Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER– III EXAMINATION – WINTER 2017

Subject Code: 2630002   **Date: 06-01-2018**
Subject Name: Fundamentals of Java Programming (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)**	Answer the following :	
		i. How Java achieves platform independence?	**03**
		ii. How Java achieves multiple inheritance?	**04**
	(b)	Explain reference data types of Java with the help of suitable examples.	**07**
Q.2	**(a)**	Differentiate between.	**07**
		(i) Abstract class and Interface	**04**
		(ii) StringBuffer and StringBuilder class	**03**
	(b)	Explain terms final, finally and finalize.	**07**

<div align="center">OR</div>

	(b)	What are the applications of inheritance? Explain various types of inheritance with the help of suitable example.	**07**
Q.3	**(a)**	What is exception? Differentiate between checked and unchecked exception with the help of suitable example.	**07**
	(b)	Write down the steps to create package and explain various access specifiers for member of package, class and overriding method.	**07**

<div align="center">OR</div>

Q.3	**(a)**	Differentiate between following.	**07**
		(i) Comparable and Comparator interface.	
		(ii) Inner class and local class.	
	(b)	Answer the following questions	**07**
		(i) Explain collection framework in detail.	**04**
		(ii) Explain enum type in detail.	**03**
Q.4	**(a)**	Create a class Student having data members rollno, name and marks with all constructors and getter, setter methods. Write a program to create data entry form using frame with suitable AWT component and store information of a student in the File.	**07**
	(b)	Explain synchronization and join method of thread with the help of suitable example.	**07**

<div align="center">OR</div>

Q.4	**(a)**	Write a program to create a popup menu in frame having three menu items(red, blue and green).Write down the appropriate event to change background color of the frame.	**07**
	(b)	Answer the following:	
		(i) Explain Daemon thread.	**03**
		(ii) Explain any four methods of File class.	**04**

Q.5 **(a)** Explain various types of Layout Managers   **07**

(b) Explain life cycle of applet.   **07**

OR

Q.5 **(a)** Explain event delegation model of Java and elaborate all keyboard event with **07**
respective methods.

(b) Answer the following :

(i) Explain annotation in detail.   **04**

(ii) Differentiate between applet and frame   **03**