RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Electrical & Electronics Engineering, III-Semester

EX306 Computer Programming-I (JAVA)

Basic Java Features - C++ Vs JAVA, JAVA virtual machine, Constant & Variables, Data
Types, Class, Methods, Objects, Strings and Arrays, Type Casting, Operators, Precedence
relations, Control Statements, Exception Handling, File and Streams, Visibility, Constructors,
Operator and Methods Overloading, Static Members, Inheritance: Polymorphism, Abstract
methods and Classes

Java Collective Frame Work - Data Structures: Introduction, Type-Wrapper Classes for
Primitive Types, Dynamic Memory Allocation, Linked List, Stack, Queues, Trees, Generics:
Introduction, Overloading Generic Methods, Generic Classes, Collections: Interface Collection
and Class Collections, Lists, Array List and Iterator, Linked List, Vector. Collections
Algorithms: Algorithm sorts, Algorithm shuffle, Algorithms reverse, fill, copy, max and min
Algorithm binary Search, Algorithms add All, Stack Class of Package java. Util, Class Priority
Queue and Interface Queue, Maps, Properties Class, Un-modifiable Collections.

Advance Java Features - Multithreading: Thread States, Priorities and Thread Scheduling,
Life Cycle of a Thread, Thread Synchronization, Creating and Executing Threads,
Multithreading
with GUI, Monitors and Monitor Locks. Networking: Manipulating URLs, Reading a file on a
Web
Server, Socket programming, Security and the Network, RMI, Networking, Accessing Databases
with JDBC: Relational Database, SQL, MySQL, Oracle

Advance Java Technologies - Servlets: Overview and Architecture, Setting Up the Apache
Tomcat Server, Handling HTTP get Requests, Deploying a web Application, Multitier
Applications,
Using JDBC from a Servlet, Java Server Pages (JSP): Overview, First JSP Example, Implicit
Objects, Scripting, Standard Actions, Directives, Multimedia: Applets and Application: Loading,
Displaying and Scaling Images, Animating a Series of Images, Loading and playing Audio clips

Advance Web/Internet Programming (Overview): J2ME, J2EE, EJB, XML.

References:
1. Deitel & Deitel, "JAVA, How to Program"; PHI, Pearson.
2. E. Balaguruswamy, "Programming In Java"; TMH Publications
3. The Complete Reference: Herbert Schildt, TMH
4. Peter Norton, "Peter Norton Guide To Java Programming", Techmedia.
5. Merlin Hughes, et al; Java Network Programming , Manning Publications/Prentice Hall

List of Program to be perform (Expandable)
1. Installation of J2SDK
2. Write a program to show Concept of CLASS in JAVA
3. Write a program to show Type Casting in JAVA
4. Write a program to show How Exception Handling is in JAVA
5. Write a Program to show Inheritance and Polymorphism
6. Write a program to show Interfacing between two classes
7. Write a program to Add a Class to a Package
8. Write a program to demonstrate AWT.
9. Write a program to Hide a Class
10. Write a Program to show Data Base Connectivity Using JAVA
11. Write a Program to show "HELLO JAVA " in Explorer using Applet
12. Write a Program to show Connectivity using JDBC
13. Write a program to demonstrate multithreading using Java.
14. Write a program to demonstrate applet life cycle.