III Year-I Semester		**T**	**P**	**C**
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ADVANCED JAVA (RT31123)

Prerequisite Course:

OOPS through C++

Course Description and Objectives:

Getting the student to be well trained in Advanced Java Programming skills for an easy entry in the IT Industry.

Course Outcomes:

Upon completion of the course, the student will be able to achieve the following outcomes.

COs	Course Outcomes	POs
1	Construct a Web application using servlets	6
2	Construct a Web application using Java Server Pages	7
3	Construct an enterprise application using Session Beans	6
4	Construct an enterprise application using Entity Beans linked with Database	6
5	Construct an asynchronous enterprise application using Message-Driven Beans	6
6	Map java inheritance hierarchy with database tables using various mapping techniques.	3

Syllabus:

UNIT-I:

Introduction to Software Engineering: Recapitulation of XTML, XTML5, Java Swing package – use of System class – Applet Context – signed applet – object serializationshallow

and deep copying – Java collections –Iterators – Array Lists – sets –hashset-hash table- queue-priority queue class-vector classcomparable interface**.**

UNIT – II:

Java Beans Introduction to Java Beans, Advantages of Java Beans, BDK Introspection, Using Bound properties, Bean Info Interface, Constrained properties Persistence, Customizers, Java Beans API

UNIT - III:

Introduction to Servelets: Lifecycle of a Serverlet, JSDK The Servelet API, The javax.servelet Package, Reading Servelet parameters, Reading Initialization parameters. The javax.servelet HTTP package, Handling Http Request & Responses, Using Cookies-Session Tracking, servlet chaining-Security Issues.

UNIT -IV:

Introduction to JSP The Problem with Servelet. The Anatomy of a JSP Page, JSP Processing. JSP Application Design with MVC Setting Up and JSP Environment: Installing the Java Software Development Kit, Tomcat Server & Testing Tomcat

UNIT - V:

JSP Application Development: Generating Dynamic Content, Using Scripting Elements Implicit JSP Objects, Conditional Processing – Displaying Values Using an Expression to Set an Attribute, Declaring Variables and Methods Error Handling and Debugging Sharing Data Between JSP

pages, Requests, and Users Passing Control and Date between Pages – Sharing Session and Application Data – Memory Usage Considerations

UNIT - VI:

Database Access Database Programming using JDBC Studying Javax.sql. package. Accessing MySql database- Accessing MS Access database- Accessing a Database from a JSP Page Application – Specific Database Actions Deploying JAVA Beans in a JSP Page. Introduction to struts framework.

TEXT BOOKS:

1. Internet and World wide web- How to program , Dietel and Nieto , Pearson. (Chapters: 3, 4, 8, 9, 10, 11, 12 to 18)

2. The Complete Reference, Java 2 , 3ed, Patrik Naughton, Herbert Schildt, TMH. (Chapters: 19, 20, 21, 22, 25, 27)

3. Java Server Pages , Hans Bergstan, Oreilly (Chapters: 1-9)

REFERENCE BOOKS:

1. Jakarta Struts cook book, Bill Siggelkow, SPD, Oreilly (Chapter 8)

2. Murach's , Beginning Java JDK5, Murach, SPD.

3. An introduction to Web Design and Programming, Wang Thomson

4. Web application technologies concepts, Knuckles, John Wiley.

5. Programming world wide web, Sebesta, Pearson

6. Building Web Applications, NIIT, PHI

7. Web Warrior Guide to Web Programing, Bai, Ekedaw, Thomas, Wiley

8. Beginneing Web Programming, Jon Duckett ,Wrox, Wiley

9. Java server pages, Pekowsky, Pearson