

SARDAR PATEL UNIVERSITY
Programme: MCA
Semester: III
Syllabus with effect from: June 2014

Paper Code: PS03CMCA02	Total Credit: 4
Title Of Paper: Object Oriented Programming Using Java	

Unit	Description in detail	Weighting (%)
1	Introduction The Java programming language: history, evolution Introduction to the Java programming environment: source programs organization, compilation to byte code, loading by the class loader, interpretation by the Java Virtual Machine, just-in-time compilation using HotSpot technology, tools, Key features of the Java platform The concept of packages, jar files, CLASSPATH, javadoc Different technologies under the Java umbrella The Java Development Kit (JDK), the Java Runtime Environment and IDEs Using the command line tools v/s an IDE, features of the IDE Overview of syntax of the Java programming language An anatomy of a Java program	
2	Java Programming Data types: primitive v/s reference types, wrapper classes, automatic boxing and unboxing, Interfaces, inheritance and polymorphism Exception handling, Arrays, Performing console I/O using java.io packages, The Java standard API, String handling, Java tools	
3	Graphical Programming An introduction to graphics in Java, The Abstract Windowing Toolkit (AWT) Writing graphical programs using AWT, Introduction to the Swing library Differences between AWT and Swing, Writing graphical programs using Swing Using various Swing components, Managing layout Event handling, Java Applets	
4	Database Programming in Java Introduction to JDBC, Different types of JDBC drivers Programming database applications in Java, Introduction to file handling	
5	Advanced Java Programming – I Generics, assertions, enumerations, The Collections Framework and handling classes in it, The java.util package and important members from it Regular expressions	
6	Advanced Java Programming – II Introduction to serialization, Multithreading Network Programming, Case studies	

Basic Text & Reference Books

- Schildt H. : The Complete Reference Java 2, 5th Edition, McGraw-Hill / Osborne, 2002
- Deitel : Java : How to Program, 5th edition, Pearson Education, 2003
- Documentation of the relevant software packages
- Zukowski J : Mastering Java 2 J2SE 1.4, BPB Publications
- Horstmann et al. : Core Java Vol. I, II, Pearson Education Asia, 2000

