20MCA22

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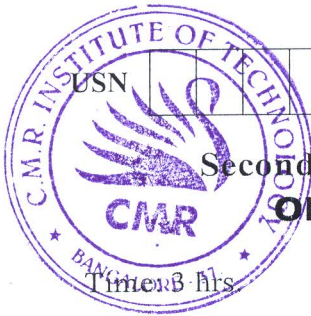**Second Semester MCA Degree Examination, June/July 2023**
Object Oriented Programming with Java

Time: 3 hrs.   Max. Marks:100

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

Module-1

1   a. Discuss the various primitive data types available in java with suitable examples.   (10 Marks)
    b. Write a Java program to perform multiplication of two matrix using two dimensional array.
                                                                                   (10 Marks)

OR

2   a. Discuss any five methods of StringBuffer class with appropriate examples.   (10 Marks)
    b. Explain Else-if ladder and switch statement with its syntax and example.   (10 Marks)

Module-2

3   a. Explain variable-length arguments in Java with its syntax and example program.   (10 Marks)
    b. Illustrate static variable, static method and static block in java with an example.   (10 Marks)

OR

4   a. Describe abstract class and abstract method in java with its syntax and example.   (10 Marks)
    b. Explain dynamic method dispatch in java with an example program.   (10 Marks)

Module-3

5   a. Describe how an interface extends one or more interfaces with a suitable example.
                                                                                   (10 Marks)
    b. Write the following java program to create package and import it in other program :
       i)   Create package called shape
       ii) Define a class called Triangle.java in shape package. Triangle. java should calculate the
            area of triangle.
       iii) Compile and import shape Triangle in another class TestPackage.java (TestPackage.java
            class should be in another package test).   (10 Marks)

OR

6   a. Illustrate the use of throw and throws keywords in java with examples.   (10 Marks)
    b. Construct a java program to implement a queue using user defined exception handling.
                                                                                   (10 Marks)

Module-4

7   a. Define multithreading. Explain the mechanism of creating thread using runnable interface
       with an example.   (10 Marks)
    b. Construct a Java program to create an enumeration day of week with seven values
       SUNDAY through SATURADY and add a method is workday( ) to the Dayofweek class
       that returns true if the value on which it is called is Monday through FRIDAY. For example,
       the call Dayofweek SUNDAY.isWORKDay( ) returns false.   (10 Marks)

OR

8 a. Write a Java program to implement interthread communication. (10 Marks)
   b. Illustrate autoboxing and auto unboxing in arithmetic expressions with an example.
   (10 Marks)

Module-5

9 a. Write short notes on the following classes :
   i)   InetAddress
   ii) Socket
   iii) URL
   iv) HttpURLConnection. (10 Marks)
   b. What are collections? Write a program to demonstrate Linkedlist class. (10 Marks)

OR

10 a. Write a java program which uses datagram socket to demonstrate client server communication. (10 Marks)
   b. Define genericlass. Write a simple Java program to show working of user defined Generic classes. (10 Marks)

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