



# CBCS SCHEME

15CS561

## Fifth Semester B.E. Degree Examination, Feb./Mar. 2022 Programming in Java

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 a. Explain briefly the following object oriented concepts :  
i) Abstraction ii) Polymorphism iii) Encapsulation. (06 Marks)
- b. Explain the steps to compile and run Java program with an example. (06 Marks)
- c. Discuss Lexical issues of Java. (04 Marks)

OR

- 2 a. What is an automatic type promotion in expressions? Explain the type promotion rules with an example. (06 Marks)
- b. What is an array? How arrays are declared and initialized? Give example. (06 Marks)
- c. Why JAVA is called strongly typed language? Write the output of the following code

```
class LifeTime {  
    public static void main (String args [ , ] )  
    {  
        int x;  
        for (x = 0; x < 3 ; x++)  
        {  
            int y = -1;  
            System-out-println ("y is" + y);  
            y = 100 ;  
            System-out-println("y is Now" + y) ;  
        }  
    }  
}
```

(04 Marks)

### Module-2

- 3 a. Explain the following with an example.  
i) >>> ii) short circuit AND operator (&&), (||) iii) ternary operator '?' (06 Marks)
- b. With code Snippets explain Jump statements in JAVA. (06 Marks)
- c. Write a JAVA program to print even numbers from 0 to 100. (04 Marks)

OR

- 4 a. Write a Java code to simulate the operation of numerical calculator to perform the functions Addition (+), Subtraction (-), Multiplication(\*) and Division(/). (06 Marks)
- b. Explain the syntax of for-each loop. Write a Java program to search a key element by using for-each loop. (06 Marks)
- c. Write a Java program that uses 'continue' to cause two numbers to be printed on each line as shown in the following output.

0	1
2	3
4	5
6	7
8	9

(04 Marks)

**Module-3**

- 5 a. What are objects? How are they created from class? Differentiate between class and object. (06 Marks)  
b. What do you mean by method overloading? Explain with an example. (06 Marks)  
c. Brief note on Garbage collection in Java. (04 Marks)

**OR**

- 6 a. What is inheritance? Explain with an example. (06 Marks)  
b. What do you mean by method overriding? Give example. (06 Marks)  
c. Write a Java program to print factorial of a given number using recursion. (04 Marks)

**Module-4**

- 7 a. What is package? How to create packages and discuss its benefits. (06 Marks)  
b. Define interface. Explain how to implement multiple inheritance in Java through interface. (06 Marks)  
c. Write a short note on Access protection. (04 Marks)

**OR**

- 8 a. What do you mean by exception handling? With an example, explain try and catch block. (06 Marks)  
b. Explain the following with example :  
i) throw ii) throws iii) finally. (06 Marks)  
c. Explain multiple catch statement with an example. (04 Marks)

**Module-5**

- 9 a. What is enumeration? Explain values() and valueOf() methods with example. (06 Marks)  
b. Define Applet. Explain fundamentals of Applet with example. (06 Marks)  
c. Write a Java program to display the contents of the file. (04 Marks)

**OR**

- 10 a. Explain with example, the character extraction methods in JAVA. (06 Marks)  
b. Explain String() constructor and String length() method with example. (06 Marks)  
c. Write a short note on string buffer. (04 Marks)

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