GURU NANAK INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

B. TECH 3RD YEAR 5TH SEMESTER

PAPER NAME: OBJECT ORIENTED PROGRAMMING USING JAVA LAB

PAPER CODE: CS593

Java Programs to –

Week – 1:

1) print "Hello, GNIT".
2) check whether a number is even or odd.
3) find out the roots of a quadratic equation.

Week – 2:

1) find out the factorial of a given number.
2) print fibonacci series upto n terms.
3) Create a class calculator that has 4 methods like add, sub, mul & div. Do the addition, subtraction, multiplication, and division of 2 integer numbers using these 4 methods.

Week – 3:

1) Implement default constructor.
2) Compute the perimeter of Circle, Rectangle, Square using parameterized constructor using command line argument.
3) Implement 'this' keyword.

Week – 4:

1) Design a class Volume and then find out the volume of a Cube, Cylinder and Sphere using method overloading.
2) Implement the above program using constructor overloading.

3) Implement i) call by value and ii) call by reference.
4) show the application of recursion.

Week – 5:

1) show the difference between public and private access specifier.
2) show the application of 'static' keyword in Java.
3) show the application of inner class in Java.

Week – 6:

1) show the application of simple inheritance.
2) Create 3 classes figure, rectangle and square where square extends figure and rectangle also extends figure. Calculate the area of rectangle and square.
3) show the implementation of multilevel inheritance by creating 3 classes Car, Maruti and Alto where Maruti extends Car and Alto extends Maruti.

Week – 7:

1) show the application of the 'super' keyword to access a superclass member.
2) show the application of the 'super' keyword to access a superclass constructor.
3) Define a class called dimension. Create its two subclasses Rectangle and Triangle. By using the concept of method overriding, find out the area of Rectangle and Triangle.

Week – 8:

1) show the application of run-time polymorphism.
2) show the use of abstract class & method.

Week – 9:

1) Define an interface called Area. Create two classes Rectangle and Circle that implement the interface. Find out the area of Rectangle and Triangle.
2) show the implementation of Multiple Inheritance.

Week – 10:

1) create two user-defined packages pkg1 and pkg2 and importing both to another program which is outside the packages.

2) create multiple packages containing classes with identical names.
3) show how a protected variable of one package can be accessed in a subclass in another package.
4) show how to add multiple public classes to a single package.

Week – 11:

1) show the implementation of ArithmeticException and ArrayIndexOutOfBoundsException.
2) show the implementation of 'throw' and 'throws' keywords.
3) to implement finally block.

Week – 12:

1) to create 3 threads - the 1st thread to display GOOD MORNING for every 1 second, the 2nd thread to display HELLO for every 2 seconds and the 3rd thread to display WELCOME for every 3 seconds.
2) to implement the above program by assigning priorities to the created threads such that the 1st thread executes first followed by the 2nd thread and lastly the 3rd thread.

Week – 13:

1) to develop an applet that display simple message.
2) to develop an applet that will add two integer numbers.
3) to develop an applet that will draw lines, rectangle and oval.