

# CBCS SCHEME

USN

22MCA22

## Second Semester MCA Degree Examination, June/July 2024 Object Oriented Programming using Java

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.  
2. M : Marks , L: Bloom's level , C: Course outcomes.

Module – 1			M	L	C
Q.1	a.	Explain the key attributes of object oriented principles.	6	L2	CO1
	b.	What is narrowing and widening? Explain with example.	6	L1	CO1
	c.	Explain method overloading and constructor overloading with suitable example.	8	L2	CO1
OR					
Q.2	a.	Differentiate procedural oriented programming and object oriented programming.	6	L2	CO1
	b.	How arrays are defined and initialized in Java? Explain with an example.	8	L2	CO1
	c.	Write a short note on 'this' keyword.	6	L1	CO1
Module – 2					
Q.3	a.	Explain the usage of 'final' keyword with suitable example.	8	L2	CO2
	b.	Discuss 'super' keyword with an example.	8	L2	CO2
	c.	Write a Java program to list the factorial of the numbers 1 to 10. To calculate the factorial value, use while loop (Hint Fact of 4 = 4 * 3 * 2 * 1).	4	L3	CO2
OR					
Q.4	a.	Define Inheritance. List and explain list of inheritance in Java.	8	L2	CO2
	b.	What is method overriding? Explain with example program.	6	L1	CO2
	c.	Explain 'abstract' keyword with an example.	6	L2	CO2
Module – 3					
Q.5	a.	Define Interface. Write a java program for the implementation of multiple inheritance using interfaces to calculate the area of a rectangle and triangle.	10	L3	CO3
	b.	Write a Java program for the following: i) Create a package named 'shape' ii) Create some classes in the package representing some common shapes like 'square', 'triangle' and 'circle'. iii) Impact and compile these classes in other program.	10	L3	CO3

## OR

Q.6	a.	Define package. Explain the access protection for class members with respect to package.	6	L2	CO3
	b.	Differentiate abstract class and interface.	6	L2	CO3
	c.	Explain with an example, how interfaces can be extended.	8	L3	CO3

## Module – 4

Q.7	a.	What is an exception? Explain the exception handling mechanism with suitable example.	10	L3	CO4
	b.	Explain how to create your own exceptions. Give an example.	10	L3	CO4

## OR

Q.8	a.	What is checked and unchecked exception? Write a Java program to illustrate nested try catch statement.	10	L3	CO4
	b.	Write a Java program to demonstrate a division by zero exception.	4	L3	CO4
	c.	Differentiate between throw and throws with example.	6	L2	CO4

## Module – 5

Q.9	a.	Define AWT. List and explain types of containers in Java AWT.	6	L2	CO5
	b.	Write a Java program to create a window when we press. i) M or m the windows display Good Morning ii) A or a the windows display Good Afternoon iii) E or e the window display Good Evening iv) N or n the window display Good Night.	10	L3	CO5
	c.	Write a short note on swings.	4	L2	CO5

## OR

Q.10	a.	Define Applet. Explain life cycle of applets.	6	L2	CO5
	b.	Write a Java applet program, which handles keyword event.	10	L3	CO5
	c.	Write a short note on JFrames.	4	L1	CO5

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