

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2020**

**Subject Code:2150704**

**Date:01/02/2021**

**Subject Name:Object Oriented Programming using JAVA**

**Time:10:30 AM TO 12:30 PM**

**Total Marks: 56**

**Instructions:**

1. Attempt any **FOUR** questions out of **EIGHT** questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Why java is preferred as a programming language for Internet? **03**  
 (b) List out and explain three main principles of object-oriented programming? **04**  
 (c) What is UML? Briefly discuss class modeling concepts using UML notations. **07**
- Q.2** (a) What are command line arguments and how are they used? **03**  
 (b) What is the purpose of 'this' and 'static' keyword? Write a java program to explain this. **04**  
 (c) What is exception? List out and explain the keywords used to handle exceptions. **07**
- Q.3** (a) What is the use of static import? Explain it giving an example. **03**  
 (b) What are interfaces in java? How do they support polymorphism? **04**  
 (c) What are the uses of 'final' keyword? Write a java program to explain all of them. **07**
- Q.4** (a) What is package? How are they created and used? **03**  
 (b) What is garbage collection? What is the roll of finalize () in it? **04**  
 (c) What are the uses of 'super' keyword? Write a java program to explain all of them. **07**
- Q.5** (a) Differentiate checked exceptions with unchecked exceptions. **03**  
 (b) What is runnable interface? How can you use this interface in creating thread? **04**  
 (c) Write a java program to explain the use of File class and its methods. **07**
- Q.6** (a) Differentiate abstract class with interface. **03**  
 (b) What is the purpose of ServerSocket class? Explain its important methods. **04**  
 (c) Write a program to read the content of a file into a character array and write it into another file. Get names of the files from command line. **07**
- Q.7** (a) What is Collection in Java? Explain the use of Iterator. **03**  
 (b) Explain the following terms: Abstraction, Encapsulation, Polymorphism and Inheritance. **04**  
 (c) What is the purpose of State Model? Define the purpose of following terms with suitable example and UML notations. i)state ii) transition iii) event iv) guard condition **07**
- Q.8** (a) What are the wrapper classes? Explain the use of any one wrapper class. **03**  
 (b) What is the purpose of interaction model? Identify the UML diagrams used to represent this model and explain the objectives of each. **04**  
 (c) Draw the sequence diagrams for the operations performed with the bank account using debit card at ATM **07**

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