

Roll No.2309000022.**BCA-C404****Bachelor of Computer Applications****(Fourth Semester)****EXAMINATION, 2024-25****PROGRAMMING IN JAVA****Time : $2\frac{1}{2}$ Hours****Maximum Marks : 60**

Note : Question paper has three Sections. Read carefully instructions for each Section.

Section—A**(Very Short Answer Type Questions)**

1. Attempt all questions. 1 each
- (a) Which of the following is not a feature of Java ? (CO1, BL1)
 - (i) Object oriented

- (ii) Platform dependent
(iii) Secure
(iv) Multi-thread
- (b) What is the default value of an instance variable ? (CO1, BL1)
- (i) Null
(ii) 0
(iii) 1
✓(iv) Depends on data type
- (c) Father of Java : (CO1, BL1)
- (i) James Gosling
(ii) Tim Berner
(iii) Dennis Ritchie
(iv) None of the above
- (d) Which keyword is used to inherit a class ? (CO2, BL2)
- (i) Extends
(ii) Implements
(iii) Inherits
(iv) Super

(e) Which of the following is wrapper class in Java ? (CO2, BL1)

(i) int

(ii) Float

(iii) Integer

(iv) Character

(f) Which Java collection class allows unique elements only ? (CO2, BL4)

(i) List

(ii) Set

(iii) Map

(iv) Queue

(g) JVM stands for : (CO1, BL1)

(i) Java virtual machine

(ii) Java variable machine

(iii) Java virtual model

(iv) Java verified method

(h) Which is not access modifier ? (CO1, BL2)

(i) Public

- (ii) Private
- (iii) Default
- (iv) Internal

(i) What is the output of :
`System.out.println ("Jaya" + 10 + 20);` (CO1, BL5)

- (i) Java 1020
- (ii) 30 Java
- (iii) Java 30
- (iv) Error

(j) Which data structure is used to implement recursion ? (CO4, BL3)

- (i) Queue
- (ii) Stack
- (iii) Array
- (iv) List

(k) Which exception is checked at compile time ? (CO3, BL3)

- (i) Error
- (ii) Runtimes Exception
- (iii) Checked Exception
- (iv) None of the above

(I) Which Java feature allow different methods to have same name but different parameters ?

(CO2, BL3)

- (i) Inheritance
- (ii) Method Overloading
- (iii) Polymorphism
- (iv) Method overriding

Section—B

(Short Answer Type Questions)

2. Attempt any four of the following. 3 each

(a) What is Java virtual machine ? (CO1, BL1)

(b) Discuss about various operators in Java.

(CO1, BL6)

(c) Compare call by value and call by reference.

(CO2, BL2)

(d) Explain difference between JDK, JRE and JVM. (CO2, BL6)

(e) Discuss the role of super keyword in Java.

(CO2, BL6)

Section—C**(Long Answer Type Questions)**

3. Attempt any *two* of the following. 6 each

- (a) Discuss method overriding. Write a program to explain it. (CO2, BL6)
- (b) Write two programs in Java to explain interface and abstract class. (CO2, BL6)
- (c) What are constructor in Java. How are they different from method ? Write a program using constructor. (CO3, BL3)

4. Attempt any *two* of the following. 6 each

- (a) A chat application has 2 task : one thread listens for incoming messages, another sends messages. How can you implement multithreading for this scenario in Java. (CO5, BL6)
- (b) What is swing in Java. Explain key components of swing framework. (CO4, BL2)
- (c) Explain thread life cycle ? How can you create and run thread using thread class and Runnable interface. (CO5, BL4)

5. Attempt any two of the following. 6 each

(6)

(a) Explain JDBC. Write a program to connect Java program to database. (CO5, BL6)

(6)

(b) Describe exception. Explain with program try-catch mechanism. (CO4, BL6)

(c) Discuss the merits of String Buffer Class. Write a program to implement five methods of String Buffer Class. (CO4, BL6)

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