Hall Ticket Number:

Code No. : 13246 S

VASAVI COLLEGE OF ENGINEERING *(AUTONOMOUS)*, HYDERABAD

Accredited by NAAC with A++ Grade

B.E. (C.S.E./AIML) III-Semester Supplementary Examinations, August-2022

Object Oriented Programming

Time: **3 hours** Max. Marks: **60**

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

Part-A (10 × 2 = 20 Marks)

Q. No.	Stem of the question	M	L	CO	PO

1.	Which of the following assignments are valid? Justify your answer.
	short s=70;
	float f=4.678;
		2	1	1	1

2.	What will be the output when you compile and run the following program?
	Class Demo{
	int a;
	Demo (int a) {
	a=a+100;
	System.out.println(a);
	}
	public static void main(String args[]){
	Demo d =new Demo(5);
	System.out.println(d.a);
	}}
		2	2	1	1,2

3.	Differentiate between final and finally.	2	2	2	1

4.	What is the output of the following piece of code?
	`public class TryCatchFinally {`
	`public static void main(String []args) {`
	`try {`
	`System.out.println("try");`
	`System.exit(0);`
	`}`
	`catch(ArithmeticException e){`
	`System.out.println("catch");`
	`}`
	`finally {`
	`System.out.println("finally");`
	`}`
	`}`
	`}`
		2	2	2	1,2

5.	Differentiate between Byte streams and character streams. Mention any two example class names for each stream.	2	2	3	1
6.	Explain serialization and deserialization concept.	2	1	3	1
7.	What is the need for collection classes though we have the legacy classes? Explain the Enumeration interface with an example.	2	2	4	1

Contd... 2

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8.	Write the sample code to find the number of words in a given string.	2	2	4	1,2
9.	Write a program to compute the sum of the integer objects in an ArrayList using Stream API operations.	2	3	5	1,2

10.	What will be the output of the below code fragment?
	Pattern pat;
	Matcher mat;
	boolean found;
	pat = Pattern.compile(".*a");
	mat = pat.matcher("OOP using Java");
	found = mat.matches();
	if(found) System.out.println("Matches");
	else System.out.println("No Match");
		2	2	5	1,2

	Part-B (5 × 8 = 40 Marks)				
11. a)	Define Inheritance. Explain the different types of inheritance. Can a class extend more than one class?	4	1	1	1
b)	Create a class named Employee with the following details: Data members: Name, address, age and gender Methods: display() to show the employee details Create another class FulltimeEmployee that inherits the Employee class along with -Data members: salary and designation Method: display() to show the salary and designation along with other details. Create another class PartTimeEmployee that inherits the Employee class along with Data members: workingHours, ratePerHour Methods: calculatePay() to calculate the amount payable display() to show the amount payable along with other details. Create objects of these classes and call their methods. Create appropriate constructors.	4	3	1	1,2,3
12. a)	Explain Singleton class with an example.	4	1	2	1
b)	Write a program to create two child threads. One to calculate the sum of the digits of a given number and the other to calculate the factorial of the given number.	4	3	2	1,2,3
13. a)	Write a program to read the movie name and its rating from the keyboard and store it in the file. Then read the contents from the file and display them on the console.	4	3	3	1,2,3
b)	Write a program that takes your full name as input and displays the abbreviations of the first and middle names except the last name which is displayed as it is. For example, if your name is Robert James Thomas, then the output should be R.J.Thomas.	4	3	3	1,2,3
14. a)	Write a program to illustrate Iterator and ListIterator in Java.	4	2	4	1
b)	Write a program to create a LinkedList, add books_details to the list and print the books_details after deleting the second record. Each book consists of an book_id, name and author.	4	3	4	1,2,3

Contd... 3

15. a)	Write a program to create a functional interface with an abstract method-total() to calculate and return the sum of the double numbers stored in the LinkedList data structure. Hint: make use of LinkedList and lambda expression.	4	3	5	1,2,3
b)	Write a program to check whether the given phonenumber is a valid phonenumber. Make use of a regular expression to specify the pattern.	4	3	5	1,2
16. a)	Write a Program to check if the given character is a : (colon), ; (semicolon) or . (dot) using switch case.	4	3	1	1,2,3
b)	Write a program with a BankAccount class, which has Accountno and balance as the instance variables along with the required methods. Create a User-defined Exception InsufficientFundsException and handle it wherever necessary.	4	3	2	1,2,3
17.	Answer any two of the following:				
a)	What are wrapper classes? Explain any two wrapper classes with suitable examples.	4	1	3	1
b)	Differentiate between TreeSet and TreeMap with suitable examples.	4	2	4	1
c)	Write about MVC architecture.	4	2	5	1

M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

i)	Blooms Taxonomy Level – 1	20%
ii)	Blooms Taxonomy Level – 2	32.5%
iii)	Blooms Taxonomy Level – 3 & 4	47.5%

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