

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA– SEMESTER I- EXAMINATION –WINTER-2023

Subject Code: 619402**Date: 11/01/2024****Subject Name: Object Oriented Programming in 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.

- Q.1 (a)** Do as directed. **07**
1. What is JVM?
 2. _____ is the cosmic super class.
 3. What is the use of command line argument?
 4. What is the use of this keyword?
 5. The main() method can be declared as final. (True/False)
 6. What do you mean by Interface?
 7. What do you mean by garbage collection?
- (b)** Explain Java Buzzwords or Features of Java. **07**
- Q.2 (a)** Explain the narrowing, widening and mixed conversion for numeric types in java. **07**
- (b)** Explain all Operators with appropriate example. **07**
- OR**
- (b)** Explain the declaration of an Array. Also explain how two dimensional arrays are stored in memory using diagram. **07**
- Q.3 (a)** What is the significance of Constructor? Discuss the overloading of methods and constructors with suitable example. **07**
- (b)** Explain the usage of if-else statement and switch statement using code snippets. **07**
- OR**
- Q.3 (a)** Explain “Pass by reference” and “Pass by value” in java with proper example. **07**
- (b)** Explain inheritance with example. **07**
- Q.4 (a)** What is package? How to create and import packages in java? Explain it with suitable example **07**
- (b)** Define thread. Explain thread life cycle. **07**
- OR**
- Q.4 (a)** Write a detailed note on Exception in java. **07**
- (b)** What is Collection framework? Discuss the Set and List interfaces with example. **07**
- Q.5 (a)** What are the access specifiers available in Java? Explain each of them and state which of these can be applied to members of a class and which can be applied to members of a package. **07**
- (b)** What is Generic class? Explain it with bounded type parameter. **07**
- OR**
- Q.5 (a)** What is the use of Varargs? How to overload varargs methods? Explain with example. **07**
- (b)** Explain InputStream class, OutputStream class, Reader class and Writer class with suitable example. **07**