SARDAR PATEL UNIVERSITY
Programme: BCA
Semester: IV
Syllabus with effect from: June 2019

Paper Code : **US04CBCA23**	**Total Credit: 4**
Title of Paper: **Object Oriented Programming – II**	

Lectures per week   : 4   **Exam Duration: 3hrs**

All units carry equal weightage.

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 and 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 :-

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