MASTER OF COMPUTER APPLICATION (TWO YEAR) SEMESTER I EXAMINATION 2022-23
&
M.Sc. in COMPUTER SCIENCE SEMESTER I EXAMINATION 2022-23
CS - 204 : Object Oriented Programming

Time : Three hours

Max. Marks : 70

(WRITE YOUR ROLL NO. AT THE TOP IMMEDIATELY ON THE RECEIPT OF THIS QUESTION PAPER)

Note: Question 1 is compulsory, attempt any four questions from the remaining seven questions.

1. (a) How many types of memory areas are allocated by JVM? Explain each one with a suitable example. [4]

   (b) What is the output of the following Java program? Justify your answer. [2]

```
1  class Test
2  {
3      public static void main (String args[ ])
4      {
5          for(int i=0; 0; i++)
6          {
7              System.out.println("Hello World");
8          }
9      }
10 }
```

   (c) What is the purpose of a default constructor? [2]

   (d) What is the output of the following Java program? Justify your answer. [2]

```
1  class Test
2  {
3      int test_a, test_b;
4      Test(int a, int b)
5      {
6          test_a = a;
7          test_b = b;
8      }
9      public static void main (String args[ ])
10     {
11         Test test = new Test();
12         System.out.println(test.test_a+" "+test.test_b);
13     }
14 }
```

   (e) What are the main uses of "this" and "super" keywords? Give a suitable Java example of each. [4]

2. (a) Give a real-world example in Java where polymorphism, encapsulation, and inheritance are used. [6]

   (b) What are the Buzzwords in Java? Explain each buzzword with a suitable example. [8]

3. (a) What are the differences between the method Overloading and Overriding? Give a suitable Java example of each. [3]

(b) What are the differences between final, finally, and finalize? Give a Java example of each of them.

[4]

(c) What are the differences between compile-time polymorphism and runtime polymorphism? Give a suitable Java example of each.

[4]

(d) How to make read-only and write-only classes in Java? Give a suitable example of each. [3]

4. (a) Explain the working function of JVM, JRE, and JDK with a suitable example. [6]

(b) Write a Java program to multiply two matrices by passing the matrices to a function. [5]

(c) How many types of exceptions can occur in a Java program? [3]

5. (a) What is exception propagation? Give a suitable Java example. [4]

(b) What is the meaning of immutable regarding String? Give a suitable Java example. [4]

(c) Write a Java program to count the number of words present in a string. [6]

6. (a) Write a Java program that prints all the values given at the command line. [5]

(b) What are the two ways of implementing thread in Java? Give a Java example of each. [5]

(c) Write the differences between Thread and Process. [4]

7. (a) Given two files with a list of words, write a program to show the common words in both the files. [5]

(b) Write a program to check whether two given Arrays are equal, given both contain the same data type and the same length. [5]

(c) Write a program to search a specific element in an Array. [4]

8. (a) What are the data types in Java? Explain each data type with a suitable example.. [6]

(b) Why Java is a strongly typed language? Explain your answer with a suitable example. [3]

(c) How many types of access modifiers are available in Java? Explain each one with a suitable example. [5]

*********************** The End ***********************