

GUJARAT TECHNOLOGICAL UNIVERSITY**MCA - SEMESTER-III • EXAMINATION – WINTER • 2014****Subject Code: 2630002****Date: 31-12-2014****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 answer. **07**
1. User-defined data type variable/object is accessed by name of the variable/object in java.
 2. One java file which contains more than one class, can be compiled successfully where each class has one main() method.
 3. An interface can be derived from a class.
 4. One class cannot be derived from more than one class in java.
 5. "enum" has constructor which can be declared as public.
 6. "final" class can be inherited into another class.
 7. Abstract class has constructor.
- (b)**
1. Explain "Array of Reference Type" using java code. **03**
 2. How can we represent an integer constant as octal value and as hexadecimal value in java? **02**
 3. Explain the use of finalize() method. **02**
- Q.2 (a)**
1. What is the difference between "Pass by value" and "Pass by reference" in java? Explain with proper example. **04**
 2. Distinguish between Primitive type and Wrapper class. **03**
- (b)** What are method overloading and method overriding in java. Explain with proper java code. **07**
- OR**
- (b)** Explain the use of the keywords "throw", "throws", "try", "catch", "finally" with proper java program. **07**
- Q.3 (a)**
1. Differentiate between inner class and top-level nested classes. **05**
 2. What is the difference between "public" and "default" access specifier? **02**
- (b)**
1. What is the contribution of "interface" for avoiding duplicity of code occurred in multiple inheritance? **04**
 2. What is the difference between "initialize" and "class-initializer" block? Explain with code. **03**
- OR**
- Q.3 (a)**
1. Distinguish between "Comparator" and "Comparable" interface. **05**
 2. Explain the operator "instanceof". **02**
- (b)** What are the difference between static variable, static method and instance variable, non-static method? Explain with java program. **07**
- Q.4 (a)**
1. Define "Set" and "List" interface. **04**
 2. Differentiate between checked exception and unchecked exception. **03**
- (b)** Write a java code for displaying a list of files by implementing "FilenameFilter" interface's abstract method accept(). **07**
- OR**
- Q.4 (a)** What is the difference between "Thread" class and "Runnable" interface? Explain Synchronization in multithreaded application using code. **07**

- | | | | |
|-----|-----|---|----|
| | (b) | 1. Explain event delegation model with example. | 05 |
| | | 2. Explain paint() method of Frame class. | 02 |
| Q.5 | (a) | Explain various layout manager available in AWT. | 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 |
| | | OR | |
| Q.5 | (a) | 1. Explain the lifecycle of an applet. | 05 |
| | | 2. What is the role of FileDialog class. | 02 |
| | (b) | Create an application which creates a Frame that has four text boxes .Two text boxes for accepting numeric value and third text box to accept arithmetic operator symbol and fourth text box for displaying the result which is computed based on two numeric value using arithmetic operator. Application is capable to handle run time exception (input error or any logical error) using Exception handling technique. | 07 |
