Hall Ticket Number:

## Code No. : 15157 (B) N

## VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD

Accredited by NAAC with A++ Grade

## B.E. V-Semester Main Examinations, Jan./Feb.-2024

# Fundamentals of Object Oriented Programming (OE-III)

### Time: 3 hours

Max. Marks: 60

Note: Answer all questions from Part-A and any FIVE from Part-B

#### Part-A $(10 \times 2 = 20 \text{ Marks})$

Q. No.	Stem of the question	M	L	СО	PO
1.	Write single line definitions for four properties of Object-oriented Programming.	2	1	1	1
2.	Write a program to display the numbers that are even and also divisible by 4 in the range 21 to 40	2	2	1	1
3.	Write the output, by modifying highlighted code snippet to display actual values instead of printing default values using 'this' keyword.	2	2	2	1
	class Student{	<u>-2</u> 1 (1)			
	static String collg = "VCE";				
	int rollno;	er de de l s			
	String name;				
	float fee;				
	Student(int rollno,String name,float fee){				
	rollno=rollno; name=name; fee=fee; }				
	void display(){				
	System.out.println(rollno+" "+name+" "+fee);}				
	class TestThis1{				
	public static void main(String args[]){				
	Student s1=new Student(111,"ankit",5000f);				
	s1.display();	ale en volum			
	//statement to print the static variable data				
	}				
	}				
4.	List the different valid ways to import a public class "PackImp" from package "pack".	2	1	2	1
5.	Write a program to handle the ArithmeticException when trying to divide a number by zero, using the try-catch-finally blocks.	2	2	3	1

de.

6.	There are 4 threads given below priorities. If the what can be the order of getting a chance to exec		2	2	3	1
	Thread Priority	and the share is the				
	tl 8					
	12 6	ವರ್ಷ-ಎಂಎಎನ್ನಿ ನೇವ				
	t3 7	e gelatitadas				
2756	t4 4	all a constant				
7.	Write a program to create a file, and check the be	elow properties of the file object:	2	2	4	1
	<ul> <li>get the file name</li> <li>get the absolute path</li> <li>can write data to the file</li> <li>size of the file in bytes</li> </ul>	a da marina da calendaria en al das Alexandres da calendaria en al das				
8.	When we get the usernames for the user in the uppercase, some in lowercase, and some in mixe we want uniformity in the usernames if we are Write a program that converts all the letters of the	d cases. Now we don't want that, going to present a legible report.	2	2	4	1
	Input: VaSavi					
	Output: VASAVI					
9.	Write a code snippet to set the layout for the window.	components created on a applet	2	2	5	1
10.	Match the following actions (i, ii, iii & iv) to the	type of Event (a, b, c & d) 2	2	1	5	1
	i) Button click a) ItemEvent					
	ii) Frame closing b) MouseEve	nt				
	iii) Choice selection c) Window E	vent		-		
	iv) Mouse click d) ActionEve	nt				
	$Part-B (5 \times 8 = 40 M)$	(arks)				
11. a)	Create an Employee class with Emp_ID, name and rating as the attributes. Accept the details of 5 employee objects (use array of objects). Write a Java program which sorts the employee objects in ascending order based on the employee ID.		5	2	1	1, 2, 3
b)	List and explain the features of Java.		3	1	1	1
12. a)	Create a package "sem" having base class Os details as attributes to be followed by affiliated of VCE has to be created by importing the class collegeName as final variable, display the base display() method of super class and by using "su subclass as final. Also justify what happens by final.	olleges and display(). A subclass from created package, and with e class details by overriding the per" keyword and make the VCE	4	3	2	1, 2, 3

Contd... 3

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b) Does java supports multiple inheritance. Write a Java program to create an interface Figure with 2 dimensions as instance variables initialized in the interface as constants and area(int,int) method in a package called "oejava". Implement this	1,2, 3
interface in class triangle and rectangle by importing the respective package. Create the objects and access the method to display the area.	
13. a) Write a program to create two threads. One thread should compute sum of the 3 3 digits of a given number and the other to calculate the factorial of a number.	1,2
b) Develop a Java program which throws a user-defined exception called 5 3 3 "NotEligibleException" while calling attemptPlacement() if cgpa<8. Create the class with the appropriate members and use the relevant exception handling keywords.	1, 2
14. a) What is the difference between java String and StringBuffer classes? Illustrate 4 1 4 1 4	1
b) Write a java program to generate the password using the Random class in util package. Password should include upper-case and lower-case characters along with the numericals and special symbol, consider the length of the password as 12.	1, 2, 3, 12
15. a) Illustrate the significance of delegation event model with a diagram and list out 3 1 the respective event sources and listeners to handle the events	
b) Write a java program to store a Student Information in a File using AWT 5 3 components.	1, 2, 3, 11, 12
Studen: Datails Form	
Student Name: Vasavi Section: Section-B	
College Email ID: vasavi_cse_oe @gmail.cov Mobile No: 1234567891	
Branch: CSE 0	
	ся,
Save close	
Message	
Successfully Saved The Details	
16. a) Write a Java program which makes use of the Bookclass having the following 4 2 members	1, 2
<ul> <li>Member variables (BookName, Author, Edition, price)</li> <li>Parameterized constructor</li> </ul>	
<ul> <li>a method to display the values of these variables</li> </ul>	

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Given an Abstract class called CSE_VCE which has abstract method like eligibleIntern() and concrete method as displayDetails(). Create an appropriate subclass to override the abstract method and display the relevant message wrt given input data using the concept of dynamic method dispatch.	4 3	2	1, 2, 3
Answer any <i>two</i> of the following:			
Write a java program to implement the producer-consumer a multi-process synchronization problem having the producer thread and the consumer thread, which share a common, fixed-size buffer. The producer's job is to generate data, put it into the buffer, and start again. At the same time, the consumer is consuming the data one piece at a time. Write the code to make sure that the producer won't try to add data into the buffer if it's full and that the consumer won't try to remove data from an empty buffer.	4 3	3	1, 2, 3, 12
Write a java program by making use of BufferedReader class to read a text file "demo.txt" and displays its content on the console. Also use the suitable class to write the data "Welcome to VCE" into a file "semester.txt". Also handle the appropriate exception if the file not exists while read operation.	4 3	4	1, 2, 3
Write a java applet which takes two numbers as parameters passed via a html file and displays the greatest number between as output on the applet.	4 2	5	1, 2
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i)	Blooms Taxonomy Level – 1	20%	
ii)	Blooms Taxonomy Level – 2	39%	
iii)	Blooms Taxonomy Level – 3 & 4	41%	

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