

**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**