

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – SUMMER • 2013

Subject code: 715103

Date: 06-06-2013

Subject Name: Object Oriented Programming

Time: 10.30 am – 01.00 pm

Total Marks: 70

Instructions:

1. Attempt question 1, which is compulsory and answer any five from the rest of the questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right hand indicate the marks.

Q. No. 1 [2 Marks * 10 = 20 Marks]

- a. What is data abstraction?
- b. Difference between *final* and *finally*?
- c. What are wrapper classes in Java?
- d. What is method overloading?
- e. Give the difference between an interface and an abstract class in Java
- f. What is a friend function?
- g. What is a stub class?
- h. What is InetAddress? What is its use?
- i. What are the need for class templates?
- j. What is nested class?

Q. No. 2

- a. Explain the features of JAVA. How Java is different from C++. [5 Marks]
- b. What are the rules of overloading operators? [5 Marks]

Q. No. 3

- a. What is a constructor? What are its special properties? [6 Marks]
- b. How do we invoke a constructor? [4 Marks]

Q. No. 4

- a. What is the use of exceptional handling? Explain the keywords used to handle exceptions in Java with the help of an example. [6 Marks]
- b. Define interface? What is the use of interface [4 Marks]

Q. No. 5

- a. Write a java program to create *n* threads which run concurrently
 - i. extending Thread class [5 marks]
 - ii. implementing Runnable interface [5 marks]

Q. No. 6

- a. What is a package? How do we design a package? How do we add a class or interface to a package? [10 Marks]

Q. No. 7

- a. What are virtual functions? Explain with a suitable program. [10 marks]

Q. No. 8

- a. Explain the steps in implementing RMI Server & Client. [10 Marks]

(OR)

- b. Create a multithreaded application with 2 threads, which does concurrent push, pop operations on a stack. Check out for any concurrency issues (race conditions) and solve them using java
 - i. Synchronization, thread communication support. [10 Marks]
