Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER–III • EXAMINATION – SUMMER- 2017

Subject Code: 3630005 **Date: 07-06-2017**

Subject Name: Programming with Java

Time:02:30 pm - 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)** State which of the following are true or false. Justify your answer. **07**

i) Object is an instance of a class.
ii) The size of char data-type is 2 byte in java.
iii) The default case is required in the switch selection structure.
iv) Java source code can be written in files with any extension.
v) "final" variables cannot be modified.
vi) An abstract class must have at least one abstract method.
vii) One class cannot be derived from more than one class in java.

(b) i) Differentiate String and StringBuffer classes. **04**

ii) What is the difference between final method and ordinary method of a class? **03**

Q.2 **(a)** Discuss initializer blocks and class initializer blocks. **07**

(b) 1. What is the difference between "Pass by value" and "Pass by reference" in java? Explain with proper example. **04**

2. Explain "Array of Reference Type" using java code. **03**

OR

(b) 1. What is the use of following java keywords? **04**

static, final, protected, public

2. Define any three features of object oriented programming language. **03**

Q.3 **(a)** What is Package? State the steps to create and import a package with required java program code. **07**

(b) Explain importance of Constructor. Discuss the overloading of methods and constructors with suitable java program code. **07**

OR

(a) Define interface. How does it overcome the problem of java's multiple inheritance? **07**

(b) What is an Exception? Explain exception handling with example. **07**

Q.4 **(a)** Discuss any five classes of Collection with java program code. **07**

(b) Briefly discuss enum type giving an example. **07**

OR

(a) Explain formatter and scanner class with example. **07**

(b) What is collection framework? Discuss Map interface with example. **07**

Q.5 **(a)** Explain InputStream class, OutputStream class, Reader class and Writer class with suitable java code. **07**

(b) Explain Thread life cycle with diagram. **07**

OR

(a) What is Thread? How thread is created in Java? Explain with example. **07**

(b) Explain about synchronization of the thread with suitable example of java program code. **07**

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