

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER– III EXAMINATION – WINTER 2018

Subject Code: 4639302

Date: 04-01-2019

Subject Name: Object Oriented Programming in JAVA

Time: 10.30 am to 1.00 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)** State whether the below statements are True or False **07**
1. A single Java file can contain multiple classes. (True / False)
 2. Accessor method is allowed to modify the member variables of a class. (True / False)
 3. String is primitive data type. (True / False)
 4. JAVA supports multilevel inheritance. (True / False)
 5. finally block is not called if try block does not generate exception. (True / False)
 6. Lambda expression is a block of code. (True / False)
 7. InputStream is used to write data to destination. (True / False)
- (b)** List down the characteristics of JAVA and explain any 4 of them in detail. **07**
- Q.2 (a)** Explain the arithmetic and relational operators using suitable examples. **07**
- (b)** 1. Are objects of String class mutable or immutable? Explain what are mutable and immutable variables using String as an example. **04**
2. Explain the equals, hashCode and toString methods of Object class. **03**
- OR**
- (b)** 1. Discuss the different types of for loop statements using suitable examples. **04**
2. Explain the statements used for breaking the control flow using suitable example. **03**
- Q.3 (a)** Discuss the concept of classes and objects with respect to object oriented programming. **07**
- (b)** What is the purpose of package and import statements? Explain using suitable example. **07**
- OR**
- Q.3 (a)** Discuss the usage of Comparable interface for comparing two user defined objects. **07**
- (b)** What are the two types of polymorphism? Demonstrate use of method overriding using suitable example. **07**
- Q.4 (a)** What is a Lambda expression? Show the benefit of using Lambda expression through example. **07**
- (b)** List down the keywords in JAVA used for implementing exception handling and explain each of them. **07**
- OR**
- Q.4 (a)** What is inner class? How can outer class reference be accessed inside inner class? Illustrate use of inner class using suitable example. **07**
- (b)** Discuss the benefits of generic programming. What are the inheritance rules for generic types? **07**
- Q.5 (a)** Show how can we read and write text in a text file using FileReader and PrintWriter. **07**

- (b) Using sample code, show how PreparedStatement can be used to access data in a database. **07**

OR

- Q.5** (a) Illustrate the use of RandomAccessFile for reading and writing data in a text file. **07**
(b) Write a program to illustrate the use of command line arguments. Also implement necessary exception handling. **07**
