

ADVANCED JAVA PROGRAMMING

Semester	Subject Code	Category	Lecture Hrs		Theory Hrs		Practical		Credits
			Per week	Per Sem	Per week	Per Sem	Per week	Per Sem	
V	21CCS5A	Core V	6	90	6	90	0	0	4

COURSE OBJECTIVES

- This course is to provide the ability to design console based, GUI based and web based applications in Java.
- Students will also be able to understand integrated development environment to create, debug and run multi-tier and enterprise-level applications in Java.

COURSE OUTCOMES

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

CO Number	CO statement	Knowledge Level (K1-K4)
CO1	Understand the basic concepts of Java in OOPs	K1
CO2	Handling the Exception ,communication between threads and Applets	K2
CO3	Designing the patterns and analyze different types of classes.	K3
CO4	Specify appropriate drivers for the database connectivity in JDBC	K3
CO5	Analyzing different types of Client side technologies	K4

Knowledge level: K1 – Remember; K2 – Understand; K3 – Apply; K4 –Analyze.

MAPPING WITH PROGRAMME OUTCOMES

COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	M	L	L	S	S	S
CO2	S	S	S	M	M	S
CO3	M	S	S	M	M	S
CO4	M	S	S	M	L	M
CO5	M	M	S	M	M	S

S- Strong; M – Medium; L-Low

UNIT-I INTRODUCTION TO JAVA

15 Hours

Introduction to Java – Features of Java - Data Types – Variables - Arrays - Operators - Control Statements –Console I/O

OOPS IN JAVA

Class and Methods -Classes - Objects - Constructors - Overloading - Method - Access Control - String Class - Inheritance – Overriding methods - Using super - Abstract class

UNIT-II PACKAGES , THREADS

16 Hours

Packages - Access Protection - Importing Packages - Interfaces - Exception Handling - Thread - Synchronization – Runnable Interface -Inter thread Communication

APPLET AND AWT

Applet Class – AWT Controls - Label - Textbox - List box - Combo box - Check box - Radio button - Menus - Frame - Dialog box - Tab control - Working With Graphics - Layout Manager

UNIT-III DESIGN PATTERNS

20 Hours

Introduction to Design patterns - Catalogue for Design Pattern - Factory Method - Pattern - Prototype Pattern - Singleton Pattern - Adapter Pattern - Proxy Pattern -Decorator Pattern - Command Pattern - Template Pattern - Mediator Pattern - A Simple Servlets - The Servlet API – Servlet Package - Handling HTTP - Request and Response.

UNIT-IV JDBC

20 Hours

JDBC - Introduction - JDBC Architecture - JDBC Classes and Interfaces – Database Access with MySQL - Steps in Developing JDBC application - Creating a New Database and Table with JDBC - Working with Database Metadata

JAVA NETWORKING

Java Networking - Basics of Networking - Networking in Java- Socket Program using TCP/IP - Socket Program using UDP- URL and Internet address classes.

UNIT-V CLIENT-SIDE PROGRAMMING

19 Hours

Client-side programming technologies - Form design using HTML, XHTML and DHTML and CSS - Client side validation Using Java Script - Content Structuring using XML - Adding Interactivity with AJAX - Query Framework - Server-side Programming - Web Servers - Handling request and response - Handling Form data.

Distribution of Marks :Theory 75% and Problems 25%

TEXT BOOKS

S. No	Authors	Title	Publishers	Year of publication
1	C. Muthu	Programming in Java	TMH	2009
2	Prasanalakshmi.B	Advanced Java Programming	CBS Publishing	2015

REFERENCE BOOKS

S. No	Authors	Title	Publishers	Year of Publication
1	Patrick Naughton & Herbert Schildt	The Complete Reference: Java 2	Tata McGraw Hill	2012
2	S.Sagayaraj, R.Denis, P.Karthik D.Gajalakshmi,	Java Programming	Universities Press	2017
3	Cay S. Horstmann	Core Java	Prentice hall	2018
4	Charlie Hunt, Binu John	Java Performance	Pearson Education	2011
5	Joshua Bloch	Effective Java	Pearson Education	2018
6	Uttam Roy	Advanced Java Programming	Oxford University Press	2009
7	Mike McMillan	Advanced Java Programming	O'Reilly Media	2012
8	Kanika Lakshmi	Advanced Java Programming	Pearson Education	2013

WEB SOURCES

1. <http://leetcode.com/>
2. <https://www.coursera.org/>

TEACHING METHODOLOGY

- Class room teaching
- Group discussions
- Seminars
- Demo using systems
- Chart / Assignment
- Simulation Model
- Smart Class room

SYLLABUS DESIGNERS

- Mrs.G.SANGEETHA LAKSHMI, Assistant Professor & HOD, Dept of Computer Science & Applications
- Mrs.B ARULMOZHI, Assistant Prof, Dept of Computer Science & Applications