

# GUJARAT TECHNOLOGICAL UNIVERSITY

## MCA – SEMESTER I - EXAMINATION –WINTER-2021

**Subject Code: 619402****Date: 11/03/2022****Subject Name: 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.

- Q.1(a)** Do as directed. **07**
1. What is Java Virtual Machine?
  2. Use of this and super keywords.
  3. A \_\_\_\_\_ is a collection of classes and interfaces.
  4. A method declared with \_\_\_\_\_ modifier cannot be overridden.
  5. Define Garbage Collection.
  6. Define Comparable and Comparator Interface.
  7. What is reference variable?
- (b)** Explain all concepts of Object-Oriented Programming. **07**
- Q.2(a)** Explain. why Java is popular with all its features. **07**
- (b)** Explain Datatypes and why it is important. **07**
- OR**
- (b)** Explain all Operator with appropriate example. **07**
- Q.3(a)** Explain importance of Constructor. Discuss the overloading of methods and constructors with suitable example. **07**
- (b)** Explain do while, while and for loop statements. **07**
- OR**
- (a)** What is Object class? Explain the hashCode(), equals() and toString() methods of Object class with example. **07**
- (b)** Write the difference between class, abstract class and interface with JAVA program. **07**
- Q.4(a)** Demonstrate use of Top-level nested classes and Inner classes with suitable example. **07**
- (b)** Explain the process of creating and using package in java with proper example. **07**
- OR**
- (a)** Where is Collection framework used? Discuss the Set and List interfaces with example. **07**
- (b)** What is the usage of exceptions in Java? Discuss the try, catch and finally using proper example. **07**
- Q.5(a)** 1. Explain life cycle states of Thread. **04**
2. What is a daemon thread. Give one example of a daemon thread. **03**
- (b)** Explain InputStream, Reader, OutputStream and Writer classes. **07**
- OR**
- (a)** Write a program that copies all the content from one file to another. Pass the file names using command line argument. **07**
- (b)** What is Generic class? Explain it with bounded type parameter. **07**