# C. U. Shah University, Wadhwan City

## Faculty of Computer Science
## Name of Program: Bachelor of Computer Application (BCA)
## Semester : III
## w.e.f. June-2014
## Teaching & Evaluation Scheme

| Sr. No | Subject Code | Subject Name | Teaching Hours/Week | | | | Credits | Evaluation Scheme/Semester | | | | | | | Total Marks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Theory | | | | Practical | | | |
| | | | Th | Tu | Pr | Total | | Sessional Exam | | University Exam | | Internal | | Uni. | |
| | | | | | | | | Marks | Hrs | Marks | Hrs | Pr | TW | Pr | |
| 2 | 4CS03BJV1 | Programming with Java-1 | 4 | - | - | 4 | 4 | 30 | 1.5 | 70 | 3 | - | - | - | 100 |

**Objectives:** At the end of the syllabus student can develop the console based and window based programming.

**Pre-requisites:**     Student should have the knowledge of Programming.

| Ch. No. | Chapter Name | Chapter Topics | Total Hrs |
|---|---|---|---|
| 1 | History, Introduction and Language | History and Features of Java, Java Editions JDK, JVM and JRE, JDK Tools ,Compiling and Executing basic, Java Program, Java IDE (Netbeans and Eclipse), Data Type(Integer, Float,Character,Boolean), Java Tokens (Keyword,Literal,Identifier, Whitespace, Separators,Comments, Operators), Operators (Arithmetic, Relational,Boolean Logical, Bitwise Logical,Assignment, Unnary, Shift, Special operators), Type Casting, Decision Statements (if, switch), Looping Statements (for, while, do..while), Jumping Statements (break, continue, return), Array (One Dim., Rectangular, Jagged), Command Line Argument Array | 11 |
| 2. | Classes and Objects | OOP Concepts (Class, Object,Encapsulation, Inheritance,Polymorphism), Creating and using Class with Members, Constructor,finalize() method,Static and Non-Static Members, Overloading (Constructor &Method),VarArgs | 04 |
| 3. | Inheritance | Universal Class (Object Class), Access Specifiers (public,private,protected, default, privateprotected), Doing Inheritance,Constructors in inheritance, Method Overriding,Interface, Nested and Inner Class, Abstract and Final Class | 05 |
| 4. | Java Packages | Normal import and Static Import, Introduction to Java API Packages, and imp. Classes: java.lang, java.util, java.io, java.net, java.awt, java.awt.event, java.applet, java.swing, java.lang Package Classes (Math,Wrapper Classes, String, StringBuffer), java.util Package Classes(Random, Date, GregorianCalendar, Vector,HashTable, StringTokenizer), Creating and Using UserDefined, package and sub-package | 08 |
| 5. | Exception Handling, Threading | Introduction to exception handling, try, catch, finally, throw, throws, Creating user defined Exception Class, Thread and its Life Cycle (Thread States), Thread Class and its methods<br>Synchronization in Multiple Threads, (Multithreading) | 07 |
| 6. | Applets | Introduction to Applet,Applet Life Cycle, Implement & Executing Applet with Parameters, Graphics class | 03 |
| 7. | AWT | Introduction to AWT,Panel, AWT Components, Label, Button, RadioButton, CheckBox,TextField, PasswordField, TextArea,ScrollBar, ComboBox, List, etc… | 04 |
| 8. | Event Handling | Introduction to Event Handling, Event Delegation Model,Event Packages, AWT Event Package, Event Classes (ActionEvent,ItemEvent, MouseEvent, MouseWheelEvent, TextEvent, WindowEvent), Listener Interfaces (ActionListener, ItemListener, KeyListener, MouseListener, MoutMotionListener,WindowListener.) | 05 |

| 9. | Streams (Input and Output) | Stream and its types (Input, Output,Character, Byte), File and RandomAccessFile Class, Reading and Writing through Character Stream Classes(FileReader, BufferedReader, FileWriter, BufferedWriter), Reading and Writing through Byte Stream Classes (InputStream,FileInputStream, BufferedInputStream,DataInputStream, OutputStream,FileOutputStream, BufferedOutputStream, | 08 |
|---|---|---|---|
| | | **Total::** | **55** |

**Teaching Methodology:**

Revision, Paper Solving, Seminar, Expert Talk, MCQ Quiz, Viva Test, Programming Test

**Learning Outcome:**

After completion of this syllabus, students should be able to understand what Object Oriented Programming is and should have background to learn advanced java (J2EE).

**Books Recommended:**
1.      Java: The Complete Reference, Ninth Edition            TataMcGraw            Herbert Schildt   ISBN: 0071808558
2.      Java: A Beginner's Guide, Sixth Edition            TataMcGraw            Herbert Schildt   ISBN: 0071809252

**Reference Books:**
1. Java 2 Core Language Little Black Book            Paraglyph Press            AJ Williams            ISBN: 1932111662
2. The Class Of Java            Pearson Education India   Jain Pravin            ISBN: 8131755444
3. Head First JAVA            O'Reilly Media            Kathy Sierra, Bert Bates   ISBN: 9781435291799
4. Beginning JAVA            Wrox            Ivor Horton            ISBN : 0764568744
5. Programming with Java             The Macraw-Hill            E.Balaguruswamy            ISBN : 0070617139