

Bachelor of Computer Application (BCA) Examination  
V Semester

**Introduction To Java**

Time : 3 Hours ]

[ Max. Marks : 50

**Note : All questions are compulsory. All questions carry equal marks.**

1. (a) What are striking features of java?  
(b) Give the default initial values and ranges of all primitive data types supported by Java.

**OR**

- (a) Explain upcasting and downcasting with the help of example. Can a double value be cast to a byte explicitly?  
(b) Explain the various types of operator and their precedence with programming examples.
2. (a) Explain any five methods of string class along with their exact syntax and usage.  
(b) Compare the following with suitable examples :  
(i) If and Switch  
(ii) While and Do-while.

**OR**

Write a Java program to check whether a given character string is a palindrome (i.e. it reads the same when read from left to right or from right to left.)

3. (a) Clearly explain the concept of encapsulation, inheritance and polymorphism with the help of examples.  
(b) What are the naming conventions followed by the various members of the Java Class? Give their examples also.

**OR**

- (a) Compare the following :  
(i) Overloading and Overriding  
(ii) Public And default Access Specifier.  
(b) What is the use of "this" and "super" keywords in Java?
4. (a) Clearly state the contexts in which the "extends" and "final" keywords are used.

- (b) Explain the role of the "try", "catch", "throw", "throws" and "finally" keywords in the context of an exception handler written in Java.

**OR**

- (a) Write a Java program to demonstrate multiple threads execution (atleast two).
- (b) Define the following :  
(i) Synchronizaztion  
(ii) Wait  
(iii) Notify.
5. (a) What is the function of a package? Explain the relationship between the name of a package and the subdirectory in which the corresponding classes are located.  
(b) Explain JVM concept.

**OR**

Write a Java program to read a set of numbers  $S_1, X_2, \dots, X_n$  into an array and divide each of the numbers by their average. The program should catch the appropriate excetions. (atleast two).

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