

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University)



M.C.A. (Second Semester - Regular) Examinations, May - 2026
MCA252002 - Object Oriented Programming using JAVA

Time: 3 hrs

Maximum: 60 Marks

(The figures in the right hand margin indicate marks)

PART – A**(2 x 5 = 10 Marks)**Q.1. Answer **ALL** questions

- a. Difference between nextLine() and next()
- b. What is an abstract class?
- c. Explain inter thread communication?
- d. Explain Byte Streams in Java.
- e. What is JSP?

CO #	Blooms Level
CO1	K1
CO2	K1
CO3	K1
CO4	K1
CO5	K1

PART – B**(10 x 5 = 50 Marks)**Answer **ALL** questions

2. a. Differentiate between compile-time polymorphism and runtime polymorphism in Java. Explain with suitable examples.
- b. Explain the basic characteristics of object-oriented programming. Write a program to read a number using a command line argument and check whether it is even or odd.

Marks	CO #	Blooms Level
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5	CO1	K2
5	CO1	K3

(OR)

- c. Write a Java program that takes input from the user, asking them to enter a month number (1-12). The program should then use a switch case to determine the corresponding month name and print it. If the entered month number is not between 1 and 12, the program should output "Invalid month number."
- d. Write a java program to print all the prime numbers between 200 and 400.
- 3.a. List out all the differences between "abstract class" and "interface". Explain the role of marker interface.
- b. What are Wrapper classes in Java? Explain the need for wrapper classes and list all primitive wrapper classes. Discuss autoboxing and unboxing with examples.

5	CO1	K3
5	CO1	K2
5	CO2	K2
5	CO2	K3

(OR)

- c. Write a Java program to implement method overriding.
(Note: Consider a scenario, Bank is a class that provides method to get the rate of interest. But, the rate of interest may differ according to banks. For example, SBI, ICICI, and AXIS banks are providing 8.4%, 7.3%, and 9.7% rate of interest)
- d. What is String Buffer? Explain its importance over String. Discuss various methods. Write a program demonstrating mutable string methods.
- 4.a. Demonstrate the working of a nested try block with a suitable program example.
- b. What are uncaught exceptions in Java? Explain the role of the default exception handler and Thread with a program

5	CO2	K3
5	CO2	K2
5	CO3	K2
5	CO3	K2

(OR)

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| c. | Explain the life cycle of a thread with a neat diagram. | 5 | CO3 | K2 |
| d. | What is synchronization in Java? Explain synchronized methods, synchronized blocks, and the concept of monitor locks with code. | 5 | CO3 | K2 |
| 5.a. | Briefly discuss AWT class hierarchy with a neat diagram. | 5 | CO4 | K2 |
| b. | What is user defined Exception in Java? WAP to accept student age and check whether he is eligible to vote or not? Show an appropriate message when the age is not eligible. | 5 | CO4 | K3 |

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| c. | How applets are different from applications? Explain the life cycle of an applet. | 5 | CO4 | K2 |
| d. | Describe File Handling in Java. Explain how to perform file operations such as creating, reading, writing, and deleting a file with examples. | 5 | CO4 | K3 |
| 6.a. | Explain the steps for establishing a JDBC connection in Java. | 5 | CO5 | K2 |
| b. | Write a java program to add rollno, name and marks of students into a MySQL table named “student”. (Data should be entered from console) | 5 | CO5 | K3 |

(OR)

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| c. | What is Java Swing? Explain its architecture and list five key features that differentiate it from AWT. | 5 | CO5 | K3 |
| d. | How can we create a Frame in Swing? Explain with a program. | 5 | CO5 | K2 |

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