

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER-III • EXAMINATION – WINTER • 2015

Subject Code: 2630002

Date: 05-01-2016

Subject Name: Fundamentals of Java Programming

Time: 10:30 am - 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)** State whether the following statements are true or false. Justify your answers if false. **07**
1. An interface can be derived from a class.
 2. Abstract class has constructors.
 3. One Java (.java) file can have multiple main() methods.
 4. One class cannot be derived from more than one class in java.
 5. A class declared as “final” can be inherited into another class.
 6. Java source code can be written in files with any extension.
 7. Static variable cannot be used in non-static methods.
- (b)** 1. Discuss initializer block and class initializer block with suitable java code. **02**
2. Differentiate between String and StringBuffer class. Discuss any two methods of String and StringBuffer class with java code. **05**
- Q.2 (a)** 1. Explain the difference between subtypes and supertypes with example. **03**
2. Explain “pass by value” and “pass by reference” with proper java code. **04**
- (b)** Define primitive type and wrapper classes in Java. Explain boxing, unboxing and autoboxing using java program code. **07**
- OR**
- (b)** Define Thread. How many ways thread can be implemented? Why synchronization is required? **07**
- Q.3 (a)** What is an exception? Explain different types of exceptions. Discuss “try”, “catch”, “finally”, “throw” and “throws” with suitable java code. **07**
- (b)** Compare Iterator and Enumeration interface. Also explain the Map interface of Collection Framework. **07**
- OR**
- Q.3 (a)** Discuss any five classes of Collection with java program code. **07**
- (b)** Explain the difference between runtime errors and compile time errors with example. **07**
- Q.4 (a)** Explain InputStream class, OutputStream class, Reader class and Writer class with suitable java code. **07**
- (b)** 1. What is Frame class? Explain with java code. **04**
2. Explain BorderLayout, CardLayout and FlowLayout managers of AWT. **03**
- OR**
- Q.4 (a)** Write a program to read three filenames using Scanner class and copy the contents of first and second file into the third file. [ThirdFile=FirstFile+SecondFile] **07**
- (b)** Design a simple login form having two text fields for username & password. The frame should have two buttons as Ok and Cancel. Use Frame/JFrame class. Implement the Ok button and Cancel button. If username is GTU and password is GTU123, then display the message “Login successful” using dialog. **07**

- Q.5 (a)** What is JOptionPane? Discuss in brief the methods of JOptionPane for showing different kinds of Dialog. Give suitable example. **07**
- (b)** Design a numeric calculator for performing all the arithmetic operations (+, -, *, /, %). Use text fields for input-data and display the output using label. Use Button controls for all the operations. **07**
- OR**
- Q.5 (a)** Explain JApplet, JFrame and JDialog. Give suitable java code. **07**
- (b)** 1. What are Adapter classes? Explain one Adapter class using java code. **05**
2. What is the difference between awt and swing package? **02**
