GUJARAT TECHNOLOGICAL UNIVERSITY
MCA Integrated- SEMESTER– III EXAMINATION – WINTER 2019

Subject Code: 2638601   **Date: 26/11/2019**

Subject Name: Object Oriented Programming in JAVA

Time: 10:30 AM TO 01:00 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)**	Do as directed:	**07**
		(I) Define the followings:	**04**
		Encapsulation	
		Generic Class	
		Garbage Collection	
		this keyword	
		(II) List and explain the steps for creating and using package in java.	**03**
	(b)	What is String? Explain various methods of String class.	**07**
Q.2	**(a)**	Explain use of break and continue with proper example.	**07**
	(b)	What is constructor? Explain various types of constructor in details.	**07**
		OR	
	(b)	What is method overloading? Explain with example.	**07**
Q.3	**(a)**	What is inheritance? Explain various types of inheritance.	**07**
	(b)	How can we restrict that object of class cannot be created? In that case, how can we execute the code of that class?	**07**
		OR	
Q.3	**(a)**	How nested class and inner class are helpful in java? Explain with example.	**07**
	(b)	Explain use of super keyword with proper example.	**07**
Q.4	**(a)**	What is object class? List and explain various methods of object class in details.	**07**
	(b)	What is interface? Can an interface extend other interface? Justify with example.	**07**
		OR	
Q.4	**(a)**	Explain usage of final keyword in details.	**07**
	(b)	What is exception? Explain user define exception with example.	**07**
Q.5	**(a)**	What is thread? Draw and explain life cycle of thread in details.	**07**
	(b)	Create a class product(id, name, price, description). Create three objects of product and write them in product.dat file. Read these three objects from product.dat file and display their details on the screen.	**07**
		OR	
Q.5	**(a)**	What is boxing and un-boxing? Explain in details.	**07**
	(b)	Write a multi threaded program in which first thread will print from 1 to 10000, and second thread will print from 10000 to 1.	**07**

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