

Name of the Programme	4-year Bachelor Program in Computer Applications	Program Code	-----
Name of the Course	Object Technology	Course Code	25BCA406MV01
Hours/week	4	Credits (L:T:P)	1:0:3
Max. Marks	Theory: 25 (20+5) Practical: 75 (50+25)	Time of end term examination	3 Hours

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8parts (short-answer type questions) covering the entire syllabus and will carry 16 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 16 marks. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

Unit-I

JAVA's History; Why named JAVA; JAVA as language of Internet; JVM and Platform independence; Byte-code and Security; Automatic Garbage Collection; JAVA v/s C++: who is more object oriented? Other Features of JAVA.

Program Structure of JAVA; JAVA's Class Library; JAVA: Data Types, Variables, and Operators; Operator Precedence; Control Structures in JAVA.

Unit-II

Defining Classes & Methods; Constructors and 'new' operator; 'this' reference, Reusability and Inheritance; Class Inheritance; Choosing Base Class; Access Attributes; Types of Inheritance; Abstraction through Abstract Classes; Polymorphism and function overloading; Concept of Interface.

Arrays; Vectors; Matrices; Strings; String Handling; String Buffer Class.

Unit-III

Exception Handling: The concept of Exceptions; Types of Exceptions; Dealing with Exceptions; Creating own Exceptions.

Multithreading Programming: The JAVA Thread Model, Understanding Threads, The Main Thread, Creating a Thread, Creating Multiple Threads, Thread Priorities.

Packages & Interfaces: Understanding Packages; Defining and creating a Package; Adding Classes to packages; Importing classes from a package; CLASSPATH.

Unit-IV

Input/Output in JAVA: I/O Basic, Byte and Character Structures, I/O Classes, Reading Console Input Writing Console Output, Reading and Writing on Files, Random Access Files, Storing and Retrieving Objects from File, Stream Benefits.

Creating Applets in JAVA: Applet Basics, Applet Architecture, Applet Life Cycle, Simple Applet Display Methods, HTML APPLET Tag; Passing Parameters to Applets.

References:

1. The Complete Reference JAVA, TMH Publication.
2. Beginning JAVA, Ivor Horton, WROX Public.
3. JAVA 2 UNLEASHED, Tech Media Publications.
4. JAVA 2(1.3) API Documentations.
5. Any other book(s) covering the contents of the paper in more depth.

Note : Latest and additional good books may be suggested and added from time to time.