| Su | bject | GUJARAT TECHNOLOGICAL UNIVERSITY MCA - SEMESTER-III • EXAMINATION – WINTER • 2015 Code: 2630002 Date: 05-01-2016 | |
|-----|-----------------------------------|--|----------------|
| Ti | me: 1 structio 1. 2. | Name: Fundamentals of Java Programming 0:30 am - 01:00 pm Total Marks: 70 ons: Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. | |
| Q.1 | (a) (b) | State whether the following statements are true or false. Justify your answers if false. 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. 1. Discuss initializer block and class initializer block with suitable java code. 2. Differentiate between String and StringBuffer class. Discuss any two methods of String and StringBuffer class with java code. | 07 02 05 |
| Q.2 | (a) (b) | Explain the difference between subtypes and supertypes with example. Explain "pass by value" and "pass by reference" with proper java code. Define primitive type and wrapper classes in Java. Explain boxing, unboxing and autoboxing using java program code. OR | 03 04 07 |
| | (b) | Define Thread. How many ways thread can be implemented? Why synchronization is required? | 07 |
| Q.3 | (a)(b) | What is an exception? Explain different types of exceptions. Discuss "try", "catch", "finally", "throw" and "throws" with suitable java code. Compare Iterator and Enumeration interface. Also explain the Map interface of Collection Framework. | 07 07 |
| Q.3 | (a) (b) | OR Discuss any five classes of Collection with java program code. Explain the difference between runtime errors and compile time errors with example. | 07 07 |
| Q.4 | (a) (b) | Explain InputStream class, OutputStream class, Reader class and Writer class with suitable java code. 1. What is Frame class? Explain with java code. 2. Explain BorderLayout, CardLayout and FlowLayout managers of AWT. OR | 07 04 03 |
| 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. | 07 |

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.

| Q.5 | (a) | What is JOptionPane? Discuss in brief the methods of JOptionPane for showing | 07 |
|-----|------------|---|----|
| | | different kinds of Dialog. Give suitable example. | |
| | (b) | Design a numeric calculator for performing all the arithmetic operations (+,- | 07 |
| | | ,*,/,%). Use text fields for input-data and display the output using label. Use | |
| | | Button controls for all the operations. | |
| | | 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 |
| | | | |
