

Reg.No.: 

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

**Question Paper Code: 60025**

**B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – JAN. 2025**

**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.	Write a simple Java Program to find the given number is Prime or not.	2	K2	CO1
2.	Assess the error in the following array declaration and rectify them. int a[]=new [10]int; float []b=new int[10.5];	2	K2	CO1
3.	Import the IO Package and use Scanner Class to receive users input and display the same.	2	K2	CO2
4.	How to raise exception in Java?	2	K2	CO2
5.	Define thread and which method is used to create the daemon thread.	2	K1	CO3
6.	Represent the different ways to handle exceptions.	2	K2	CO3
7.	When you execute String str = new String("ddefgg") how many String objects are created? Justify your answer.	2	K2	CO4
8.	State and elaborate stringBuffer with suitable examples.	2	K1	CO4
9.	Differentiate paint() and repaint().	2	K2	CO5
10.	List out the ways of creating Frame in AWT.	2	K1	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	Develop an application named Bankloan that uses an abstract Loan class and Housingloan and Vechicleloan to display different types of Loans and the interest paid per month. The Loan class contains a string representing the type of loan and a double that holds the monthly interest. The Loan clans constructor requires a String argument indicating the type of loan, but the Housingloan and Vechicleloan class constructors require no arguments. The Loan class contains a get method for each field and two abstract methods named set cost() and display(). The housing loan class set cost() method sets the monthly interest to 8%, and the Vehicle class sets the monthly interest to 12%. Write an application named Use Insurance that prompts the user for the type of insurance to be displayed, and then create the appropriate object	13	K6	CO1
	(OR)			
b)	Discuss in detail about the different control flow statements in Java with example. Define conditional statement in Java and explain it with an example.	13	K2	CO1
12. a)	Explain about try, Catch and finally statements with examples. Imagine you are creating a web application where users can upload files. Use try-catch-finally to handle file uploads and ensure that resources are properly closed.	13	K3	CO2
	(OR)			
b)	Design a Class Customerinsurance that implements Customer and Insurance interfaces. The Customer Class has the customers details and abstract functions getCustomer(), setCustomer(). The Insurance interface has the details of policy name, yearly premium amount and abstract functions getpolicy(), Setpolicy(). The Customer insurance class get the policy name payment type (quarterly, hall yearly, yearly) of the customer and calculate the policy amount to be paid.	13	K3	CO2
13. a)	Explain the Synchronization concepts in java with suitable examples. Discuss the potential issues that could arise if synchronization is not implemented properly.	13	K2	CO3

(OR)

b)	i.	Design two threads to display odd numbered element in an array of size 50 and even numbered element in another array of size 50. Create instances of the above thread and run them.	6	K3	CO3
	ii.	Write a Java program to read strings from the console and to perform the operations.	7	K3	CO3
14.	a)	Explain the concept of Java collection frame with suitable examples. Elaborate the working of collection interfaces and classes.	13	K2	CO4
		(OR)			
	b)	Write a Program that reads a sentence and displays the count of individual vowels in a sentence. If the program is modified to allow multiple sentences as input, display the count of consonants for each sentence.	13	K3	CO4
15.	a)	Describe applet life cycle with suitable example. Explain why it is important to properly manage resources during applets life cycle and suggest strategies for resource management.	13	K2	CO5
		(OR)			
	b)	Write a Java program to develop Notepad Application using AWT.	13	K3	CO5

#### PART – C

(1 x 15 = 15Marks)

Q.No.	Questions	Marks	KL	CO
16. a)	Develop an Interest interface which contains simpleInterest and compInterest methods and static final field of Rate 25%. Write a class to implement those methods. Consider the user needs to calculate interest for different principal amounts, interest rates and time periods.	15	K3	CO2
	(OR)			
b)	Develop a Java program to perform the following operations.		K3	CO4
	i. Find the string index of a character	5		
	ii. Compare two strings and replace a character with another character	5		
	iii. Print the substring from a starting index to an ending index	5		