UNIVERSITY OF MADRAS
MASTER OF COMPUTER APPLICATIONS (MCA) DEGREE PROGRAMME
SYLLABUS WITH EFFECT FROM 2023-2024

Title of the Paper	**Web Technology and Advanced Java Programming**		
Core- IX Theory	II Year & III Semester	Credit:4	535C3A

Objectives:

- To gain knowledge of Object Oriented Programming Concept in Java

- To understand usages of String functions in Java.

- To familiarize with the applet and swing

- To grasp the concepts on Java Beans

- To comprehend the connection between Relational Database and Java

Outcomes:

- Object Oriented Program including classes and methods, Web technologies.

- Understand JavaScript, Client Side benefits using Java script.

- Understand Advanced XML, , Extensible Style Sheet Transformation (XSLT) and Java Beans.
- To understand usages of String functions in Java.
- JDBC Architecture, JDBC Drivers, Communicating with Database using JDBC APIsTo familiarize with the applet and swing
- To grasp the concepts on Java Beans.
- Understanding JSP, Describing the JSP Life Cycle

Unit I: INTRODUCTION TO WEB TECHNOLOGIES: History of the web, Understanding Web System Architecture, Understanding 3-tier Web Architecture, Overview of HTTP, Introducing HTML document structure, Creating Headings on a web page, Working with links, Creating a Paragraph, Working with images (Hot Spots), Working with tables, working with frames,Introduction to Forms and HTML controls. Inline, External, Internal, Style class, Multiple styles.

Unit II: Introducing DHTML, Introducing JavaScript, Client Side benefits of using JavaScript, Embedding JavaScript in an HTML page, Using Variables, Using Operators, Working with Control Flow statements, Working with functions, Handling Events, Using Arrays, Creating objects in JavaScript.

Unit III: Introduction to XML, XML Basics, Advanced XML, XML Technologies(DTD), Extensible Style Sheet Transformation (XSLT). Introducing Java Beans, Introspection Design Patterns for properties, methods, events.

Unit IV: JDBC Architecture, JDBC Drivers, Communicating with Database using JDBC APIs, Creating a Simple Application , Describing Basic JDBC Statement, Creating tables by using JDBC, Working with Prepared Statement. Introducing the MVC architecture, Describing Servlets, Understanding Servlets, Introducing theServlet API, Servlet Life Cycle, Developing First Servlet Application ,Generic Servlet Class.

Unit V: Understanding Request Processing and HTTP Describing the Servlet Request Interface, Working with Initialization Parameters.

Introduction to JSP, Understanding JSP, Describing the JSP Life Cycle, Creating a Simple JSP pages, Working with JSP basic tags and Implicit objects, Working with Java Beans and Action tags in JSP

Text Books

1. Web Technologies, Black Book, Kogent Learning Solutions Inc, DreamtechPress. (UNIT – I , II)

2. JDBC, Servlets, and JSP, New Edition, Santhosh Kumar K , Kogent LearningSolutions Inc, Dreamtech Press (UNIT -III, IV, V)

References

1. Web Technologies,Uttam K. Roy, Volume 2 , Oxford University.
2. Core Servlets and Java Server Pages Volume 1 CORE TECHNOLOGIES, Marty Hall and Larry Brown Pearson.
3. Java Server Pages, Pekowsky, Pearson.
4. Java Script, D.Flanagan, O Reilly, SPD.

Course Outcomes

On the successful completion of the course, students will be able to

CO1	Understand the Object Oriented Program including classes and methods, Web technologies	K1-K6
CO2	Understand JavaScript, Client Side benefits using Java script	K1-K6
CO3	Understand Advanced XML, , Extensible Style Sheet Transformation (XSLT) and Java Beans	K1-K6
CO4	JDBC Architecture, JDBC Drivers, Communicating with Database using JDBC APIs	K1-K6
CO5	Understanding JSP, Describing the JSP Life Cycle	K1-K6

K1- Remember, K2- Understand, K3- Apply, K4- Analyze, K5 Evaluate, K6- Create

Mapping with Programme Outcomes:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	-	M	S	-	-	-	S
CO2	S	S	S	-	M	S	-	-	-	L
CO3	S	S	M	-	L	S	-	-	-	M
CO4	M	S	M	-	S	S	-	-	-	M
CO5	S	M	M	-	M	L	-	-	-	M

S- Strong; M-Medium; L-Low