GANPAT UNIVERSITY

B. Tech SEMESTER-III (CE/IT)
REGULAR Examination Nov/Dec – 2012
2CE304/2IT304: Object Oriented Programming

[Time: 3 Hours]   [Total Marks: 70]

Instructions:
1. Attempt all questions.
2. Figures to the right indicate full marks
3. Each section should be written in a separate answer book
4. Be precise and to the point in your answer

SECTION-I

Que. 1   Answer the following questions.   [12]

1. Explain the Principles of OOP (Encapsulation, Inheritance and Polymorphism).   4
2. What is command line arguments and how it is useful? Give suitable Example.   4
3. Write an OOP program to find factorial of given number using Recursion.   4

OR

Que. 1
1. Why java is Architect Neutral language? What is the role of Java virtual machine?   4
2. Differentiate Local variable, Instance variable and class variable   4
3. Write an OOP program to generate Fibonacci Series using Recursion.   4

Que. 2   Discuss Following Questions.   [11]

1. What is constructor? Write properties of constructor. And explain Constructor overloading with suitable example.   6
2. Explain Garbage Collection and finalize () method.   5

OR

Que. 2
1. What is Inheritance? Explain different forms of Inheritance and Explain Multilevel hierarchy Inheritance with Example.   6
2. Explain static, new and final Keywords.   5

Que. 3   Answer the following questions. (Attempt any two)   [12]

1. Design a class "Grandfather" with instance variables "Name" and method "show ( )". Then derive class "Father" from this base class with same instance variable and method that display the name of Grandfather and Father.

2. Write a program to find interest of an amount given by a bank. This program code uses function overloading to find interest having two different forms. The first form accepts amount and percentage of interest and the second form accepts amount and percentage two values as parameters additionally with number of year as a parameter.

3. Create a class **Calculator** describing basic arithmetic operations addition, subtraction. For each operation define separate method to evaluate variables values. For the same class define two additional methods **getinfo** () for setting values and **display** () to output calculated values. Also create a new class **simple_calc** which houses main methods. (**Note:** Use switch case to select appropriate operation from **main** () method)

Que. 4 **Answer the following questions.** [12]

1. Explain Access specifiers in java. 4
2. What is Exception? List out Exception handler and give the difference between throw and throws keywords. 4
3. Design interface name sport which contains sport_marks variable and put () method. Design one class name student which contains marks of two subjects and it also calculates total marks and display the result. 4

OR

Que. 4
1. What is package in java? Give the advantages of packages. 4
2. Similarities and difference between abstract class and interface. 4
3. Define an exception called "NegativeException" that is thrown when an entered number using command line argument is negative Write a program that generates an exception. 4

Que. 5 **Discuss Following Questions.** [11]

1. Explain life-cycle of Thread. 4
2. Explain following functions of String class. 3
   1) charAt()
   2) length()
   3) lastindexOf()
3. Develop an applet that receive two numbers from the users and perform addition, subtraction, and multiplication and division operation. 4

OR

Que. 5
1. Explain following methods of Applet. 4
   1) drawPolygon()
   2) fillOval()
   3) drawRect()
   4) drawstring()
2. Differentiate between String and StringBuffer class. 3
3. Write an applet to draw square using Drawline method and after that fill it with. Red color. (Hint: Take appropriate dimension). 4

Que. 6 **Answer the following questions.** [12]

A). **State Whether the following statements are True or False with Reason.** 4
   1) Does java uses the pointer?
   2) Can we implement method into interface?
   3) Can we write int args [] instead of String args[] ?
   4) Bitwise operator are applied on float data type

B). Create an interface named minimum which has three variable of type integers and one method that is **min ()** to find minimum between three numbers. 4

C). Write a program to read data from one file and write them in another fie. 4

END OF PAPER