Reg.No.:												

VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 6006

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – MAY / JUNE 2024
Sixth Semester
Information Technology
U19ITV13 – JAVA PROGRAMMING
(Regulation 2019)

Time: Three Hours | Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	What are the core OOP's concepts?	2	K1	CO1
2.	Compare the difference between instantiated and static class members.	2	K2	CO1
3.	How does a class inherit the properties of interface?	2	K1	CO2
4.	List some of the most common types of exceptions that might occur in Java. Give examples.	2	K1	CO2
5.	Define Filter Stream.	2	K1	CO3
6.	Summarize the use of keyword "synchronized" in java.	2	K2	CO3
7.	How does String class differ from StringBuffer class?	2	K1	CO4
8.	Write a program, which will read a string and rewrite it in the alphabetical order.	2	K2	CO4
9.	Explain the life cycle of an APPLET.	2	K2	CO5
10.	Show the hierarchy of AWT control classes.	2	K1	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.			Questions	Marks	KL	CO
11.	a)	i.	Explain the structure of a typical Java program.	7	K2	CO1
		ii.	List the eight basic data types used in Java. Give examples.	6	K2	

(OR)

	b)	i. Experiment with different forms of inheritance with examples.	7	K3	CO1
		ii. Compare and contrast abstract classes and interface. Why would you use an abstract class? Why would you use an interface?	6	K2	
12.	a)	Discuss the various levels of access protection available for packages and their implications.	13	K4	CO2
		(OR)			
	b)	Use inheritance to create an exception superclass "Exception A" and exception subclass "Exception B" and "Exception C", where "Exception B" inherits from "Exception A" and "Exception C" inherits from "Exception B". Interpret a program to demonstrate that the catch block for type "Exception A" catches exceptions of types "Exception B" and "Exception C".	13	K5	CO2
13.	a)	Assume you have a text file that contains students' records. Each line contains a record that has the following data: a student's ID(int), name(string), and three grades(double) separated by space characters. Write an application to read this file and create a new file to save the same data using object serialization.	13	K4	CO3
		(OR)			
	b)	Develop a simple real-life application program to illustrate the use of multiple threads.	13	K6	CO3
14.	a)	i. Build a program to check if a string entered by the user is a palindrome or not.	6	K3	CO4
		ii. Build an application that inputs a line of text and displays the longest word in the sentence.	7	K3	
		(OR)			
	b)	i. Build an application that reads a line of text, tokenizes the line using space characters as delimiters, and outputs only the words beginning with capital letters.	6	K3	CO4
		ii. Build your own versions of String search methods *indexOf* and *lastIndexOf*.	7	K6	
15.	a)	Determine the steps involved in developing and running local and remote applet.	13	K5	CO5
		(OR)			
	b)	Create four panels using AWT in such a way that the first panel contains a vertical scrollbar, the second panel contains 3 radio buttons, the third panel contains a horizontal scrollbar, and the fourth panel contains 6 checkboxes. Adopt Border Layout. Place the four panels in the west, north, south, and central directions respectively.	13	K6	CO5

PART – C

(1 x 15 = 15 Marks)

Q.No.		Questions	Marks	KL	CO
16.	a)	Define a class named Room as described below: **Data Members:** length, width, and height **Methods:** i. constructor ii. whitewashingArea() to compute the area to be whitewashed iii. whitewashingCost() to compute the cost of whitewashing at the rate of Rs.15/-sq.ft iv. flooringCost() to compute the cost of flooring at the rate of Rs.100/- sq.ft. for mosaic flooring and at the rate of Rs.55/- sq.ft. for cement flooring. Test this class by creating an object for the class Room and computing the whitewashing cost and the flooring cost.	15	K6	CO2
		(OR)			
	b)	Build a program to simulate the functioning of a calculator. Use AWT controls. Create a ActionListener interface for event handing and explain how it works in the context of the calculator program.	15	K6	CO5