Total number of printed pages: **2** **Programme(UG)/3rd Semester/UCSE303**

2022

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)	What is an interface? How are methods declared in an interface? Write a program to implement an interface in a class.	10
	b)	What are the applications of the keyword "***this***"? Explain with examples.	10
2.	a)	What are the functions of static block and initializer block?	5
	b)	How do you access a method of nested (inner) class? Explain with example.	5
	c)	What are the constructors of class String and StringBuffer? Explain with examples.	10
3.	a)	What are exceptions? Explain the functions of try, catch, and finally blocks.	10
	b)	Write a program to illustrate the nested try and catch blocks.	10
4.	a)	What are the processes involved in sending and receiving messages through sockets?	5
	b)	Write a simple client-server application wherein the client sends some text to the server. The server receives the text and transforms the received entire text to uppercase letters and sends back to the client. The client displays the result on the console.	15
5.	a)	Write a class that extends Thread class to create three new threads in addition to the main thread. Each thread find the square root of 4 numbers. Thread1 from 1 to 4, Thread2 from 5 to 8, and so on. The results are displayed on the screen.	10

b) Write a Java program in which a byte array is created for storing marks for 10 students in an examination. The values of the array are then transferred into a file. Then data is then read from the same file and the output is displayed. 10

6. What is multithreading? What are the two ways of creating threads? Explain these ways with suitable example. 20

7 Write short notes on 20

a) Access Specifiers

b) Command Line Argument

c) Vector Class

d) Abstract Class