STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

COURSE PLAN (November 2024 – April 2025)

Department : **Computer Science**

Name/s of the Faculty : **Dr. Renuka Devi D**

Course Title : **Database Management Systems**

Course Code : **23CS/PC/DB25**

Shift : **II**

COURSE OUTCOMES (COs)

COs	Description	CL
CO1	define the basic concepts of DBMS, RDBMS and NoSQL	K1
CO2	demonstrate the details of the schema, database design aspects and the concerns with transaction & concurrency processing.	K2
CO3	apply the normal forms, solve the problems by constructing queries with SQL commands and NoSQL	K3
CO4	compare the SQL and NoSQL commands, determine the use of SQL within PL/SQL blocks	K4
CO5	construct an effective and efficient SQL commands, PL/SQL and NoSQL to solve the given problem	K5, K6

Week	Unit No.	Content	Cognitive Level	Teaching Hours	COs	Teaching Learning Methodology	Assessment Methods
Nov 18 – 25, 2024	1	1.1 Database Basics Introduction - Database-	K1, K2	6	CO1 – CO2	Lecture / Demo	Concept Map Creation,

(Day Order 1-6)		System Applications-Purpose of Database Systems- View of Data - Database Languages - Relational Databases - Database Design - Data Storage and Querying - Transaction Management - Database Architecture - Data Mining and Information Retrieval - Specialty Databases - Database Users and Administrators – Database Users and Administrators - History of Database Systems					Schema Identification Exercises
Nov 26- Dec 3, 2024 (Day Order 1 to 6)	1	1.2 Introduction to the Relational Model Structure of Relational Databases - Database Schema – Keys	K1, K2	6	CO1 – CO2	Lecture / Demo	Objective Quiz
Dec 4-11, 2024 (Day Order 1 to 6)	1 2	Schema Diagrams - Relational Query Languages - Relational Operations 2.1 Introduction to SQL Overview of the SQL Query Language- SQL Data Definition- Basic Structure of SQL Queries	K1, K2 K1- K6	4 2	CO1 – CO5 CO1 – CO5	Lecture / Demo	Conceptual Diagram Task Practical Exercises
Dec 12-19, 2024 (Day Order 1 to 6)	2	Additional Basic Operations - Set Operations - Null Values – Aggregate Functions-	K1- K6	6	CO1 – CO5	Lecture / Demo	Interactive Lab Sessions

		Nested Subqueries - Modification of the Database 2.2 Intermediate SQL Join Expressions- Views- Transactions- Integrity Constraints - SQL Data Types and Schemas-Authorization 2.3 Advanced SQL Accessing SQL from a Programming Language					Component 1 (Database Design – Marks : 25)
Dec 20, 2024 (Day Order 1)	2	Functions and Procedures – Triggers - Recursive Queries- Advanced Aggregation Features	K1- K6	1	CO1 – CO5	Lecture / Demo	Case Study
Jan 3 – 7, 2025 (Day Order 3 to 6)	2 3	OLAP - Case study on Query processing and optimization for the Tool used 2.4 Formal Relational Query Languages The Relational Algebra - Fundamental Operations	K1- K6 K1, K2	2 2	CO1 – CO5 CO1 – CO2	Lecture / Demo	Case Study Open-Ended Concept Questions
Jan 8 – 17, 2024 (Day Order 1 to 6)	2 3	Formal Definition of the Relational Algebra - Additional Relational-Algebra Operations - Extended Relational, Algebra Operations	K1, K2 K1-K5	3 3	CO1 – CO5	Lecture / Demo	Quiz

		3.1 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 - Reduction to Relational Schemas - Entity-Relationship Design Issues - Extended E-R Features - Alternative Notations for Modeling Data - Other Aspects of Database Design					Code Analysis Exercise
Jan 18 - 23, 2025	**C.A. Test – I**						
Jan 24 -31, 2025 (Day Order 1 to 6)	3	3.2 Relational Database Design Features of Good Relational Designs - Atomic Domains and First Normal Form - Decomposition Using Functional Dependencies – Functional Dependency	K1-K5	6	CO1 – CO5	Lecture / Demo	Normal Forms Case Study
Feb 3-8, 2025 (Day Order 1 to 6)	3	Theory-Algorithms for Decomposition - Decomposition Using Multivalued Dependencies - More Normal Forms -	K1-K5	6	CO1 – CO5	Lecture / Demo	Lab exercises

Feb 10– 18, 2025 (Day Order 1 to 4)	3 4	Database-Design Process - Modeling Temporal Data 4.1 PL/SQL Blocks PL/SQL Predefined Exceptions- User Defined Exceptions	K1-K6 K1-K6	1 3	CO1 – CO5 CO1 – CO5	Lecture / Demo	Advanced Query Design Task
Feb 19- 26, 2025 (Day Order 1-6)	4	4.2 Cursors and triggers Cursors and Cursor Management Implicit and Explicit Cursors- Advanced Cursors Procedures and Functions	K1-K6	6	CO1 – CO5	Lecture / Demo	Lab exercises Component II Mini Project (25 Marks)
Feb 27- Mar 6, 2025 (Day Order 1 to 6)	4 5	Database triggers- Parts of a Trigger- Types of Triggers 5.1 Transactions and Concurrency Control Transaction Concept - A Simple Transaction Model - Storage Structure	K1-K6 K1, K2	4 2	CO1 – CO5 CO1 – CO2	Lecture / Demo	Lab exercises Quiz
Mar 7 – 11, 2025 (Day Order 1 to 3)	5	Transaction Atomicity and Durability - Transaction	K1, K2	3	CO1 – CO2	Lecture / Demo	Quiz

		Isolation – Serializability – Transaction					
Mar 12 –17, 2025	**C.A. Test – II**						
Mar 18 – 20, 2025 (Day 4 to 6)	5	Transaction Isolation and Atomicity - Transaction Isolation Levels - Implementation of Isolation Levels - Transactions as SQL Statements – Lock-Based Protocols- Deadlock Handling -Multiple Granularity- Timestamp-Based Protocols - Validation-Based Protocols	K1-K6	3	CO1 – CO5	Lecture / Demo	Terminology Matching Practical exercises
Mar 21 - 28, 2025 (Day Order 1 to 6)	5	5.2 NoSQL Definition and Introduction – Sorted Ordered Column – Oriented Stores – Key/Value StoresDocument Databases – Graph Databases – Working with Examples - Working with Language Bindings – Interfacing and Interacting with NoSQL: Storing and accessing Data – Querying Database - Language Bindings for NoSQL Data Stores - Case study using MongoDB	K1-K6	6	CO1 – CO5	Lecture / Demo	Hands-On NoSQL Exercises
Mar 29- April 2, 2025 (Day Order 1 to 3)	**REVISION**						

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

COURSE PLAN (November 2024 – April 2025)

Department : **Computer Science**

Name/s of the Faculty : **Ms. J. Birunda Antoinette Mary**

Course Title : **Design And Analysis Of Algorithms**

Course Code : **23CS/PC/AA24**

Shift : **II**

COURSE OUTCOMES (COs)

COs	Description	CL
CO1	recall the concepts and terminologies in non-linear data structures tree, graphs and their traversals	K1
CO2	explain the data structures, design of computer algorithms and their challenges	K2
CO3	experiment with the different strategies and apply them	K3
CO4	analyse the effectiveness of different algorithms and classify them	K4
CO5	choose appropriate strategies for solving a given problem	K5, K6

Week	Unit No.	Content	Cognitive Level	Teaching Hours	COs	Teaching Learning Methodology	Assessment Methods
Nov 18 – 25, 2024 (Day Order 1-6)	1	**1.1 Analysing Algorithms** Methodologies for Analysis of Algorithms – Asymptotic Notations – Mathematical Review	K1-K4	5	1-4	Lecture, Analysing algorithms	Compute Time and space complexity for various algorithms
Nov 26- Dec 3, 2024 (Day Order 1 to 6)	1	Amortization – Experimental Setup – Data Visualization **1.2 Basic Data Structures** Stack – Queue	K1-K4	5	1-4	Lecture, Discussion	Identify the applications of stack and queues in various software applications
Dec 4-11, 2024 (Day Order 1 to 6)	1 2	List – Trees – Graphs **2.1 Brute force and Exhaustive Search** Bubble sort	K1-K4 K1 - K3	3 2	1-4 1-3	Lecture, Discussion	Justify why bubble sort is slow for large data?
Dec 12-19, 2024 (Day Order 1 to 6)	2	String matching - Closest- pair problem -Exhaustive Search: Knapsack problem – Assignment problem	K1- K3	5	1-3	Lecture, Problem solving	Component Test 1 - 25 marks (analysing, tracing algorithms)

Dec 20, 2024 (Day Order 1)	2	**2.2 Divide and Conquer** Binary Search	K1 - K5	1	1-5	Lecture, Problem solving	Compare the working of linear search and binary search
Jan 3 – 7, 2025 (Day Order 3 to 6)	2	Merge sort - Quick sort Depth-First Search	K1 - K5	3	1-5	Lecture, Tracing algorithms, Animations and video	Trace merge sort and Quicksort algorithms for a given data
Jan 8 – 17, 2024 (Day Order 1 to 6)	2	Breadth-First Search - Strassen's matrix multiplication	K1 - K5	5	1-5	Lecture, Problem solving	Solve problems on Breadth first search
Jan 18 - 23, 2025	**C.A. Test - I**						
Jan 24 -31, 2025 (Day Order 1 to 6)	3	**3.1 Dynamic Programming** Travelling Salesman Problem - Knapsack problem revised and memory function -Optimal Binary Search tree – Warshall's Algorithms	K1 - K6	5	1-5	Lecture, Problem solving	Practice problems on knapsack problem, OBST, Warshall's algorithm
Feb 3-8, 2025 (Day Order 1 to 6)	3	Floyd's Algorithm for All-pair Shortest path	K1 - K6	5	1-5	Lecture, Problem solving	Practice problems on Floyd's algorithm

							and all-pair shortest path
Feb 10– 18, 2025 (Day Order 1 to 4)	4	**4.1 Greedy Method** Prim's Algorithm - Kruskal's Algorithm	K1 - K6	5	1-5	Lecture, Problem solving	Practice problems on Prim's and Kruskal's algorithm
Feb 19- 26, 2025 (Day Order 1-6)	4	Dijkstra's Algorithm – Huffman Trees and Codes	K1 - K6	5	1-5	Lecture, Problem solving	Practice problems on Huffman trees, Dijikstra's
Feb 27- Mar 6, 2025 (Day Order 1 to 6)	5	**5.1 Backtracking and Branch and Bound Technique** n-queen's problem	K1 - K6	5	1-5	Lecture, Discussion, Analysing algorithms	Component 2 - assignment and written test (25 marks) -Solving problem and tracing algorithms
Mar 7 – 11, 2025 (Day Order 1 to 3)	5	Assignment problem – Knapsack problem	K1 - K6	2	1-5	Lecture, Discussion	Quiz
Mar 12 –17, 2025	**C.A. Test - II**						
Mar 18 – 20, 2025 (Day 4 to 6)	5	bin packing algorithm **5.2 Limitations of Algorithmic power -**	K1 - K6 K1 - K2	1 1	1-5 1-2	Lecture, Discussion	Questioning

		P and NP problems					
Mar 21 - 28, 2025 (Day Order 1 to 6)	5	NP-Complete problem – Challenges of Numerical Algorithms	K1-K2	5	1-2	Lecture, Discussion	Group Discussion
Mar 29- April 2, 2025 (Day Order 1 to 3)	**REVISION**						

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

COURSE PLAN (November 2024 – April 2025)

Department : **Computer Science**

Name/s of the Faculty : **Jeyapriya U**

Course Title : **Object Oriented Programming: Concepts and Practice**

Course Code : **23CS/PC/OO24**

Shift : **II**

COURSE OUTCOMES (COs)

COs	Description	CL
CO1	recall the object-oriented concepts	K1
CO2	explain the difference between procedural and object-oriented programming concepts	K2
CO3	apply the object-oriented concept using Java programming language and solve any given problem	K3
CO4	analyze the static and dynamic methods of solving problems	K4
CO5	develop a simple application using the object-oriented concepts learnt	K5, K6

Week	Unit No.	Content	Cognitive Level	Teaching Hours	COs	Teaching Learning Methodology	Assessment Methods

Nov 18 – 25, 2024 (Day Order 1-6)	1	**1.1 Introduction to Object-Oriented Concepts** Procedural versus OO Programming- Moving from Procedural to Object-Oriented Development- Classes and Objects - Encapsulation and Data Hiding- Interfaces	K1-K2	5	CO1-2	Discussion, Lecture, Case Analysis, Demonstration	Basic Practical Exercises
Nov 26- Dec 3, 2024 (Day Order 1 to 6)	1	A Real-World Example of the Interface/ Implementation Paradigm **2.1 Thinking in Terms of Objects** Using Abstract Thinking When Designing Interfaces - Giving the User the Minimal Interface Possible	K1-K2 K1-K3	5	CO1-2 CO1-3	Discussion, Lecture	Case Study
Dec 4-11, 2024 (Day Order 1 to 6)		Determining the Users - Object Behavior - Environmental Constraints -Identifying the Public Interfaces - Identifying the Implementation	K1-K3	5	CO1-3	Lecture, Demonstration, Group Discussion, Case Study	Practical exercises

		2.2 Advanced Object-Oriented Concepts Constructors- Error Handling- The Concept of Scope- Operator Overloading- Multiple Inheritance - Object Operations	K1-K4		CO1-4		
Dec 12-19, 2024 (Day Order 1 to 6)		**2.3 The Anatomy of a Class** The Name of the Class - Comments - Attributes - Constructors - Accessors - Public Interface Methods - Private Implementation Methods	K1-K4	5	CO1-4	Lecture, Pair programming	Practical exercises
Dec 20, 2024 (Day Order 1)		3.1 Class Design Guidelines: Introduction	K1-K5	1	CO1-5	Lecture, Group Discussion, Case Study	Practical exercises, Quiz
Jan 3 – 7, 2025 (Day Order 3 to 6)		Modeling Real World Systems - Identifying the Public Interfaces - The Minimum Public Interface -Hiding the	K1-K5	4	CO1-5	Lecture, Group Discussion, Case Study	Practical Exercises, Component 1 – Written Test - Case Analysis, Code Review, OOP

		Implementation - Designing Robust Constructors					Concepts (20 marks)
Jan 8 – 17, 2024 (Day Order 1 to 6)		Designing Error Handling into a Class - Documenting a Class and Using Comments	K1-K5	5	CO1-5	Lecture, Code Review, Case Study	Practical exercises
Jan 18 - 23, 2025	**C.A. Test - I**						
Jan 24 -31, 2025 (Day Order 1 to 6)		4.1 Designing with Objects Design Guidelines - Performing the Proper Analysis - Developing a Statement of Work -Gathering the Requirements - Developing a Prototype of the User Interface - Identifying the Classes - Determining the Responsibilities of Each Class - Determining How the Classes Collaborate with Each Other - Creating a Class Model to Describe the System	K1-K6	5	CO1-5	Lecture, Group Discussion, Case Study	Practical Exercises

Feb 3-8, 2025 (Day Order 1 to 6)		4.2 Mastering Inheritance and Composition Inheritance -Superclasses and Subclasses - Abstraction -Is-a Relationships - Has-a Relationships - Reusing Objects - Generalization and Specialization - Design Decisions - Composition - Types of Composition - Aggregations – Associations- Using Associations and Aggregations Together	K1-K6	5	CO1-5	Lecture, Group Discussion, Case Study	Practical Exercises
Feb 10– 18, 2025 (Day Order 1 to 4)		-Representing Composition with UML -Encapsulation	K1-K6	3	CO1-5	Lecture, Group Discussion, Case Study	Practical Exercises
Feb 19- 26, 2025 (Day Order 1-6)		A Detailed Example of Polymorphism - Object Responsibility	K1-K6	5	CO1-5	Lecture, Demonstration, Case Study	Practical Exercises
Feb 27- Mar 6, 2025 (Day Order 1 to 6)		**5.1 Frameworks and Reuse: Designing with Interfaces and Abstract Classes**	K1-K6	5	CO1-5	Lecture, Case Study	Practical Exercises Component II – Mini Project

		Abstract Classes, Interfaces					submission and viva(30 marks)
Mar 7 – 11, 2025 (Day Order 1 to 3)		Generics – Simple Generics-Generic Interfaces	K1-K6	2	CO1-5	Lecture, Demonstration, Group Discussion, Case Study	Practical Exercises
Mar 12 –17, 2025	**C.A. Test - II**						
Mar 18 – 20, 2025 (Day 4 to 6)		Generic methods	K1-K6	3	CO1-5	Lecture, Demonstration	Practical Exercises
Mar 21 - 28, 2025 (Day Order 1 to 6)		Framework – Contract	K1-K6	5	CO1-5	Lecture, Group Discussion, Case Study	Practical Exercises
Mar 29- April 2, 2025 (Day Order 1 to 3)	**REVISION**						

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

COURSE PLAN (November 2024 – April 2025)

Department : **Computer Science**

Name/s of the Faculty : **Ms. Geethanjali S.**

Course Title : **Soft Skills**

Course Code : **23CS/PK/SS22**

Shift : **II**

COURSE OUTCOMES (COs)

COs	Description	CL
CO1	communicate with confidence and poise	K1
CO2	work more effectively and complete activities on time	K2
CO3	demonstrate problem solving and planning skills	K3

Week	Unit No.	Content	Cognitive Level	Teaching Hours	COs	Teaching Learning Methodology	Assessment Methods
Nov 18 – 25, 2024 (Day Order 1-6)	1	**Behavioural Traits** 1.1 Self- Awareness 1.2 Communication Skills –Verbal and Non-Verbal	K1	2	1	Lecture / Group discussions	Discussion

Nov 26- Dec 3, 2024 (Day Order 1 to 6)	1	1.3 Leadership Qualities 1.4 Etiquette and Good Manners	K1	2	1	Presentation / Group discussions	**Component 1:** Role Play (Max. marks – 15)
Dec 4-11, 2024 (Day Order 1 to 6)	1	1.5 Experiential Learning –based on activities	K1	2	1	Lecture / Group discussions	Discussion
Dec 12-19, 2024 (Day Order 1 to 6)	2	**Team Work** 2.1. Interpersonal Skills 2.2. People Management	K1 – K2	2	1 – 2	Lecture / Group discussions	Discussion
Dec 20, 2024 (Day Order 1)	2	2.3. Creative Thinking	K1 – K2	1	1 – 2	Lecture / Storytelling	Scenario based story building
Jan 3 – 7, 2025 (Day Order 3 to 6)	2	2.4. Critical Thinking	K1 – K2	1	1 – 2	Demo / Problem solving	Scenario based problem solving
Jan 8 – 17, 2024 (Day Order 1 to 6)	2	2.5. Experiential Learning – based on activities	K1 – K2	2	1 – 2	Presentation / Group discussions	Discussion
Jan 18 - 23, 2025	**C.A. Test - I**						
Jan 24 -31, 2025 (Day Order 1 to 6)	5	**Career Mapping** 5.1. Goal-setting and Decision-making 5.2. Career Planning	K1 – K3	2	1 – 3	Lecture / Presentations	Discussion
Feb 3-8, 2025	5	5.3. Resume Writing 5.4. Handling Interviews	K1 – K3	2	1 – 3	Presentation / Case study analysis	Discussion

(Day Order 1 to 6)							
Feb 10– 18, 2025 (Day Order 1 to 4)	5 4	5.5. Experiential Learning – based on activities **Conflict Resolution** 4.1. Reasons for conflict	K1 – K3	2	1 – 3	Presentations	**Component 2:** Mock Interview & resume writing (Max. marks – 20)
Feb 19- 26, 2025 (Day Order 1-6)	4	4.2. Consequences of conflict 4.3. Managing emotions 4.4. Methods of resolving conflicts	K1 – K3	2	1 – 3	Lecture / Case study analysis	**Component 3:** Debate (Max. marks – 15)
Feb 27- Mar 6, 2025 (Day Order 1 to 6)	4 3	4.5. Experiential Learning – based on activities **Time Management** 3.1. Importance of time management	K1 – K3 K1 – K2	1 1	1 – 3 1 – 2	Presentation / Group discussions	Discussion
Mar 7 – 11, 2025 (Day Order 1 to 3)	3	3.2. Planning and Prioritizing	K1 – K2	1	1 – 2	Lecture / Problem solving	Discussion
Mar 12 –17, 2025	**C.A. Test - II**						
Mar 18 – 20, 2025 (Day 4 to 6)	5	3.3. Organizing skills	K1 – K2	1	1 – 2	Problem solving	Role play

Mar 21 - 28, 2025 (Day Order 1 to 6)	5	3.4. Action Plan 3.5. Experiential Learning – based on activities	K1 – K2	2	1 – 2	Lecture / Group discussions	Discussion
Mar 29- April 2, 2025 (Day Order 1 to 3)	**REVISION**						

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

COURSE PLAN (November 2024 – April 2025)

Department : **Computer Science**

Name/s of the Faculty : **Ms. Blessy Boaz**

Course Title : **Visual Programming**

Course Code : **23CS/PE/VP15**

Shift : **II**

COURSE OUTCOMES (COs)

COs	Description	CL
CO1	recall the fundamental concepts of C#	K1, K2
CO2	identify the various concepts for Console, Web Applications and connecting LINQ	K3
CO3	select the web controls, navigation, state management techniques and databinding controls for a Web Application	K4
CO4	evaluate the Web Application and Ajax techniques	K5
CO5	develop an Application and generate reports	K6

Week	Unit No.	Content	Cognitive Level	Teaching Hours	Cos	Teaching Learning Methodology	Assessment Methods
Nov 18 – 25, 2024 (Day Order 1-6)	1	**1.1 C# Fundamentals** Overview of .NET Framework - C# Fundamentals Variables and Constants, Value Types, Reference Types, Type Conversions, Boxing and Unboxing, Expressions and Operators, Flow Control and Exception Handling - Control Flow Statements: Selection Statements, Iteration Statements or Loops, Jump Statements –	K1-K2 K1-K6	2 4	CO1 CO1-CO5	Lecture/Demo Group Discussion	Questioning Practical Exercise
Nov 26- Dec 3, 2024 (Day Order 1 to 6)	1	Exception Handling try...catch...finally Statement, throw Statement - Exploring Namespaces, Classes and Objects - Syntax of a Class, Method as Class Member, Access Modifiers, Objects,	K1-K6	6	CO1-CO5	Lecture/Demo	Practical Exercise
Dec 4-11, 2024 (Day Order 1 to 6)	1	Constructors and Destructors - Static Classes and Static Class Members – Properties	K1-K6	6	CO1-CO5	Lecture/Demo	Practical Exercise

Week	Unit No.	Content	Cognitive Level	Teaching Hours	Cos	Teaching Learning Methodology	Assessment Methods
Dec 12-19, 2024 (Day Order 1 to 6)	2	**2.1 ASP.NET** Life cycle- Specifying a Location for a Web Application -Single-File Page Model - Code-Behind Page Model - Adding controls to web form – History of MVC – Understanding the MVC pattern	K1-K4	6	CO1-CO3	Lecture/Demo Group Discussion	Practical Exercise
Dec 20, 2024 (Day Order 1)	2	**2.2 Web Server Controls** The Control Class - The WebControl Class - The Button Control - The TextBox Control -	K1-K6	1	CO1-CO5	Lecture/Demo Group Discussion	**Component 1** **Theory : (15 marks)** Quiz/Puzzle/ MCQ **Practical: (15 marks)** Practical Test on Console Application
Jan 3 – 7, 2025 (Day Order 3 to 6)	2	The Label Control - The HyperLink Control -The LinkButton Control –The PlaceHolder Control - The HiddenField Control	K1-K6	6	CO1-CO5	Lecture/Demo	Practical Exercise

Week	Unit No.	Content	Cognitive Level	Teaching Hours	Cos	Teaching Learning Methodology	Assessment Methods
Jan 8 – 17, 2024 (Day Order 1 to 6)	2	The CheckBox Control –The RadioButton Control - The ListBox Control -The DropDownList Control -The Image Control -The ImageButton Control - The Table Control - Menus - Validation Server Controls - Master page - Web.Config	K1-K6	6	CO1-CO5	Lecture/Demo	Practical Exercise
Jan 18 - 23, 2025	**C.A. Test – I**						
Jan 24 -31, 2025 (Day Order 1 to 6)	3	**3.1 State Management** Understanding the session object Sessions and the Event Model, Configuring, In- Process Session State, Out-of-Process Session state	K1-K6	6	CO1-CO5	Lecture/ Demo Group Discussion	Questioning
Feb 3-8, 2025 (Day Order 1 to 6)	3	Application Object – Query strings - Cookies, -ViewState - Global.asax **3.2 XML and .NET** Basics of XML - Create XML Document - Reading XML with XmlReader – Reading XML with XmlDocument	K1-K6	6	CO1-CO5	Lecture/Demo Group Discussion	Questioning

Week	Unit No.	Content	Cognitive Level	Teaching Hours	Cos	Teaching Learning Methodology	Assessment Methods
Feb 10– 18, 2025 (Day Order 1 to 4)	3	Working with XmlNode - Using XPath with XmlDocument - Writing XML with XmlWriter - Writing XML with XmlDocument	K1-K6	4	CO1-CO5	Lecture/Demo	Questioning
Feb 19- 26, 2025 (Day Order 1-6)	4	The XMLDataSource Control **4.1 LINQ** Introducing LINQ Queries Standard Query Operators - Introducing LINQ to Dataset SQL and XML - The LinqDataSource Control	K1-K6	6	CO1-CO5	Lecture/ Demo Presentation	Practical Exercise
Feb 27- Mar 6, 2025 (Day Order 1 to 6)	5	Data Binding Grid View, Details view, Forms view **5.1 ASP. NET AJAX** Understanding the need for AJAX	K1-K6	6	CO1-CO5	Lecture/Demo Group Discussion	Practical Exercise
Mar 7 – 11, 2025 (Day Order 1 to 3)	5	Building a simple ASP.NET page without AJAX	K1-K6	3	CO1-CO5	Lecture/Demo	Practical Exercise
Mar 12 –17, 2025	**C.A. Test – II**						

Week	Unit No.	Content	Cognitive Level	Teaching Hours	Cos	Teaching Learning Methodology	Assessment Methods
Mar 18 – 20, 2025 (Day 4 to 6)	5	Building a simple ASP.NET page with AJAX	K1-K6	3	CO1-CO5	Lecture	**Component 2:** **Project (20 marks)** Developing the web application with database connectivity using Github
Mar 21 - 28, 2025 (Day Order 1 to 6)	5	**5.2 Crystal Reports** Overview to Crystal Reports - Creating Crystal Reports with wizards	K1-K6	6	CO1-CO5	Lecture/Demo	Practical Exercise
Mar 29- April 2, 2025 (Day Order 1 to 3)	**REVISION**						

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

COURSE PLAN (November 2024 – April 2025)

Department : Computer Science

Name/s of the Faculty : Dr. I. Diana Judith

Course Title : Emerging Trends in Information Technology

Course Code : 23CS/PE/ET23

Shift : II

COURSE OUTCOMES (COs)

COs	Description	CL
CO1	list the emerging technologies that are currently relevant in the IT industry	K1
CO2	demonstrate the potential application areas for these emerging technologies	K2
CO3	categorize emerging technologies in the IT industry based on their relevance and potential impact	K3
CO4	examine the various aspects of integrating different technologies for effective solutions	K4

Week	Unit No.	Content	Cognitive Level	Teaching Hours	COs	Teaching Learning Methodology	Assessment Methods
Nov 18 – 25, 2024 (Day Order 1-6)	1	**Unit 1**	K1,K2	3	1-2	Lecture/ Presentation	Brainstorming

		1.1 Introduction to Augmented and Virtual Reality Computer-Generated Worlds -What Is Augmented Reality? - What Is Virtual Reality?					and Group discussion
Nov 26- Dec 3, 2024 (Day Order 1 to 6)	1	**1.2 Applications** Gaming and Entertainment, Architecture and Construction-Science and Engineering -	K1- K4	3	1-4	Lecture/Demo	Identifying real time examples
Dec 4-11, 2024 (Day Order 1 to 6)	1	Health and Medicine- Aerospace and Defense - Education-Tele robotic and Telepresence	K1- K4	3	1-4	Lecture/ Presentations	Discussion
Dec 12-19, 2024 (Day Order 1 to 6)	2	**Unit 2** **2.1 Artificial Intelligence** Artificial Intelligence and Agents - What Is Artificial Intelligence? - A Brief History of AI-Agents Situated in Applications of AI	K1 – K2	3	1-2	Lecture/ Group discussions	**Component I –** Assignment based on case study (Max Marks:25)

Dec 20, 2024 (Day Order 1)	2	Environments- Knowledge Representation- Dimensions of Complexity	K4	3	1-4	Lecture and Case Analysis	Discussion on applications
Jan 3 – 7, 2025 (Day Order 3 to 6)	3	**Unit 3** **3.1 3D Printing** Introduction –The Basics of 3D printing	K1	3	1	Lecture/ Presentation	Discussion based on printing methods
Jan 8 – 17, 2024 (Day Order 1 to 6)	3	3D Print Methods and Materials Material Extrusion	K2	3	2	Lecture/ Case Analysis	Discussion based on printing methods
Jan 18 - 23, 2025	**C.A. Test – I**						
Jan 24 -31, 2025 (Day Order 1 to 6)	3	Fused Filament Fabrication - General design considerations for 3D Printing	K2	3	2	Lecture/ Presentation	Q & A, Discussions on real world Applications
Feb 3-8, 2025 (Day Order 1 to 6)	3	Applications of FFF **3.2 Applications** Industrial Applications 3D Printing in space, Housing, Clothing, Medical Applications	K1-K4	3	1-4	Lecture/ Industry Visit	Quiz

Feb 10– 18, 2025 (Day Order 1 to 4)	4	**Unit 4** **4.1 Cloud Computing** Introduction-Cloud Computing at a glance	K1	2	1	Lecture/ Presentation	Discussion
Feb 19- 26, 2025 (Day Order 1-6)	4	Building cloud computing Environments- Cloud Computing Architecture	K2	3	2	Lecture/ Presentation	**Component - II** Presentation based on emerging trends (Max Marks:25)
Feb 27- Mar 6, 2025 (Day Order 1 to 6)	4	Introduction- -The cloud reference model -Types of Clouds.	K2	3	2	Lecture/ Group Discussion	Discussion
Mar 7 – 11, 2025 (Day Order 1 to 3)	5	**Unit 5** **5.1 Applications** Cloud Applications -	K1-K4	3	1-4	Lecture/ Case Analysis and discussion	Brainstorming based on usage of cloud applications
Mar 12 –17, 2025	**C.A. Test - II**						
Mar 18 – 20, 2025 (Day 4 to 6)	5	Scientific applications - Business and consumer applications	K1-K4	3	1-4	Lecture/ Presentation	Q/A & Discussion

Mar 21 - 28, 2025 (Day Order 1 to 6)	5	Social networking Media applications - Multiplayer online gaming	K1-K4	3	1-4	Lecture/ Presentation and Analysis based on Survey reports about the usage of social networking	Quiz
Mar 29- April 2, 2025 (Day Order 1 to 3)	**REVISION**						

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