

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-V (NEW) - EXAMINATION – SUMMER 2018**

**Subject Code:2150704**

**Date:12/05/2018**

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

**Time:02:30 PM to 05:00 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) Differentiate between constructor and method of a class. **03**  
(b) Explain short circuited operator with example. **04**  
(c) Explain Interface in JAVA. How do interfaces support polymorphism? **07**

- Q.2** (a) Compare Object oriented programming with sequential programming. **03**  
(b) Explain use of finally in exception handling. **04**  
(c) Explain use of Linked List collection class with example. **07**

**OR**

- (c) Write a method for computing  $X^Y$  doing repetitive multiplication. X and y are of type integer and are to be given as command line arguments. Raise and handle exception(s) for invalid values of X and y. **07**

- Q.3** (a) Explain different Visibility modifiers. **03**  
(b) Describe Inheritance and its types with suitable example. **04**  
(c) Explain following terms with example: **07**  
(A) Nested Class (B) Anonymous Inner Class

**OR**

- Q.3** (a) What is UML? How it is useful? **03**  
(b) Explain keywords private and protected. **04**  
(c) Write a program to check whether the name given from command line is file or not? **07**  
If it is a file then print the size of a file and if it is a directory then it should display the name of all files in it.

- Q.4** (a) State difference between String Class and StringBuffer Class. **03**  
(b) Differentiate the following: **04**  
A. Text I/O and Binary I/O  
B. Checked and Unchecked exceptions  
(c) Write a program using BufferedInputStream, FileInputStream, **07**  
BufferedOutputStream, FileOutputStream to copy content of one file **Test1.txt** into another file **Test2.txt**.

**OR**

- Q.4** (a) Explain 'ordered', 'bags' and 'sequences' in class diagram. **03**  
(b) Explain the keywords: 1. Wrapper class 2. finalize () method **04**  
3. Recursion 4. Static  
(c) Write a program which shows an example of function overriding. **07**

- Q.5** (a) Explain the following terms: **03**
1. Generalization
  2. Transition
  3. Metadata
- (b) Prepare an activity diagram for Online Bus ticket booking system. **04**
- (c) What is Interaction modeling? Explain briefly usage of Use case model. Prepare a Use case model for Telephone Line system. **07**

**OR**

- Q.5** (a) State difference between DatagramSocket and DatagramPacket. **03**
- (b) Draw a state model for Telephone Line system. **04**
- (c) Write a program to create two threads, one thread will check whether given number is prime or not and second thread will print prime numbers between 0 to 100. **07**

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