PVP 20

Code: 20AM3302, 20DS3302

II B.Tech - I Semester – Regular Examinations
DECEMBER 2023

OBJECT ORIENTED PROGRAMMING THROUGH JAVA
(Common for AIML, DS)

Duration: 3 hours Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

BL – Blooms Level CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	Write your understanding on type casting. Illustrate with an example.	L2	CO1	7 M
	b)	Explain String handling functions with an example.	L2	CO1	7 M
OR					
2	a)	Write a JAVA program to display the following output using 2-D array. 0 1 2 3 4 5 6 7 8 9	L2	CO1	7 M
	b)	Discuss the role of access modifiers to control the visibility of identifiers.	L2	CO1	7 M
UNIT-II					
3	a)	Three classes, C1, C2, and C3, have been established in the code below. Both Class C2 and Class C1 are extended by Class C3. Is there a way for Class C3 to invoke the method f1( ) of Class C1, which exists in each class?	L3	CO2	7 M

		public class C1
		{
		void f1(){
		System.out.println("f1 in class C1");
		}
		}
		public class C2 extends C1
		{
		void f1() {
		System.out.println("f1 in class C2");
		}
		}
		public class C3 extends C2
		{
		void f1() {
		System.out.println("f1 in class C3");
		}
		}
		public class Test {
		public static void main(String[] args)
		{
		C3 c3 = new C3();
		c3.f1();
		}
		}			

	b)	Identify the errors in the following code. Also explain how one can resolve the error.
		class A {
		String m1(String x){
		System.out.println("One");
		return "ABC";
		}
		String m1(String y){
		System.out.println("Two");
		return "PQR";
			L3	CO2	7 M

		}
		public static void main(String[] args){
		A a = new A();
		a.m1("ABC");
		}
		}			

OR					
4	a)	Does Java permit multiple inheritance or can a class extend multiple classes? Justify your answer with appropriate code snippet.	L3	CO2	7 M

	b)	Identify the errors in the following code. Also explain how one can resolve the error.
		class A {
		void sum(int x, int y){
		System.out.println("Sum of two numbers: " +(x+y));
		}
		void sum(int y, int x){
		System.out.println("Sum of three numbers: " +(x+y));
		}
		public static void main(String[] args){
		A a = new A();
		a.sum(20, 30);
		}
		}
			L3	CO2	7 M

UNIT-III					
5	a)	Develop a JAVA package named "ArmPack" with a class "Arm" containing a method to find whether the number is Armstrong number or not. Import this package in another class and use it to display whether the given number is Armstrong or not.	L3	CO2	7 M

	b)	Illustrate how Java achieves multiple inheritance with an example program.	L3	CO2	7 M
OR					
6	a)	Explain about auto boxing with a suitable example program.	L3	CO2	7 M
	b)	Develop a JAVA package named "Prim Pack" with a class "Prime" containing a method to find whether the number is prime or not. Import this package in another class and use it to display whether the given number is prime or not.	L3	CO2	7 M
UNIT-IV					
7	a)	How JAVA handles exceptions? Write an example program to handle the exception "Invalid User input".	L3	CO2	7 M
	b)	Explain the concept of thread synchronization with suitable program.	L4	CO4	7 M
OR					
8	a)	Infer different ways to create multiple threads in JAVA. Write a program to create five threads using runnable interface.	L4	CO4	7 M
	b)	Write a note on different types of Java's Exceptions.	L2	CO1	7 M
UNIT-V					
9	a)	Relate ArrayList and Linked List.	L3	CO3	7 M
	b)	Write a program to sort the ArrayList in ascending order.	L3	CO3	7 M
OR					
10	a)	Explain various interfaces used in collection framework with appropriate example.	L2	CO1	7 M
	b)	Elaborate various operation on ArrayList using an example.	L3	CO3	7 M