SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc – Information Technology (Integrated)
Semester: V
Syllabus with Effect from: June - 2014

Paper Code: PS05CIIT03	Total Credit: 3
Title of Paper: Object Oriented Programming Through Java	

Unit	Description in Detail	Weightage (%)
I	**Introduction** History of Java, features, the Java environment, the Java Virtual Machine (JVM) Structure of a Java program, a simple Java program, implementing a Java program Tokens, comments, constants, variables and data types Scope of variables, type casting Operators: arithmetic, relational, logical, assignment, increment/decrement, conditional, ternary operator & special operators Decision making: if statement, if…else statement, nesting of if…else, the else if ladder, switch statement Looping: while, do…while, for, for each loop, jumps in loops, labeled loops Arrays: one, two dimensional arrays	25%
II	**Classes, Objects, Interfaces and Inheritance** Defining a class, members of a class: variables and methods, creating objects, constructors, accessing class members Static members v/s instance members Introduction to inheritance, *super* keyword Interfaces: introduction Final variables, methods and classes, abstract methods and classes Introduction to method overloading and overriding	25%
III	**Exception Handling, I/O Management and Packages** Managing errors & exceptions: introduction, types of errors, exceptions, syntax of exception handling construct, multiple catch statements, the finally clause, defining and throwing user-defined exceptions, the throw statement Managing I/O files : introduction, concept of streams, Character stream classes Introduction to the concept of package, Java API packages, using the System package Using java.lang (String, Math)	25%
IV	**Applet Programming & JDBC** Applet architecture and skeleton java.awt package (Button, CheckBox, CheckBoxGroup, Choice, Color, Label, List, TextArea, TextField) HTML applet tag, display techniques (DrawString, Lines, Rectangle, Ellipses, Circles, Arcs, Polygons, Color) Introduction to event handling Introduction to JDBC, types of drivers java.sql package Retrieving, inserting, deleting and updating data though Java	25%

Basic Text & Reference Books:

- Programming with Java- A Primer by E. Balaguruswami, 3rd Edition, TMH Publication
- The Complete Reference – Java 2 7th Edition Herbert Schildt. TMH Publication
- Saba Zame , Handbook of Object technology, CRC Press, Washington DC, 1999
- Mary Campion and Kathy Walrath, Java tutorial, Second Edition, Addison Wesley Pun. 1998.
- Java 2 Programming Black Book, Steven Holzner