Department of Computer Science
END SEMESTER EXAMINATION – December 2022
UG III Semester

Programme Name: BCA **Max. Marks: 100**

Course Name: OBJECT ORIENTED PROGRAMMING USING JAVA **Time: 3 Hrs**

Course Code: BCA333

General Instructions

- All rough work should be done in the answer script. Do not write or scribble in the question paper except your register number.
- Verify the Course code / Course title & number of pages of questions in the question paper.
- Make sure your mobile phone is switched off and placed at the designated place in the hall.
- Malpractices will be viewed very seriously.
- Answers should be written on both sides of the paper in the answer booklet. No sheets should be detached from the answer booklet.
- Answers without the question numbers clearly indicated will not be valued. No page should be left blank in the middle of the answer booklet.
-

Course Outcomes (COs): The students will able to

CO1: Understand the basic concepts of object-oriented programming.

CO2: Apply the Object Oriented Programming concepts in solving real-world applications

CO3: Build Client/Server GUI applications

SECTION A

Answer ALL the questions 10X2= 20

Q. No	Questions	CO	RBT
1	Distinguish between the tools java and javac.	1	L4
2	What is a class in Java?	1	L1
3	How will you declare three-dimensional arrays in java?	1	L3
4	What happens if we provide a return type to a constructor?	2	L2
5	What are the advantages of Inheritance?	2	L4
6	Consider the following string: String james = "Did James see the flowers? James did."; Write the code in Java to replace the character 'J' in the above string with 'D'.	2	L5
7	How is multiple inheritance achieved in Java?	2	L6

8	What is the type of the out object defined in the System class? Why it is called through class name?	1	L4
9	State the various window panes available in swing.	3	L1
10	How can we load an image in javaFX?	3	L2

SECTION B
Answer Any FIVE questions 5X6= 30

Q. No	Questions	CO	RBT
11	Develop an application in Java to perform different arithmetic operations on given numbers.	2	L5
12	Even if you don't write code for constructor, java creates default constructor - Justify this statement.	2	L6
13	Develop a program to find the number of words in a given string.	1	L5
14	Develop a Java program to copy the contents of one file to another.	1	L5
15	Explain Multithreading in Java with a suitable example.	1	L4
16	Explain the various components used in designing Swing-based GUI with suitable examples.	3	L5
17	Write a simple JavaFX application which prints hello world on the console on clicking the button shown on the stage.	3	L3

SECTION C
Answer Any FIVE questions 5X10= 50

Q. No	Questions	CO	RBT
18	Create a class Employee with the following specifications in java. Data members Employee name, No.of hours employed per day and wage per hour . Member functions read() - to read values to the data members display() - to display the values of the data members and the total wage calcwg() - to calculate the wage of an Employee and return the value extra wage() - if the wage of the worker is less than Rs. 200, then an extra amount of Rs. 150 will be paid to the worker. Otherwise Rs. 50 will be paid. TotalWage() - To find the total wage of the Employee.	2	L6
19	Compare different types of access modifiers in java.	2	L4
20	Develop a program in Java to pass parameters from a dervied class constructor to a parent class constructor.	2	L5
21	Write a Java program to throw the	1	L3

	StringIndexOutOfBoundsException.		
22	Define an interface for a Queue Data Structure. Create an IntegerQueue Class which implements this interface. The program should use an integer array for the data structure.	2	L4
23	Discuss the steps to write an object to a file with a sample code.	3	L5
24	Write a simple calculator using Java Swing components with only +, -, /, * , % operations.	3	L4