

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA– SEMESTER –III EXAMINATION –SUMMER-2019

Subject Code:3630005**Date: 29-05-2019****Subject Name: Programming with Java****Time:02.30 pm to 5.00 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)** Answer the Following **07**
1. Java is platform independent. (True / False)
 2. Object o;
The above statement creates an object or a reference?
 3. Array is a primitive data type. (True / False)
 4. Name a Collection that stores data as key value pairs.
 5. Runnable is an interface. (True / False)
 6. An interface can inherit from a class. (True / False)
 7. Class initializer block is executed before initializer block. (True / False)
- (b)** Explain why is JAVA popular with appropriate reasons. **07**
- Q.2 (a)** What is Encapsulation with respect to object oriented programming? Explain how does it help in achieving Abstraction using proper example. **07**
- (b)** List all the primitive data types. Explain each of them in one line. Also explain the relationship of sub-type and super-type of primitive data types using diagram. **07**
- OR**
- (b)** Explain how arrays can be declared. Also explain using diagram how are two dimensional arrays stored in memory. **07**
- Q.3 (a)** How can interfaces be used to solve the ambiguity in case of multiple inheritance? Write proper code to explain. **07**
- (b)** 1. Explain boxing conversion with respect to Wrapper classes. **04**
2. What is use of static import. Explain using example. **03**
- OR**
- Q.3 (a)** What are the uses of Comparable and Comparator interfaces? Differentiate between the Comparable and Comparator interfaces. **07**
- (b)** 1. Method overloading is which type of polymorphism. Explain compile time polymorphism. **04**
2. Explain the equalsIgnoreCase, substring and compare methods of String class. **03**
- Q.4 (a)** Draw the hierarchy diagram of top level exception classes. Differentiate between checked and unchecked exceptions. **07**
- (b)** Where is Collection framework used? Discuss the Set and List interfaces with example. **07**
- OR**
- Q.4 (a)** What is the usage of exceptions in Java. Discuss the try, catch, finally using proper code. **07**
- (b)** What are the benefits of using generic type while using collections in JAVA? Can we ignore providing generic type while instantiating objects? **07**
- Q.5 (a)** Explain the purpose InputStream, Reader, OutputStream and Writer classes. **07**
- (b)** What is a thread? Explain the steps of creating a thread using Runnable interface. **07**

OR

- Q.5** (a) Explain the Object streams? Why is serialization necessary in case of using object streams? **07**
- (b) 1. Explain the different states of a thread. **04**
2. What is a daemon thread. Give one example of a daemon thread. **03**
