Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
BCA/MCA INTEGRATED - SEMESTER - III EXAMINATION - WINTER 2025

Subject Code: BC03001021   **Date: 01-12-2025**

Subject Name: Object Oriented Programming with Java

Time: 10:30 AM TO 01:00 PM   **Total Marks: 70**

Instructions
1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

		Marks
Q.1 (a)	I. What is a class in Java? II. What are subclasses and superclasses? III. What is the advantage of Java over C++? IV. What is the use of separators in java program? V. What is the use of 'static'? VI. What is type casting? VII. What is polymorphism?	07
(b)	Compare procedure-oriented and object-oriented programming.	07
Q.2 (a)	What are the features of Java?	07
(b)	Discuss jump statements and their usage.	07

OR

(b)	What is constructor? Explain types of constructor.	07
Q.3 (a)	Explain inheritance with its type and give suitable example.	07
(b)	Explain Method Overloading and Method Overriding with an example.	07

OR

(a)	Explain how Java achieves encapsulation.	07
(b)	Write a program to demonstrate copy constructor.	07
Q.4 (a)	Explain the difference between compile-time and runtime polymorphism.	07
(b)	Describe how to create a user-defined exception.	07

OR

(a)	Discuss access control modifiers.	07
(b)	Describe packages and how to create and use them.	07
Q.5 (a)	Explain thread lifecycle with a neat diagram.	07
(b)	Discuss thread synchronization and inter-thread communication.	07

OR

(a) What is Exception in Java? Explain exception handling in Java with suitable example. **07**

(b) Explain file handling using Java I/O classes. **07**

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