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B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

September / October 2024 Supplementary Examinations

Programme: B.E. **Semester: III**
Branch: Computer Science and Engineering **Duration: 3 hrs.**
Course Code: 22CS3PCOOJ **Max Marks: 100**
Course: Object Oriented Java Programming

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

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Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

		UNIT - I	CO	PO	Marks
1	a)	Explain any five features of Java in detail?	CO1	PO 1	6

	b)	Analyze the given Java program and write the output.
		Class conversion{
		public static void main(String args[])
		{
		byte b; int i=257; double d=323.142;
		System.out.println("\nConversion of int to byte");
		b=(byte)i;
		System.out.println("i and b"+i+" "+b);
		System.out.println("Conversion of double to int");
		i=(int)d;
		System.out.println("d and I" +d + " "+i);
		System.out.println("\n Conversion of double to byte");
		b=(byte)d;
		System.out.println(" d and b"+d+ " "+b);
		} }
			CO2	PO2	6

	c)	Write a Java program with output to demonstrate constructor overloading with 3 parameters passing, 1 parameter passing and parameter less.	CO3	PO3	8
		UNIT - II			
2	a)	Explain the concept of dynamic dispatch with example program.	CO1	PO1	6
	b)	Demonstrate the usage of super keyword with example.	CO1	PO1	6
	c)	Create an abstract class **Calculate** which has three double members -say **x**, **y** and **result**. Include a method **calc**. Derive three classes from **Calculate** which performs any three arithmetic	CO3	PO3	8

			operations on the two variables **x** and **y** and assign the result to the variable **result**. Make appropriate declarations and definitions.			
			UNIT-III			
	3	a)	Define the five keywords of Exception Handling. Show any one keywords by writing a java program with output.	***CO1***	***PO1***	**6**

		b)	Analyze the given Java program named NestedIFDemo.java and discuss the functionality of given program and give output.
			class A
			{ interface NestedIF { boolean isNotNegative(int x); }
			}
			class B implements A.NestedIF
			{
			public boolean isNotNegative(int x)
			{
			return x < 0 ? false: true;
			}
			}
			class NestedIFDemo {
			public static void main(String args[]) {
			A.NestedIF nif = new B();
			if(nif.isNotNegative(10)) System.out.println("10 is not negative");
			if(nif.isNotNegative(-12)) System.out.println("this won't be displayed");
			} }
				CO2	***PO2***	**6**

		c)	Write a Java program that reads a two integers from the user and throws an exception if any numbers are duplicates.	***CO3***	***PO3***	**8**
			OR			
	4	a)	Demonstrate user defined exception.	***CO3***	***PO3***	**6**

		b)	Analyze the following program and discuss try and catch block and also give the output
			class Exc2 {
			public static void main(String args[]) {
			int d, a;
			try {.
			d = 0;
			a = 42 / d;
			System.out.println("This will not be printed.");
			}
			catch (ArithmeticException e) {
			System.out.println("Division by zero."); }
			System.out.println("After catch statement."); } }
				CO2	***PO2***	**6**

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		c)	Create an interface "Routine" to have default method "diet" that displays "2500 calories needed per day" and an unimplemented method "workout". Write two classes Person1 and Person2 each of which implements the interface. Create a Main class to instantiate objects of Person 1 and Person 2 and call the respective the methods.	***CO3***	***PO3***	**8**
			UNIT -IV			
	5	a)	Write a java program using threads to print the output in the following order only. Give output. [BMS] [College] [of] [Engineering]	***CO3***	***PO3***	**10**
		b)	Discuss the functionalities and syntax of IsAlive() and join() with example and output for each.	***CO1***	***PO1***	**10**
			UNIT - V			
	6	a)	Explain the Delegation Event model in event handling with an example.	***CO1***	***PO1***	**10**
		b)	Write a java program to handle any six mouse events -any four under Mouse Listener and two under MouseMotionListener	***CO3***	***PO3***	**10**
			OR			
	7	a)	With a neat diagram explain AWT class hierarchy and Develop a Java program to create the smiley graphic image given below. 	***CO1, CO3***	***PO1,PO3***	**10**
		b)	Write a Java program that changes the background and foreground colors (random colors) on the press of the left mouse button and changes to default colors when the mouse is released. Show the position where the mouse is moving while the mouse is being dragged.	***CO3***	***PO3***	**10**

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