VISHNU INSTITUTE OF TECHNOLOGY (AUTONOMOUS)
II B. Tech I Semester (R19) Supplementary Examinations, Aug - 2022
Object Oriented Programming through Java
(CSE & IT)

Time: 3 hours   Max. Marks: 60

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Note: 1. Answer all the 6 Questions
        2. Each Question carries 10 Marks

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1	a	Establish the principles of OOP and how OOP principles are useful in developing sustainable programs.	L	CO	[5M]
	b	What are primitive data types in Java. Does Java support unsigned integer data type?.	L	CO	[5M]

(OR)

2	a	How does Java handle conversions between different data types? What conversions happen automatically? What conversions will not happen automatically? When Java doesn't convert automatically, how do you handle?	L	CO	[5M]
	b	Create a 5 element array which represents marks in five subjects. The elements are the following : i. English Marks ii. Telugu Marks iii.Social Marks iv.Science Marks v. Hindi Marks List the situations when such arrays are useful.	L	CO	[5M]
3	a	Define method overloading. Give proper examples?	L	CO	[5M]
	b	Write a program to enter the numbers till the user wants and at the end it should display the count of positive, negative and zeros entered.	L	CO	[5M]

(OR)

4	a	What is the output of the following program? Explain.	L	CO	[5M]

```
class Test1 {
static int x = 10;
public
static void main(String[] args)
{
Test1 t1 = new Test1();
Test1 t2 = new Test1();
t1.x = 20;
System.out.print(t1.x + " ");
System.out.println(t2.x);
}
}
```

	b	Can we use "this within static method? Justify your answer.	L	CO	[5M]
5	a	Illustrate the uses of abstract class with examples	L	CO	[5M]

	b	Can we pass an object of a subclass to a method expecting an object of the super class? Explain with an example	L	CO	[5M]

(OR)

6	a	What is significance of Synchronization of Threads? How Java achieves it?	L	CO	[5M]
	b	Justify: "Multiple Inheritance is not supported through a class in Java, but it can be possible through the interface." Illustrate with an example.	L	CO	[5M]
7	a	How to write custom exception in Java? Write a custom exception to handle withdrawal of money from a bank account when balance is below one thousand rupees.	L	CO	[5M]
	b	How can you append text to an existing file?	L	CO	[5M]

(OR)

8	a	What is RandomAccessFile? What is the benefit of using RandomAccessFile?	L	CO	[5M]
	b	Illustrate the difference between checked and unchecked Exception in Java?	L	CO	[5M]
9	a	I Using Collections framework, search for your name in a list of student names	L	CO	[5M]
	b	Why strings are immutable in Java?	L	CO	[5M]

(OR)

10	a	Lists the differences between String, StringBuffer and StringBuilder.	L	CO	[5M]
	b	What are the main differences between array and collection	L	CO	[5M]
11	a	Write a Java program to iterate through all elements in priority queue.	L	CO	[5M]
	b	Write a program to iterate TreeMap.	L	CO	[5M]

(OR)

12	a	Write a Java program to get a key-value mapping associated with the least key in a map.	L	CO	[5M]
	b	Write a program to remove element from specified index of ArrayList	L	CO	[5M]

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