Seat No._____ Enrolment No._____

## 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.

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|---|---|---|---|
| Q.1 | (a) | Why java is preferred as a programing 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |
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| 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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