – A Layered Technology--▪ A Process Models -A Generic Process Model – Process Assessment and Improvement - Prescriptive Process Models - Specialized Process Models – The Unifies Process Model- Personal and Team Process Models – Process Technology- Product and Process▪ Agile Development – What is Agility? –Agility and the cost of change- What is an Agile Process? - Extreme programming (XP) – Other Agile Process Models	15	Chalk & Talk Chalk & Talk Chalk & Talk	
Mar 2022	II	<ul style="list-style-type: none">▪ Estimation: Observation on Estimation - Empirical Estimation Models.▪ Project Scheduling: Basic Concepts – Project Scheduling. Risk Management: Reactive Vs. Proactive Risk Strategies - Software Risks – Risk Identification – Risk Projection – Risk Refinement.▪ Principles that Guide Practice – Software engineering Knowledge - Core Principles – Principles That Guide Each Framework Activity.	15	Chalk & Talk Chalk & Talk Chalk & Talk	

Mar 2022 & Apr2022	III	<ul style="list-style-type: none"> • Understanding Requirements: Requirements Engineering Establishing the Ground work – Eliciting Requirements – Developing Use Cases – Building the Requirements Model. Negotiating Requirements- Validating Requirements. • Design Concepts : Design within the Context Of Software Engineering - Design Concepts – The Design Model • Architectural Design: Software Architecture- Architectural Genres – Architectural Styles- Architectural Design – Assessing Alternative Architectural Design – Architectural Mapping Using Data Flow. 	15	Chalk & Talk Chalk & Talk Chalk & Talk	
Apr 2022 & May 2022	IV	<ul style="list-style-type: none"> • Software Testing Strategies: A Strategic Approach To Software Testing – Strategic Issues - Test Strategies For Conventional Software • Test Strategies for Object-Oriented Software – Test Strategies for Web Apps - Validation Testing - System Testing • Testing Conventional Applications: Software Testing Fundamentals - Internal and External Views of Testing White Box Testing - Basis Path Testing - Control Structure Testing - Black Box Testing – Model Based Testing. 	15	PPT, Group Discussion Chalk & Talk PPT,	
May 2022	V	<ul style="list-style-type: none"> • Quality Concepts- What is Quality – Software Quality • Software Quality Assurance – Background Issues – Elements of Software Quality Assurance - SQA Tasks , Goals and Metrics - Formal Approach To SQA - Statistical Software Quality Assurance – Software Reliability • Software Configuration Management - Software Configuration Management- The SCM Repository - The SCM Process. 	15	Student's Seminar	


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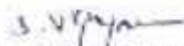
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LESSON PLAN 2021-2022

Class : I MCA
Sub. Code : 210MCE2A
Title of the Paper : Data Mining and Data Warehousing
Total Hours : 75 hrs

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Feb 2022	I	<ul style="list-style-type: none">Why Data Mining.- What is Data Mining, What kinds of data can be mined, What kinds of patterns can be minedWhich technologies are used, Which kinds of Applications are targeted, Major issues in Data Mining.Data Warehouse: Basic Concepts, Data Warehouse Modeling: Data Cube and OLAP - Data Warehouse Design and Usage - Data Warehouse Implementation.Data Warehouse Design and Usage - Data Warehouse Implementation	15	Chalk & Talk.	S. Vijaya S. V. S. Jagan JANAGAN
Mar 2022	II	<ul style="list-style-type: none">Data Preprocessing: An overview - Data CleaningData Integration - Data ReductionData Transformation and Data DiscretizationBasic Concepts-Frequent itemset Mining Methods.	15	PPT	S. Vijaya S. V. S. Jagan JANAGAN
Mar 2022 & Apr 2022	III	<ul style="list-style-type: none">Basic Concepts, Decision Tree Induction, Bayes Classification Methods - Rule-Based Classification.Bayesian Belief Networks, Classification by Back propagationSupport Vector Machines, Lazy Learners, Other Classification Methods.	15	Chalk & Talk, PPT	S. Vijaya S. V. S. Jagan JANAGAN

Apr 2022 & May 2022	IV	<ul style="list-style-type: none"> Cluster Analysis, Partitioning Methods, Hierarchical Methods, Density-Based Methods, Grid-Based Methods Probabilistic Model-Based Clustering, Clustering High-Dimensional Data Clustering Graph and Network Data, Clustering with Constraints. 	15	Chalk & Talk, PPT	S. V. V. V. S. V. V. V. S. A. V. V.
May 2022	V	<ul style="list-style-type: none"> Outliers and Outlier Analysis, Outlier Detection Methods. Mining Complex Data Types, Other Methodologies of Data Mining Data Mining Applications, Data Mining and Society, Data Mining Trends 	15	Chalk & Talk, PPT	S. V. V. V. S. V. V. V. S. A. V. V.


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LESSON PLAN 2021-2022


Sub. Code : 210MCNM2

Title of the Paper : E- Commerce

Total Hours : 30 hrs

Semester : II

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Feb 2022	I	Basics and definition - The Term E-Commerce E- Commerce with the 5C model - additional terms - Role of internet	6	Chalk & Talk	M. M. MULLIGESHAU
Mar 2022	II	Frame Work and Architecture - actors and stakeholders fundamental sales process- Basic Technologies	6	Chalk & Talk	M. M. MULLIGESHAU
Mar 2022	III	B2C business Model - Process Model and its variants buying via internet - variants of the process	6	Chalk & Talk	M. M. MULLIGESHAU
April 2022	IV	B2B business - Process Model and its variants - definition of B2B inference between B2B and B2C - Strong B2B relationship - Supply chain management	6	PPT, Group Discussion	M. M. MULLIGESHAU
May 2022	V	Impact of E- Commerce - Ethics, Morale, & technology - Ethical Aspects of ICT Information Rights & information duties - proprietary Rights and duties - Accountability and Check - Overall impacts of E- Commerce	6	Student's Seminar	M. M. MULLIGESHAU


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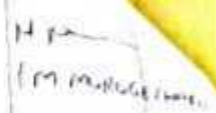
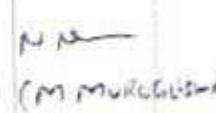
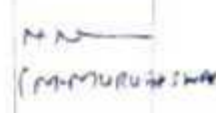
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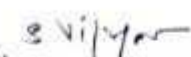
Title of the Paper : Big Data Analytics

Total Hours : 60 hrs

Semester : IV

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Feb 2022	I	Types of Digital Data: Classification of Digital Data – Structured data – Semi-Structured Data – Unstructured Data Introduction of Big Data – Characteristics of Data – Evolution of Big Data – Definition of Big Data – Challenges with Big Data – What is Big Data? – Big Data Analytics: Where do we Begin? – What is Big Data Analytics? What Big Data Analytics Isn't? – Why this sudden Hype around Big data Analytics? – Classification of Analytics - Top challenges facing Big Data – Why is Big Data Analytics Important? – Data Science - Terminologies Used in Big Data Environment.	12	Chalk & Talk	M. P. S. (M. MURUGESAN)
Mar 2022	II	The Big Data Technology Landscape - NoSQL - Hadoop - Introduction to Hadoop : Introduction to Hadoop – Why Hadoop? -Why not RDBMS? RDBMS versus Hadoop – Distributed Computing Challenges - History of Hadoop - Hadoop Overview - Use case of Hadoop - Hadoop Distributors HDFS – Processing Data with Hadoop – Managing Resources and Applications with Hadoop YARN – Interacting with Hadoop Ecosystem.	12	Chalk & Talk	M. P. S. (M. MURUGESAN)

Mar 2022	III	Introduction to MongoDB: What is MongoDB? - Why MongoDB? - Terms Used in RDBMS and MongoDB Data Types in MongoDB Introduction to Cassandra: Apache Cassandra - An Introduction Features of Cassandra - Collections - Alter Commands - Import and Export - Querying System Tables	12	Chalk & Talk	 M. Murugesan
April 2022	IV	Introduction to MAPREDUCE Programming: Introduction - Mapper - Reducer - Combiner Partitioner - Searching - Sorting - Compressing - Introduction to Hive: What is Hive? - Hive Architecture Hive Data Types - Hive File Format - Hive Query Language(HQL)	12	PPT. Group Discussion	 M. Murugesan
May 2022	V	Introduction to Pig: What is Pig? - The Anatomy of Pig - Pig on Hadoop - Data Types in Pig Running Pig - Execution Modes of Pig - HDFS Commands - Eval Functions - Complex Data Types Introduction to Machine Learning - Introduction to Machine Learning - Machine Learning Algorithms	12	Student's Seminar	 M. Murugesan


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LESSON PLAN
2021-2022

Sub. Code : 20MC42

Title of the Paper : Machine Learning

Total Hours : 60 hrs

Month	Units	Description	Hrs.	Mode of Teaching	Course Teacher Signature
Feb 2022	I	<ul style="list-style-type: none">• Introduction : What is Machine Learning? - Examples of Machine Learning Applications.• Learning Associations - Classification - Regression - Unsupervised Learning - Reinforcement Learning. Supervised Learning : Vapnik - Chervonenkis (VC) Dimension• Probably Approximately Correct (PAC) Learning - Noise - Learning Multiple Classes - Regression - Model Selection and Generalization. Bayesian Decision Theory• Introductory- Classification - Losses and Risks - Discriminant Functions - Utility Theory Association Rules.	12	Chalk & Talk,	S. Vijay C.S. Vigneshwaran
Mar 2022	II	<ul style="list-style-type: none">• Parametric Methods : Introduction - Maximum Likelihood Estimation - Bernoulli Density - Multinomial Density - Gaussian (Normal) Density• Evaluating an Estimator: Bias and Variance - Multivariate Methods : Multivariate Data -	12	Chalk & Talk, Spot Test, PPT	S. Vijay C.S. Vigneshwaran

		<p>Parameter Estimation</p> <ul style="list-style-type: none"> • Estimation of Missing Values - Multivariate Normal Distribution - Tuning Complexity - • Discrete Features - Multivariate Regression Dimensionality Reduction : Introduction - Subset Selection - Isomap Locally Linear Embedding 			
Mar 2022 & Apr 2022	III	<ul style="list-style-type: none"> • Clustering : Introduction - Mixture Densities - k-Means Clustering - Mixtures of Latent Variable Models • Supervised Learning after Clustering - Hierarchical Clustering - Choosing the Number of Clusters - Nonparametric Methods • Introduction - Nonparametric Density Estimation - Histogram Estimator - Kernel Estimator - k-Nearest Neighbor Estimator - • Generalization to Multivariate Data - Nonparametric Classification • Decision Trees : Introduction - Univariate Trees - Classification Trees - Regression Trees - Pruning - Rule Extraction from Trees 	12	Chalk & Talk, Demo Coding	S. Vijay CA Vijayaram
Apr 2022 & May 2022	IV	<p>Linear Discrimination :</p> <p>Introduction - Generalizing the Linear Model - Geometry of the Linear Discriminant - Two Classes - Multiple Classes - Pairwise Separation - Parametric Discrimination Revisited - Gradient Descent, Multilayer Perceptrons :</p>	12		

		<p>Introduction - Understanding the Brain - Neural Networks as a Paradigm for Parallel Processing - The Perceptron - Training a Perceptron - Learning Boolean Functions - Multilayer Perceptrons MLP as a Universal Approximator - Back Propagation Algorithm - Nonlinear Regression - Two-Class Discrimination - Multiclass Discrimination.</p>		<p>Chalk & Talk</p>	<p>S. Vijaya (S.VS)@ASANKAR</p>
<p>May 2022</p>	<p>V</p>	<p>Hidden Markov Models : Introduction - Discrete Markov Processes - Hidden Markov Models - Three Basic Problems of HMMs. Combining Multiple Learners : Bagging - Boosting. Reinforcement Learning : Introduction - Single State Case - K- Armed Bandit - Elements of Reinforcement Learning - Model-Based Learning - Value Iteration - Policy Iteration - Temporal Difference Learning - Exploration Strategies - Deterministic Rewards and Actions - Nondeterministic Rewards and Actions - Eligibility Traces - Generalization - Partially Observable States - The Setting - Example: The Tiger Problem.</p>	<p>12</p>	<p>Chalk & Talk , PPT</p>	<p>S. Vijaya (S.VS)@ASANKAR</p>

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