

Computer Programming – II [CP-II]

F.E. Sem. II

EVALUATION SYSTEM

	Time	Marks
Theory Exam	3 Hrs.	75
Practical & Oral Exam	3 Hrs.	25
Oral Exam	–	–
Term Work	–	25

SYLLABUS

1. Introduction to Java :

Characterizing Java as an enabler of contemporary software engineering paradigms – as a platform, Simple Programming Environment, Object–Oriented, Platform Independent, Safe, High Performance, Java is Multi–Threaded, Dynamically linked, Java is Garbage Collected; Saving files on Windows, Compiling and Running; Increment and decrement operators; Print statements, Variables and Data Types, Comments; Command line arguments; Objects, Static Fields, Methods; Passing Arguments to Methods, Returning values from methods.

2. Primitive Data Types in Java :

Java Operators, Literals, Identifiers, key words in Java; Addition of Integers in Java, Multiplication and division in Java; The Remainder or Modulus Operator in Java; Operator Precedence in Java, Mixing Data Types; Converting Strings to Numbers, The char data type in Java; The if, else, else–if statement in Java; The while loop, The for loop, The do while loop in Java; Booleans, Relational Operators, Relational Operator Precedence; Break, Continue, The switch statement in Java; The ? : operator in Java, Logical Operators in Java

Object Oriented Programming :

Constructing objects with new Methods, Invoking Methods; Implied this, Member Variables vs. Local Variables; Passing Arguments to Methods, Returning Multiple Values from Methods, Constructors; Access Protection, The Four Levels of Access Protection.

3. Arrays as a Data Structure in JAVA :

Declaring Arrays, Creating Arrays, Initializing Arrays; System.arraycopy(); Multi-Dimensional Arrays; Strings; Vectors; Exceptions; Try–catch; The finally keyword; Catching multiple exceptions; The throws keyword, Throwing Exceptions.

4. Inheritance :

Inheritance : the superclass; Multilevel Inheritance; Final and abstract keyword; Interfaces; Implementing Interfaces; Overriding Methods; Adding Methods; Subclasses and Polymorphism; toString() Methods; Using toString() Methods; Rules for toString() Methods; Static Members.

5. Multithreaded Programming :

Creating threads, extending the thread class; Stopping and blocking a thread; Lifecycle of a thread; Using thread methods, thread exceptions, thread priority; Synchronization; The Java Packages and Class Library; Wrapping Your Own Packages; Naming Packages; Documentation for the class library; Importing Classes; Package Imports; Name Conflicts when importing packages; The Java lang. package; The hashCode() method of Java lang.Object; java lang. Math, java.util.Vector, java.lang.String, java.util.Random, java.util.Hashtable java.util.Date, java.util. Calendar.

6. HTML :

Attributes, URLs, Links; Applet; The APPLET Element, Naming Applets; JAR Archives, The OBJECT Element; Passing Parameters to Applets; The Basic Applet Life Cycle, init (), start (), stop () and destroy (); The Coordinate System, Graphics Objects, Loading Images; Code and Document Bases, Drawing Images at Actual Size; Scaling Images, Color, Fonts.

Reference :

1. Computing Concepts with Java 2 essentials (*Cayhorstmann*) Wiley India (2nd Edition)
ISBN 81-265-931-7
2. Programming with Java A Primer (*E. Balagurusamy*) Tata McGraw Hill (3rd Edition)
ISBN0-707-061713-9
3. Big Java (*Cay Horstmann*) Wiley India (2nd Edition). ISBN 81-265-0879-5.
4. The Complete Reference Java (*Herbert Schildt*) Tata McGraw Hill (7th Edition)
ISBN 0-07-063677-X

