

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V (NEW) EXAMINATION – SUMMER 2019

Subject Code: 2150704

Date: 20/06/2019

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.

		MARKS
Q.1	(a) Differentiate between protected and default access specifiers.	03
	(b) Distinguish between method overloading and overriding with suitable example.	04
	(c) Justify:	07
	1. Why we declare main() method as public and static member. 2. Why we generally declare constructor as public member. 3. Why there is no destructor in java.	
Q.2	(a) What do you understand by inner class?	03
	(b) Write a program to take three numbers as command line argument. Display the maximum among them?	04
	(c) Differentiate between final, finally and finalize. What will happen if we make class and method as final?	07
	OR	
Q.3	(c) Write a class named Rectangle to represent a rectangle. It contains following members: Data: width (double) and height (double) that specify the width and height of the rectangle. Methods: 1. A no-arg constructor that creates a default rectangle. 2. A constructor that creates a rectangle with the specified width and height. 3. A method named getArea() that returns the area of this rectangle. 4. A method named getPerimeter() that returns the perimeter.	07
	(a) What do you understand by super keyword? Write use of super keyword.	03
	(b) Differentiate between Interface and abstract class. When Interface is preferred over abstract class.	04
	(c) Write an abstract class named Person and its two subclasses named Student and Employee. A person has a name, address, phone number, and email address. A student has enrollment, course. An employee has an office, salary, and designation. Define constructors and methods for input and display for both classes. Write a main program to give demonstration of all.	07
Q.3	OR	
	(a) What do you understand by package? Discuss benefits of package.	03
	(b) Write a program to create two thread one display alphabet from a to z and other will display numbers from 1 to 100.	04
	(c) Explain dynamic method dispatch with example?	07
Q.4	(a) What are Wrapper classes? What is Autoboxing?	03
	(b) Consider following code fragment: try { statement1;	04

```
        statement2;  
        statement3;  
    }  
    catch (Exception1 ex1) {  
    }  
    finally {  
        statement4;  
    }  
statement5;
```

1. Which Statements will execute if no exception is occurs.
2. Which Statements will execute if Exception 1 is occurs at **statement 2.**

- (c) Differentiate the followings: **07**
1. Checked and Unchecked Exceptions
 2. Socket and ServerSocket
 3. Text I/O and Binary I/O
 4. String and StringBuffer

OR

- Q.4 (a)** What do you understand by Collection framework in java? List methods available in iterator interface. **03**

- (b)** What do you understand by thread? Describe the complete life cycle of thread. **04**

- (c)** Write a program that counts number of characters, words, and lines in a text file. **07**

- Q.5 (a)** Discuss benefits of Object Oriented Approach? **03**

- (b)** Draw the use case diagram of Library management system. **04**

- (c)** Define: **07**
1. Association
 2. Aggregation
 3. Metadata
 4. Constraints
 5. Package
 6. Multiplicity
 7. Qualified Association

OR

- Q.5 (a)** Explain state diagram with example **03**

- (b)** Write a sequence diagram of ATM withdrawal process. **04**

- (c)** Explain Class Model, State model and Interaction model. **07**
