

GUJARAT TECHNOLOGICAL UNIVERSITY**BE – SEMESTER V • EXAMINATION – WINTER - 2012****Subject code: 150704****Date: 16-01-2013****Subject Name: Object Oriented Programming with Java****Time: 02:30 pm to 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) Differentiate between constructor and method of class. Define method overloading and its purpose. Write a program to demonstrate the constructor overloading. **07**
- (b) Define polymorphism with its need. Define and explain static and dynamic binding using program. **07**
- Q.2** (a) Differentiate the followings: **07**
- i) Applet and Application
 - ii) String class and StringBuffer class
 - iii) Constructor and Method
- (b) The Transport interface declares a deliver () method. The abstract class Animal is the super class of the Tiger, Camel, Deer and Donkey classes. The Transport interface is implemented by the Camel and Donkey classes. Write a test program that initialize an array of four Animal objects. If the object implements the Transport interface, the deliver () method is invoked. **07**
- OR**
- (b) What is the use following java keywords **07**
- super, transient, finally, final, static, throw, throws
- Q.3** (a) Explain exception handling in JAVA. Write a program that generates custom exception if any integer value given from its command line arguments is negative. **07**
- (b) Write a program to check that whether the name given from command line is file or not? If it is a file then print the size of file and if it is directory then it should display the name of all files in it. **07**
- OR**
- Q.3** (a) Explain the importance of exception handling in java. Which key words are used to handle exceptions? Write a program to explain the use of these keywords. **07**
- (b) Write a program that counts the no. of words in a text file. The file name is passed as a command line argument. The program should check whether the file exists or not. The words in the file are separated by white space characters. **07**
- Q.4** (a) i) What do you mean by Event Delegation model in Java? **07**
- ii) How the concept of inner classes is used for event handling?
- (b) Write a complete program to create a frame for providing GUI to implement a stack for storing integer numbers. There are two buttons called PUSH & POP and a text field. Clicking of button PUSH pushes the number entered in the text field onto the stack. The click of button POP pops an element from the stack and displays that in the text field. **07**

OR

- Q.4** (a) i) Explain the life cycle of an applet **07**
ii) How the concept of adapter classes is used in event handling?
- (b) Write an applet that draws four horizontal bars of equal size & of different colors such that they cover up the whole applet area. The applet should operate correctly even if it is resized. **07**
- Q.5** (a) What is multithreading? Why it is required? Write a program that creates three threads. Make sure that the main thread executes last. **07**
- (b) i) What is collection in Java? Differentiate between Vector and ArrayList **07**
ii) Explain the unique features of Map interface.
- OR**
- Q.5** (a) Why synchronization is required in multithreaded programming. Write a program that uses thread synchronization to guarantee data integrity in a multithreaded application. **07**
- (b) i) What are generics and how are they used? **07**
ii) Differentiate between Enumeration and Iterator.

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