

**Paper Code: BCA 206**

**Paper ID: 20206**

**Paper: Java Programming**

**Pre-requisites: Object Oriented Concepts**

**Aim:** To understand the use of object oriented features along with their applications

**Objectives**

- To make students well versed with programming in java.

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**INSTRUCTIONS TO PAPER SETTERS:**

**Maximum Marks: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be 12.5 marks.

**UNIT-I**

**Java Programming:** Introduction, Data types, access specifiers, operators, control statements, arrays.

Classes: Fundamentals, objects, methods, constructors.

**Inheritance:** Super class, sub class, this and super operator, method overriding, use of final, packages, abstract class, interface.

**Polymorphism:** Method overloading, constructor overloading. [T1, R1]

**[No. of Hrs.: 10]**

**UNIT – II**

**Exception Handling:** Exception Class, built in checked and unchecked exceptions, user defined exceptions, use of try, catch, throw, throws, finally.

**Multi threaded programming:** Overview, comparison with multiprocessing, Thread class and runnable interface, life cycle, creation of single and multiple threads, thread priorities, overview of Synchronization.

**Java Library:** String handling (only main functions), String Buffer class.

Elementary concepts of Input/Output : byte and character streams, System.in and System.out, print and println, reading from a file and writing in a file. [T1, R1]

**[No. of Hrs.: 12]**

**UNIT – III**

**Software Development using Java:**

**Applets :** Introduction, Life cycle, creation and implementation,

AWT controls: Button, Label, TextField, TextArea, Choice lists, list, scrollbars, check boxes, Layout managers,

Elementary concepts of Event Handling : Delegation Event Model, Event classes and listeners, Adapter classes, Inner classes.

**Swings:** Introduction and comparison with AWT controls. [T1, R1]

**[No. of Hrs.: 12]**

**UNIT – IV**

**Networking Basics:** Socket (datagram and TCP/IP based client and server socket), factory methods, InetAddress

**JDBC:** JDBC Architecture, JDBC Drivers, Connecting to the Database

**Introduction to Java Servlets:** Life cycle, Interfaces and classes in javax.servlet package (only description) Creating a simple servlet [T1, T2, R1, R2]

Note : A Minimum of 40 Lectures is mandatory for each course.

Syllabus of Bachelor of Computer Applications (BCA), approved by BCA Coordination Committee on 26<sup>th</sup> July 2011 & Sub-Committee Academic Council held 28<sup>th</sup> July 2011. W.e.f. academic session 2011-12

**TEXT BOOKS:**

- [T1] Patrick Naughton and Herbert Schildt, "Java-2 The Complete Reference", TMH.
- [T2] Y. Daniel Liang, "Introduction to Java Programming, Comprehensive Version, 7/e"  
Pearson.

**REFERENCE BOOKS: -**

- [R1] Krishnamoorthy R, Prabhu S , "Internet and Java Programming", New Age Intl.
- [R2] David Flanagan, Jim Farley, William Crawford and Kris Magnusson, "Java Enterprise in a Nutshell", O'Reilly.