

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**

**Course Schedule: November 2023 - April 2024**

**Department** : Computer Science

**Name/s of the Faculty** : Ms. Madhura Prabha. R, Ms. Rajalakshmi. S

**Course Title** : Operating Systems

**Course Code** : 19CS/MC/OS45

**Shift** : II

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Nov 22 – 23, 2023 (Day Order 1 & 2) 2 hrs	<b>Unit 1</b> <b>1.1 Introduction</b> Introduction - Computer System Organisation – Computer System Architecture	Lecture/ Presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Questionnaire
Nov 24-30, 2023 (Day Order 1 to 6) 5 hrs	Operating System– Structure, Operations - Process Management - Memory Management	Lecture/ Presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Discussion
Dec 1-7, 2023 (Day Order 1 to 6) 5 hrs	Storage Management - Protection and Security – Kernel Data Structures <b>1.2 Operating System Structures</b> –Operating System Services - System Calls - System Programs	Lecture/ Presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Quiz
Dec 8-9, 2023 (Day Order 1, 3) 2 hrs	Operating System Design and Implementation Boot - Operating System Structure –System Boot	Lecture/ Presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Open book test
Dec 11-15, 2023 (Day Order 2 to 6) 4 hrs	<b>Unit 2</b> <b>2.1 Processes</b> Process Concept - Process Scheduling - Operations on Processes – Interprocess Communication	Lecture/ Presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	<b>Component I:</b> Crossword and Identifying the system process

<b>Week &amp; No. of Hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Dec 16 – 22, 2023 (Day Order 1 to 6) 5 hrs	<b>2.2 Process Synchronisation</b> Background – The Critical Section Problem - Peterson’s Solution - Synchronisation Hardware - Semaphores	Lecture/ Presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Discussion
Jan 3 – 6, 2024 (Day Order 1 to 4) 3 hrs	Classic problems of Synchronization – Monitors. <b>Unit 3</b> <b>3.1 Threads</b> Overview	Lecture/ Presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Problem solving
Jan 8 – 12, 2024	<b>C.A. Test – I</b>			
Jan 13, 2024 (Day Order 1) 1 hr	Multithreading models, Threading issues.	Lecture/ Presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Discussion
Jan 18 -20, 2024 (Day Order 4 to 6) 3 hrs	<b>3.2 CPU Scheduling</b> Basic Concepts, Scheduling Criteria	Lecture and presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	<b>Component II</b> Problem Solving on CPU Scheduling
Jan 22-29, 2024 (Day Order 1 to 6) 5 hrs	Scheduling Algorithms <b>3.3 Deadlocks</b> System Model – Deadlock Characterisation	Lecture and presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Chart preparation
Jan 30 – Feb 2, 2024 (Day Order 1 to 4) 3 hrs	Methods for handling Deadlocks -Deadlock Prevention	Lecture and presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Role play

<b>Week &amp; No. of Hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Feb 3, 2024 (Day Order 2) 1 hr	<b>Unit 4</b> <b>4.1 Main Memory</b> Background, Swapping, Contiguous Memory allocation	Lecture and presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Discussion
Feb 5- 6, 2024 (Day Order 5 to 6) 2 hrs	- Paging - Structure of Page Table	Lecture and presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Problem solving
Feb 7 – 14, 2024 (Day Order 1 to 6) 5 hrs	Segmentation. <b>4.2 Virtual Memory</b> Background, Demand Paging.	Lecture and presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Puzzle
Feb 15 – 22, 2024 (Day Order 1 to 6) 5 hrs	Copy on Write, Page Replacement, Thrashing.	Lecture and presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Problem solving
Feb 23 – 24, 2024 (Day Order 1 & 5) 2 hrs	<b>Unit 5</b> <b>5.1 Secondary Storage Structure</b> Overview of Mass, Storage Structure, Disk Structure, Disk Attachment	Lecture and presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Group Discussion
Feb 26 – Mar 1, 2024 (Day Order 2 to 6) 4 hrs	Disk Scheduling, Disk Management, Swap, Space Management, RAID Structure.	Lecture and presentation	-Do-	Quiz
Mar 2, 2024 (Day Order 1) 1 hr	<b>5.2 File Management</b> File System, File Concepts, Access Methods	Lecture and presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Questionnaire

<b>Week &amp; No. of Hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Mar 4 –8, 2024	<b>C.A. Test – II</b>			
Mar 9 – 16, 2024 (Day 6 & Day Order 1 to 6) 6 hrs	Directory Structures <b>5.3 File System</b> Implementation, File System Structures, Allocation Methods	Lecture and presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Discussion
Mar 18 - 19, 2024 (Day Order 2 to 3) 1 hr	Free Space Management	Lecture and presentation	Silberschatz, Abraham, Peter B. Galvin and Greg Gagne. Operating System Concepts. 9th ed. Wiley, 2014.	Discussion
Mar 20-22, 2024 (Day Order 4 to 6) 3 hrs	<b>REVISION</b>			

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**

**Course Schedule: November 2023 - April 2024**

**Department** : Computer Science  
**Name/s of the Faculty** : Ms.Roselin Clara.A Dr.K.C. Sharmili  
**Course Title** : FUNDAMENTALS OF DATABASE MANAGEMENT SYSTEMS  
**Course Code** : 19CS/MC/FD45  
**Shift** : II

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Nov 22 – 23, 2023 (Day Order 1 & 2) 2 hrs	<b>Unit1</b> <b>1.1IntroductiontoDatabases</b> Introduction-An example- Characteristics of the Database Approach - Actors on the Scene-Workers behind the Scene-	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe.Fundamentals of database systems. Addison-Wesley Publishing Company,2010.	Discussion
Nov 24-30, 2023 (Day Order 1 to 6) 5 Hrs	Advantages of Using the DBMS Approach-A Brief History of Database Applications-When Not to Use a DBMS  <b>1.2 Database System Concepts and Architecture</b> Data Models, Schemas and Instances	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe.Fundamentals of database systems. Addison-Wesley Publishing Company,2010.	Discussion
Dec 1-7, 2023 (Day Order 1 to 6) 5 Hrs	Three Schema Architecture and Data Independence- Database Languages and Interfaces - The Database System Environment- Centralized and Client/Server Architectures for DBMSs- Classification of Database Management Systems	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe.Fundamentals of database systems. Addison-Wesley Publishing Company,2010.	Discussion

Week & No. of Hrs	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
Dec 8-9, 2023 (Day Order 1, 3) 2 Hrs	<b>Unit 2: 2.1 The Relational Data Model and Relational Database Constraints</b>  Relational Model Concepts – Relational Model Constraints and Relational Database Schemas	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe. Fundamentals of database systems. Addison-Wesley Publishing Company, 2010.	Discussion
Dec 11-15, 2023 (Day Order 2 to 6) 3 Hrs	Update Operations, Transactions and Dealing with Constraint <b>2.2 Data Modeling Using the Entity-Relationship Model</b>  Using High-Level Conceptual Data Models for Database Design	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe. Fundamentals of database systems. Addison-Wesley Publishing Company, 2010.	<b>Component 1:</b> MCQ on unit 1 <b>(20 marks)</b>
Dec 16 – 22, 2023 (Day Order 1 to 6) 5 Hrs	A Sample Database Application-Entity Types, Entity Sets, Attributes and Keys-Relationship Types, Relationship Sets, Roles and Structural Constraints- Weak Entity Types-Refining the ER Diagram–ER Diagrams, Naming Conventions and Design Issues - Relationship Types of Degree Higher than Two	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe. Fundamentals of database systems. Addison-Wesley Publishing Company, 2010.	Discussion
Jan 3 – 6, 2024 (Day Order 1 to 4) 3 Hrs	<b>2.3 The Enhanced ER model</b> Subclasses, Super Classes and Inheritance, Specialization and Generalization, Constraints and Characteristics of Specialization And Generalization Hierarchies, Modelling of Union Types Using Categories, Data Abstraction <b>2.4 Relational Database Design by ER-and EER-to-Relational Mapping</b> Relational Database Design Using ER-to-Relational	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe. Fundamentals of database systems. Addison-Wesley Publishing Company, 2010.	<b>Component 2:</b> Case study on any real time problem. Represent it as ER diagrams <b>(15 marks)</b>

Week & No. Of Hrs	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
	Mapping-Mapping EER Model Constructs to Relations			
Jan 8 – 12, 2024	<b>C.A. Test – I</b>			
Jan 13, 2024 (Day Order 1) 1 Hr	<b>Unit 3</b> <b>3.1 Basic SQL</b> SQL Data Definition and Data Types – Specifying Constraints in SQL	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe. Fundamentals of database systems. Addison-Wesley Publishing Company, 2010.	Discussion
Jan 18 -20, 2024 (Day Order 4 to 6) 3 Hrs	Basic Retrieval Queries in SQL- Insert, Delete and Update Statements in SQL- Additional Features of SQL	Lecture Presentation	-do-	Discussion
Jan 22-29, 2024 (Day Order 1 to 6) 5 Hrs	<b>3.2 More SQL: Complex Queries, Triggers, Views and Schema Modification</b> More Complex SQL Retrieval Queries-Specifying Constrains as Assertions and Actions as Triggers	Lecture Presentation	-do-	Discussion
Jan 30 – Feb 2, 2024 (Day Order 1 to 4) 3 Hrs	Views-Schema Change Statements in SQL  <b>3.3 The Relational Algebra</b> Unary Relational Operations: Select and Project	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe. Fundamentals of database systems. Addison-Wesley Publishing Company, 2010.	Discussion
Feb 3, 2024 (Day Order 2) 1Hr	Relational Algebra Operations from Set Theory	Lecture	-do-	Discussion

Week & No. Of Hrs	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
Feb 5- 6, 2024 (Day Order 5 to 6) 1 Hr	Binary Operations: Join and Division, Additional Relational Operations, Examples of Queries in Relational Algebra	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe.Fundamentals of database systems. Addison-Wesley Publishing Company,2010.	Discussion
Feb 7 – 14, 2024 (Day Order 1 to 6) 5 Hrs	<b>Unit 4</b> <b>4.1 DB Programming techniques</b> Introduction to SQL programming Techniques – DB programming: Techniques and Issues- Embedded SQL, Dynamic SQL, DB Stored procedures- <b>4.2 DB design theory and normalization</b> Basics of Functional Dependencies and normalization for relational DB	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe.Fundamentals of database systems. Addison-Wesley Publishing Company,2010.	<b>Component 3:</b> Convert the ER diagram into tables with normalization <b>(15 marks)</b>
Feb 15 – 22, 2024 (Day Order 1 to 6) 5 Hrs	relational DB design algorithms and further dependencies <b>4.3 PL/SQL</b> PL/SQLBlocks– Architecture- DataTypesandtheirusage- ControlStructures- Exceptions-Predefined, User Defined Cursors and Triggers: Introduction– Cursors	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe.Fundamentals of database systems. Addison-Wesley Publishing Company,2010.	Discussion
Feb 23 – 24, 2024 (Day Order 1 & 5) 2 Hrs	Cursor Management– Procedures–Functions- Triggers and its types <b>Unit 5</b> <b>5.1 Transaction processing</b> Introduction, transaction and system concepts, desirable properties of transactions, characterizing schedules based on recoverability and	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe.Fundamentals of database systems. Addison-Wesley Publishing	Discussion



Week & No. Of Hrs	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
	serializability, transaction support in SQL		Company,2010.	
Feb 26 – Mar 1, 2024 (Day Order 2 to 6) 4 Hrs	<b>5.2 Concurrency Control Techniques</b> Two phase locking techniques, concurrency control based on timestamp ordering, multiversity concurrency control techniques, validation concurrency control techniques	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe.Fundamentals of database systems. Addison-Wesley Publishing Company,2010.	Discussion
Mar 2, 2024 (Day Order 1) 1 Hr	granularity of data items and multiple granularity locking, using locks for concurrency control in indexes	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe.Fundamentals of database systems. Addison-Wesley Publishing Company,2010.	Discussion
Mar 4 –8, 2024	<b>C.A. Test – II</b>			
Mar 9 – 16, 2024 (Day 6 & Day Order 1 to 6) 5 Hrs	other concurrency control issues <b>5.3 DB Recovery Techniques</b> Recovery concepts, no undo/redo recovery based on deferred update, recovery techniques based on immediate update, shadow paging	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe.Fundamentals of database systems. Addison-Wesley Publishing Company,2010.	Discussion

Week & No. Of Hrs	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
Mar 18 - 19, 2024 (Day Order 2 to 3) 2 Hr	Aries recovery algorithm, recovery in multi DB systems, DB backup and recovery for catastrophic failures	Lecture Presentation	Elmasri, Ramez, and Shamkant Navathe. Fundamentals of database systems. Addison-Wesley Publishing Company, 2010.	Discussion
Mar 20-22, 2024 (Day Order 4 to 6)	<b>REVISION</b>			

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**

**Course Schedule: November 2023 - April 2024**

**Department** : Computer Science

**Name/s of the Faculty** : Ms. Madhura Prabha. R, Ms. Rajalakshmi. S

**Course Title** : Operating Systems Concepts Implementation

**Course Code** : 19CS/MC/P342

**Shift** : II

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Nov 22 – 23, 2023 (Day Order 1 & 2) 1 hr	<b>Basic commands:</b> cat, date, who	Demo/Lecture	Sumitabha Das. UNIX Concepts and Applications, Fourth Edition	Discussion / Practical Exercise
Nov 24-30, 2023 (Day Order 1 to 6) 4 hrs	pwd, history-filter –head -tail, cut, paste	Demo/Lecture	Sumitabha Das. UNIX Concepts and Applications, Fourth Edition	Discussion / Practical Exercise
Dec 1-7, 2023 (Day Order 1 to 6) 4 hrs	, grep -sort –man -su - whoami – echo	Demo/Lecture	Sumitabha Das. UNIX Concepts and Applications, Fourth Edition	Discussion / Practical Exercise
Dec 8-9, 2023 (Day Order 1, 3) 2 hrs	Sed – Awk	Demo/Lecture	Sumitabha Das. UNIX Concepts and Applications, Fourth Edition	Discussion / Practical Exercise
Dec 11-15, 2023 (Day Order 2 to 6 ) 3 hrs	<b>Process Utilities:</b> ps - shell process, Parents and children, Process status, System process, running jobs in background	Demo/Lecture	Mark G Sobell. Practical guide to Linux - Commands, Editors and Shell programming, Fourth Edition, 2018	Discussion / Practical Exercise
Dec 16 – 22, 2023 (Day Order 1 to 6) 4 hrs	Process System calls – getpid, getppid, fork, executing a process, exit, wait, kill, nice Job control, cron, pstree	Demo/Lecture	Mark G Sobell. Practical guide to Linux - Commands, Editors and Shell programming, Fourth Edition, 2018	<b>Component I Practical Test</b>

<b>Week &amp; No. of Hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Jan 3 – 6, 2024 (Day Order 1 to 4) 2 hrs	Boot Process - Run Levels -init, systemd - Daemon	Demo/Lecture	Mark G Sobell. Practical guide to Linux - Commands, Editors and Shell programming, Fourth Edition, 2018	Discussion / Practical Exercise
Jan 8 – 12, 2024	<b>C.A. Test – I</b>			
Jan 13, 2024 (Day Order 1) 1 hr	Process Scheduling policies	Demo/Lecture	Mark G Sobell. Practical guide to Linux - Commands, Editors and Shell programming, Fourth Edition, 2018	Discussion / Practical Exercise
Jan 18 -20, 2024 (Day Order 4 to 6) 2 hrs	and Priorities –at and batch - File System– file-File Access Permission –chmod	Demo/Lecture	Mark G Sobell. Practical guide to Linux - Commands, Editors and Shell programming, Fourth Edition, 2018	Discussion / Practical Exercise
Jan 22-29, 2024 (Day Order 1 to 6) 4 hrs	chown, chgrp -File Comparisons -View Files -Listing files with attributes –Wildcards	Demo/Lecture	Mark G Sobell. Practical guide to Linux - Commands, Editors and Shell programming, Fourth Edition, 2018	Discussion / Practical Exercise
Jan 30 – Feb 2, 2024 (Day Order 1 to 4) 2 hrs	Translating Characters - Links and its types -The File System –Partitions	Demo/Lecture	Mark G Sobell. Practical guide to Linux Commands, Editors and Shell programming, Fourth Edition, 2018	Discussion / Practical Exercise

<b>Week &amp; No. of Hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Feb 3, 2024 (Day Order 2) 1 hr	File Systems types - System calls for file management, directory management	Demo/Lecture	Mark G Sobell. Practical guide to Linux - Commands, Editors and Shell programming, Fourth Edition, 2018	Discussion / Practical Exercise
Feb 5- 6, 2024 (Day Order 5 to 6) 1 hrs	Kernel Accesses – Mounting -Unmounting -umask –ulimit	Demo/Lecture	Mark G Sobell. Practical guide to Linux - Commands, Editors and Shell programming, Fourth Edition, 2018	Discussion / Practical Exercise
Feb 7 – 14, 2024 (Day Order 1 to 6) 4 hrs	-I/O redirection –Pipes	Demo/Lecture	Mark G Sobell. Practical guide to Linux - Commands, Editors and Shell programming, Fourth Edition, 2018	Discussion / Practical Exercise
Feb 15 – 22, 2024 (Day Order 1 to 6) 4 hrs	Disk Utilities -Disk usage(du)	Demo/Lecture	Mark G Sobell. Practical guide to Linux - Commands, Editors and Shell programming, Fourth Edition, 2018	<b>Component II Practical Test</b>
Feb 23 – 24, 2024 (Day Order 1 & 5) 2 hrs	, disk free(df),dd, Backups-cpio, tar	Demo/Lecture	Mark G Sobell. Practical guide to Linux - Commands, Editors and Shell programming, Fourth Edition, 2018	Discussion / Practical Exercise

<b>Weeks &amp; No. of Hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Feb 26 – Mar 1, 2024 (Day Order 2 to 6) 3 hrs	<b>System Programming:</b> create, execute	Demo/Lecture	Mark G Sobell. Practical guide to Linux - Commands, Editors and Shell programming, Fourth Edition, 2018	Debugging
Mar 2, 2024 (Day Order 1) 1 hr	terminate a process - demonstrate the Memory Layout of a Process.	Demo/Lecture	Mark G Sobell. Practical guide to Linux - Commands, Editors and Shell programming, Fourth Edition, 2018	Discussion / Practical Exercise
Mar 4 –8, 2024	<b>C.A. Test – II</b>			
Mar 9 – 16, 2024 (Day 6 & Day Order 1 to 6) 5 hrs	perform file operations (open, close, read, write) - set permissions on files and directories	Demo/Lecture	Kerrisk,Michael. The Linux Programming interface A Linux and UNIX System Programming Handbook	Discussion / Practical Exercise
Mar 18 - 19, 2024 (Day Order 2 to 3) 1 hr	Demonstrate Inter- Process communication	Demo/Lecture	Kerrisk,Michael. The Linux Programming interface A Linux and UNIX System Programming Handbook	Discussion / Practical Exercise
Mar 20-22, 2024 (Day Order 4 to 6) 3 hrs	<b>REVISION</b>			

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**

**Course Schedule: November 2023 - April 2024**

**Department** : Computer Science

**Name/s of the Faculty** : Ms. Roselin Clara A, Dr.K.C. Sharmili

**Course Title** : Fundamentals of Database Management Systems- Practical

**Course Code** : 19CS/MC/P442

**Shift** : II

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Nov 22 – 23, 2023 (Day Order 1 & 2) 2 hrs.	Schema design, ER modelling using a tool	Practical Demo	Bayross, Ivan. SQL, PL/SQL: The Programming Language of Oracle. Tech Publications Private Limited, 2000	Practical Exercises
Nov 24-30, 2023 (Day Order 1 to 6) 4 hrs.	ER modelling using a tool	Practical Demo	-DO-	Practical Exercises
Dec 1-7, 2023 (Day Order 1 to 6) 4 hrs.	DDL commands - Creating tables for various relations	Practical Demo	-DO-	Practical Exercises
Dec 8-9, 2023 (Day Order 1, 3) 2 hrs.	DML and TCL commands	Practical Demo	-DO-	Practical Exercises
Dec 11-15, 2023 (Day Order 2 to 6) 4 hrs.	Implementing Insert, update, delete, truncate functions	Practical Demo	-DO-	<b>Component I</b> Mini Project – Phase 1: Data Modeling Schema Design ER diagram Using tool (25 Marks)

<b>Week &amp; No. of Hours</b>	<b>Unit &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Dec 16 – 22, 2023 (Day Order 1 to 6) 4 hrs.	SQL programming, Embedded SQL, Dynamic SQL	Practical Demo	-DO-	Practical Exercises
Jan 3 – 6, 2024 (Day Order 1 to 4) 3 hrs.	Subqueries, Single Row and Aggregate functions , Set operations	Practical Demo	-DO-	Practical Exercises
Jan 8 – 12, 2024	<b>C.A. Test – I</b>			
Jan 13, 2024 (Day Order 1) 1 hr.	Joins	Practical Demo	-DO-	Practical Exercises
Jan 18 -20, 2024 (Day Order 4 to 6) 3 hrs.	Joins	Practical Demo	-DO-	Practical Exercises
Jan 22-29, 2024 (Day Order 1 to 6) 4 hrs.	Views, index	Practical Demo	-DO-	Practical Exercises
Jan 30 – Feb 2, 2024 (Day Order 1 to 4) 3 hrs.	synonyms and sequence	Practical Demo	-DO-	Practical Exercises
Feb 3, 2024 (Day Order 2) 1 hr.	Report generation	Practical Demo	-DO-	Practical Exercises
Feb 5- 6, 2024 (Day Order 5 to 6) 2 hrs.	Cursors	Practical Demo	-DO-	Practical Exercises
Feb 7 – 14, 2024 (Day Order 1 to 6) 4 hrs.	Cursors	Practical Demo	-DO-	Practical Exercises
Feb 15 – 22, 2024 (Day Order 1 to 6)4 Hrs.	Procedures	Practical Demo	-DO-	Practical Exercises



<b>Week &amp; No. of Hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Feb 23 – 24, 2024 (Day Order 1 & 5) 3 hrs.	Functions	Practical Demo	-DO-	Practical Exercises
Feb 26 – Mar 1, 2024 (Day Order 2 to 6) 4 hrs.	Functions	Practical Demo	-DO-	<b>Component II</b> <b>Mini project:</b> <b>Phase 2</b> Implementation All queries/PL/SQL (25 Marks)
Mar 2, 2024 (Day Order 1) 1 hr.	Triggers	Practical Demo	-DO-	Practical Exercises
Mar 4 –8, 2024	<b>C.A. Test – II</b>			
Mar 9 – 16, 2024 (Day 6 & Day Order 1 to 6) 4 hrs.	Triggers	Practical Demo	-DO-	Practical Exercises
Mar 18 - 19, 2024 (Day Order 2 to 3) 2 hrs.	Triggers	Practical Demo	-DO-	Practical Exercises
Mar 20-22, 2024 (Day Order 4 to 6)	<b>REVISION</b>			

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**

**Course Schedule: November 2023 - April 2024**

**Department : Computer Science**

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

**Course Title : Advanced Java Programming**

**Course Code : 19CS/ME/AJ45**

**Shift : II**

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Nov 22 – 23, 2023 (Day Order 1 & 2) 2 Hrs	<b>Unit 1</b> <b>1.1 Basics of XML</b> Need for XML - Well Formed XML Documents - Validating an XML Document using XML Schema	Lecture/ Demo	Schildt, Herbert. The Complete Reference - Java. 10th ed. Mc Graw Hill, 2017.	Brainstorming
Nov 24-30, 2023 (Day Order 1 to 6) 6 Hrs	<b>1.2 Database Connectivity</b> JDBC Database Connectivity - Types of JDBC drivers Establishing a Connection - Executing Statements - Prepared statements	Lecture/ Demo	-do-	Discussion  <b>Practical Exercises on JDBC</b>
Dec 1-7, 2023 (Day Order 1 to 6) 6 Hrs	Callable statements - Mapping SQL types to Java- ResultSetMetadata	Lecture/ Demo	-do-	MCQ
Dec 8-9, 2023 (Day Order 1, 3) 2 Hrs	<b>Unit 2</b> <b>2.1 JavaFX Basics</b> What is JavaFX - JavaFX Application Life Cycle, Defining the Main Window by using the Stage class, Key JavaFX packages	Lecture/ Demo	Ebbers."Mastering JavaFX 8 Controls: Create Custom JavaFX Controls for Cross-Platform Applications." (2014).	Quiz
Dec 11-15, 2023 (Day Order 2 to 6) 5 Hrs	<b>2.2 Scene Graph</b> Using and Integrating Scene graph in JavaFX Application - Scene Class – Event Handling - Node Types - Primitive Nodes, LayoutPanels, Complex Nodes – Node Basics - Image and ImageView	Lecture/ Demo	-do-	Practical Exercises on Window-based application using JavaFX

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Dec 16 – 22, 2023 (Day Order 1 to 6) 6 Hrs	<b>2.3 Layouts and JavaFX Basic Controls</b> HBox - VBox - StackPane - FlowPane - GridPane – BorderPane Control Class - Basic Controls - Labeled Controls, Controls for Text Input, ProgressIndicator and ProgressBar - Tooltip of a Control - Menus - ToolBar - Separators	Lecture/ Demo	-do-	Practical Exercises on JavaFX Basic Controls and Layouts Component Test – 1 (15 marks) Quiz based on Puzzle, Code Snippet, Debugging
Jan 3 – 6, 2024 (Day Order 1 to 4) 4 Hrs	<b>Unit 3</b> <b>3.1 Additional JavaFX Controls</b> Controls with a Data Model - ComboBox, ListView, TableView, TreeView – Controls that act as Containers – Canvas	Lecture/ Demo	-do-	Practical Exercises on JavaFX Controls
Jan 8 – 12, 2024	<b>C.A. Test – I</b>			
Jan 13, 2024 (Day Order 1) 1 Hr	<b>Unit 4</b> <b>4.1 Introduction to HTTP</b> HTTP Protocol - HTTP Request, Get, Post, HTTP Response,	Lecture/ Demo	Hall, Marty and Larry Brown. Core Servlets and JavaServer Pages: Advanced Technologies. 2nd ed. Prentice Hall, 2007.	Discussion
Jan 18 -20, 2024 (Day Order 4 to 6) 2 Hrs	HTTP Response codes - Client side and Server side programming	Lecture/ Demo	-do-	MCQs
Jan 22-29, 2024 (Day Order 1 to 6) 6 Hrs	<b>4.2 Web Applications</b> Web Applications and Web Containers - Web components - Web Application Life Cycle - Creating, Building and Deploying - Web Archive Structure	Lecture/ Demo	-do-	Exercises
Jan 30 – Feb 2, 2024 (Day Order 1 to 4) 4 Hrs	<b>4.3 Servlet Technology</b> Need for Servlets - Characteristics of Servlets -	Lecture/ Demo	-do-	<b>Practical Exercises on Web application using Servlet</b>

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Feb 3, 2024 (Day Order 2) 1 Hr	Comparison between Servlets and other Server side scripting languages - Working of Servlet	Lecture/ Demo	-do-	<b>Practical Exercises</b>
Feb 5- 6, 2024 (Day Order 5 to 6) 2 Hrs	- javax.servlet package - Life Cycle of Servlet	Lecture/ Demo	-do-	<b>Practical Exercises</b>
Feb 7 – 14, 2024 (Day Order 1 to 6) 6 Hrs	Session - Interservlet communication – Request Dispatcher Interface	Lecture/ Demo	-do-	<b>Practical Exercises on State Management</b> Component Test – 2 (15 marks) Quiz based on Puzzle, Code Snippet, Debugging
Feb 15 – 22, 2024 (Day Order 1 to 6) 6 Hrs	<b>5.1 Java Server Pages</b> Introduction – Comparison between JSP and Servlets –	Lecture/ Demo	-do-	<b>Component – III Project – Window or Web application with DB Conn (20 marks)</b>
Feb 23 – 24, 2024 (Day Order 1 & 5) 6 Hrs	Life Cycle – Structure – Components	Lecture/ Demo	-do-	Practical Exercises on creating a web app using JSP
Feb 26 – Mar 1, 2024 (Day Order 2 to 6) 5 Hrs	JSP Tags - JSP Session - Cookie – Static content- Dynamic content	Lecture/ Demo	-do-	Practical Exercises on creating a web app using JSP and State Management
Mar 2, 2024 (DayOrder 1)1 Hr	Scripting Elements	Lecture/ Demo	-do-	Practical Exercises on creating a web app using JSP
Mar 4 –8, 2024	<b>C.A. Test – II</b>			
Mar 9 – 16, 2024 (Day 6 & Day Order 1 to 6) 6 Hrs	<b>3.2 Styling a Control</b> CSS Basics - CSS in JavaFX - Using Selectors	Lecture/ Demo	"Mastering JavaFX 8 Controls: Create Custom JavaFX Controls for Cross-Platform Applications."	Practical Exercises on CSS styling in JavaFX

Week & No. of hours	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
Mar 18 - 19, 2024 (Day Order 2 to 3) 2 Hrs	<b>3.3 Basic Animation using JavaFX</b> javafx.animation package - TranslateTransition, RotateTransition, ScaleTransition, FadeTransition, SequentialTransition, ParallelTransition	Lecture/ Demo	Ebbers, Hendrik. "Mastering JavaFX 8 Controls: Create Custom JavaFX Controls for Cross-Platform Applications." (2014).	Practical Exercises on Animation using JavaFX
Mar 20-22, 2024 (Day Order 4 to 6)	<b>REVISION</b>			

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**

**Course Schedule: November 2023 - April 2024**

**Department** : Computer Science  
**Name/s of the Faculty** : Ms. A R Charulatha  
**Course Title** : Visual Programming  
**Course Code** : 19CS/ME/VP45  
**Shift** : II

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Nov 22 – 23, 2023 (Day Order 1 & 2) 2 Hrs.	<b>Unit 1: 1.1 Overview of .NET Framework:</b> CLR-CTS- Metadata and Assemblies-.NET Framework Class Library – BCL- Windows Forms	Lecture/ Presentation	<i>C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	Discussion
Nov 24-30, 2023 (Day Order 1 to 6) 5 Hrs.	ASP.NET and ASP.NET AJAX-ADO.NET – Tools in the .NET Framework- New Features of .NET Framework: Portable Class Libraries. <b>1.2 Introducing Windows Application</b> Introduction – Creating Windows Forms- Customizing a Form	Presentation, Demo	Liberty, Jesse, and Dan Hurwitz. <i>Programming. NET Windows Applications.</i> " O'Reilly Media, Inc.", 2004.	Questioning
Dec 1-7, 2023 (Day Order 1 to 6) 5 Hrs.	<b>1.3 Collecting User Input in windows Forms and Events</b> Buttons-Text Boxes- Check Boxes- Radio Buttons – Combo Boxes –Date and Time Picker – Calendar-List Boxes – Checked List Box –List View – Tree View	Video Presentation	Liberty, Jesse, and Dan Hurwitz. <i>Programming. NET Windows Applications.</i> " O'Reilly Media, Inc.", 2004.	Workbook preparation on Windows controls properties and events
Dec 8-9, 2023 (Day Order 1, 3) 3 Hrs.	<b>Unit 2: 2.1 Presentation and Informational Controls in Windows Forms and Events</b> Labeling- Link Label- Status Bar- Picture Box-Image List-Progress Bar-Tool Tip – MDI and Menus Creation	Lecture/ Presentation	<i>C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	Group discussion

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Dec 11-15, 2023 (Day Order 2 to 6) 4 Hrs.	<b>2.2 Data Types in C#</b> Type Conversions – Boxing and Unboxing <b>2.3 Namespaces</b> Introduction – Adding a reference to the Namespace – Accessing a predefined Namespace through the using Directive	Lecture/ Presentation	<i>C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	Quiz on types conversions and Events
Dec 16 – 22, 2023 (Day Order 1 to 6) 5 Hrs.	<b>2.4 Introducing to ADO.net</b> Understanding ADO.NET- Creating Connection Strings –Creating a Connection to a Database- Creating a Command Object-Working with DataAdapters –Using DataReader work with Database.	Lecture/ Presentation	<i>C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	III Component I : Puzzle /Crossword
Jan 3 – 6, 2024 (Day Order 1 to 4) 3 Hrs.	<b>Unit 3: 3.1 ASP.NET</b> Life cycle- Specifying a Location for a Web Application -Single-File Page Model- Code-Behind Page Model- Adding controls to web form.	Lecture/ Presentation	<i>C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	Questioning
Jan 8 – 12, 2024	<b>C.A. Test – I</b>			
Jan 13, 2024 (Day Order 1) 1 Hr.	<b>3.2 Web Server Controls</b> The Control Class	Lecture/ Presentation	<i>C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	Group Discussion
Jan 18 -20, 2024 (Day Order 4 to 6) 3 Hrs.	The WebControl Class - The Button Control - The TextBox Control - The Label Control - The HyperLink Control - The LinkButton Control - The Placeholder Control - The HiddenField Control - The CheckBox Control - The RadioButton Control	Lecture/ Presentation	<i>C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	Workbook on webserver controls properties and events
Jan 22-29, 2024 (Day Order 1 to 6) 5 Hrs.	The ListBox Control -The DropDownList Control -The Image Control -The ImageButton Control - The Table Control - Menus - Validation Server Controls - Master Page - Web.Config.	Lecture/ Presentation	<i>C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	Critically analyse a website and prepare a case study

<b>Week &amp; No. of Hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; Reference</b>	<b>Method of Evaluation</b>
Jan 30 – Feb 2, 2024 (Day Order 1 to 4) 4 Hrs.	<b>Unit 4: 4.1 State Management</b> Understanding the session object Sessions and the Event Model, Configuring, In- Process Session State, Out-of-Process Session state Application Object, Query strings, Cookies, ViewState, Global.asax.	Lecture/ Presentation	<i>C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	Discussion
Feb 3, 2024 (Day Order 2) 1 Hr.	<b>4.2 XML and .NET</b> Basics of XML, Create XML Document	Lecture/ Presentation	<i>C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	III Component II: Storyboard and design layout for project
Feb 5- 6, 2024 (Day Order 5 to 6) 2 Hrs.	Reading XML with XmlReader - Reading XML with XmlDocument - Working with XmlNode	Demo/ Presentation	<i>C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	Discussion
Feb 7 – 14, 2024 (Day Order 1 to 6) 5 Hrs.	<b>4.3 Animations</b> Understanding WPF's Animation services – The Role of the Animation class types- The To, From and by properties - The Role of the Timeline Base Class – Authoring and Animation in C# Code –	Lecture/ Demo	Troelsen, Andrew, and Philip Japikse, <i>C# 6.0 and the .NET 4.6 Framework.</i> Apress, 2015.	Questioning
Feb 15 – 22, 2024 (Day Order 1 to 6) 5 Hrs.	Controlling the pace of an animation – Reversing and Looping an Animation – The Role of StoryBoards	Demo/ Presentation	<i>C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	Group Discussion
Feb 23 – 24, 2024 (Day Order 1 & 5) 3 Hrs.	<b>Unit 5: 5.1 LINQ</b> Introducing LINQ Queries- Standard Query Operators - Introducing LINQ to Dataset, SQL and XML- The LinqDataSource Control.	Demo/ Presentation	<i>C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	Group Discussion



<b>Week &amp; No. of Hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Feb 26 – Mar 1, 2024 (Day Order 2 to 6) 4 Hrs.	Data Binding – Grid View, Details view	Demo/ Presentation	<i>C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	Group Discussion
Mar 2, 2024 (Day Order 1) 1 Hr.	Forms view	Demo/ Presentation	<i>C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	Group Discussion
Mar 4 –8, 2024	<b>C.A. Test – II</b>			
Mar 9 – 16, 2024 (Day 6 & Day Order 1 to 6) 5 Hrs.	<b>5.2 ASP. NET AJAX</b> Understanding the need for AJAX, Building a simple ASP.NET page without AJAX, Building a simple ASP.NET page with AJAX	Lecture/ Presentation	<i>. C# 2012 Programming Covers .NET 4.5 Black Book.</i> Dreamtech press, Kogent Learning Solutions, 2013	Group Discussion
Mar 18 - 19, 2024 (Day Order 2 to 3) 2 Hrs.	Revision			
Mar 20-22, 2024 (Day Order 4 to 6) 3 Hrs.	<b>REVISION</b>			