

MCA603: ADVANCE JAVA PROGRAMMING

L	T	P	Cr
2	0	2	3.0

Course Objectives: Objective of this course is to provide the ability to design console based, GUI based and web based applications. Students will also be able to understand integrated development environment to create, debug and run multi-tier and enterprise-level applications

Introduction: Features, Java basics- identifiers, variables, data types, operators, control structures, arrays, jagged arrays, command line arguments; Object oriented programming- classes, objects, inheritance, method overriding and hiding, interface, abstract class, polymorphism, inner class, wrapper classes, Boxing, Packages; Exception handling, Collections, Generics, File I/O, Serialization, Multi threading.

GUI and JDBC: Event handling , AWT Controls, Window forms and controls, Layout managers, Menus, Applet, JFC, JDBC- Drivers and architecture, Connection object, Types of Statement, Stored procedures.

Servlets: Introduction, Servlet life cycle, Deployment and web.xml, Servlet chaining, Session management, Cookies, Web context, Init and context parameter, Authentication and concurrent access, Servlet listeners, Creating war files.

JSP and JSTL: Architecture, Life cycle, JSP tags, Expressions, JSP with database, Implicit objects, Expression language, Exception handling in JSP, Session management, Directives, Using java beans, Tag libraries, Miscellaneous tags, Custom tags- bodyless, body tags.

EJB and Struts: Types of enterprise beans, Life cycle, Session beans, Entity beans, Message driven beans, JNDI, Hibernate, Struts architecture, Struts classes, Action mapping, Struts flow, Combining Struts and tiles, Introduction to spring framework.

Lab Work: Lab assignments will be based on object oriented features of Java, Window forms, JDBC, Servlets, JSP, Java Beans, EJB, Hibernate, struts and springs.

Recommended Books

1. Herbert Schildt, Java - The Complete Reference, Tata McGraw- Hill, Seventh Edition(2008).
2. Jim Keogh, J2EE- The Complete Reference; Tata McGraw-Hill, Edition(2002).
3. Alur Deepak, Malks Dan and Crupi John, **Core J2EE Patterns: Best Practices and Design Strategies**, Prentice Hall India (2001).
4. Austin and Pawlan, Advanced Programming for JAVA 2 Platform, Pearson Education (2004).
5. Geary M. David , Core JSTL Mastering the JSP standard Tag Library, Pearson Education(2007).