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Course Code

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Second Semester MCA Degree Examinations, August 2026

OBJECT ORIENTED PROGRAMMING USING JAVA

Duration: 3 hrs

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. Missing data, if any, may be suitably assumed

<u>Q. No</u>	<u>Question</u>	<u>Marks</u>	<u>(RBTl:CO: PI)</u>
<u>MODULE – 1</u>			
1.	a. Explain the structure of a basic Java program and describe the role of each component using an example.	10	(2:1:1.2.1)
	b. Explain the concept and characteristics of a constructor in Java with an example program.	10	(2:1:2.1.1)
(OR)			
2.	a. Explain the working of the Java Virtual Machine (JVM) and describe its role in executing Java programs.	10	(2:1:1.2.1)
	b. Write short note on (i) This keyword (ii) static keyword	10	(2:1.2.2.1)
<u>MODULE – 2</u>			
3.	a. Explain in detail about hierarchical inheritance with suitable program.	10	(2:2:1.2.1)
	b. What are generics? Explain about generic class and methods with example.	10	(3:2:1.2.1)
(OR)			
4.	a. What is the use of final keyword in inheritance? Explain with a suitable program.	10	(2:2:3.2.1)
	b. Describe about lambda expressions and write a program using block lambda expression.	10	(2:2:1.2.2)
<u>MODULE – 3</u>			
5.	a. Explain how Java can simulate multiple inheritance using interfaces, and illustrate this concept with a simple code example.	10	(3:3:1.2.1)
	b. Explain what exception handling is in programming, describe the main clauses and illustrate each with a simple code example.	10	(3:3:1.1.2)
(OR)			
6.	a. Can you explain in your own words what a package is in programming, and describe how it is used with a simple example?	10	(3:3:1.2.1)
	b. Describe what a multiple catch block is in Java, and illustrate with a simple code example how different exceptions are caught separately.	10	(2:3:2.3.1)
<u>MODULE – 4</u>			
7.	a. Describe Java threads and also explain their lifecycle stages ideally with a diagram illustrating the flow.	10	(2:4:1.2.1)

- b. What is thread synchronization in Java? Explain different methods with example. **10** (2:4:1.2.2)

(OR)

8. a. Write the two primary ways to create multiple threads in Java using suitable programs. **10** (2:4:1.2.1)
- b. Explain the concept of I/O classes and interfaces in Java. **10** (2:4:1.2.1)

MODULE – 5

9. a. Describe about swings and demonstrate a program to build swing frame with menu and button. **10** (3:5:1.2.1)
- b. Explain the concept of keyboard event with suitable program. **10** (2:5:1.2.1)

(OR)

10. a. What is a Java Servlet? Write a basic servlet program. **10** (2:5:1.2.2)
- b. Explain the servlet architecture with suitable diagram and also describe the servlet lifecycle phases. **10** (2:5:2.2.1)

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