Total No. of printed pages = 3

19/3rd Sem/UCSE303

2021

OBJECT ORIENTED PROGRAMMING
USING JAVA

Full Marks – 100

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer any *five* questions.

1. (a) When do you use yield ( ), stop ( ), and sleep ( ) methods ? Give examples.   10

     (b) Write a Java program which removes all repetitions of characters from a string.   10

2. (a) Why synchronization is needed ? Explain with example.   10

     (b) Write a Java Program to perform the following :

       Given a string, return the longest sub-string that appears at both the beginning and end of the string without overlapping. For example, sameEnds("abXab") is "ab".   10

[Turn over

3. (a) What are the different forms of inheritance supported by Java ? Explain with examples.

   10

   (b) Write a Java program to sum up the individual digits of a positive integer number given in the command line.   10

4. (a) Can we have more than one constructor in a class ? If yes, explain the need for such a situation.   10

   (b) Write a Java program that implements a simple client-server application. The client sends data to a server. The server receives the data, uses it to produce a result, and then the result back to the client. The client displays the result on the console.   10
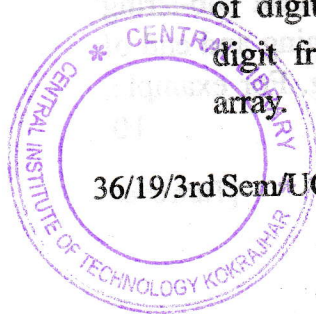
5. (a) What is exception handling ? Explain the exception handling facility provided in Java.   10

   (b) Write a Java program to count the number of digit letters in the char array. Delete the digit from the array and print the modified array.   10

6. Write short notes on :   5×4=20

    (a) Bitwise Operators

    (b) Nested Class

    (c) Interfaces

    (d) Packages.

7. Define a class DATE containing three integers- day, month and year. Write a program to do the following :   20

    (i)   Write methods to read data, to validate the date entered by the user and then print the date on the screen.

    (ii) Write a method to increment the date. Make sure that the incremented date is a valid date.

    (iii) Write a method to compare two date variables.