

**AMRITSAR COLLEGE OF ENGINEERING AND TECHNOLOGY, AMRITSAR  
(AUTONOMOUS COLLEGE)**

**Roll No. ....**

**Total No. of Questions: 06**

**Total No. of Pages: 02**

**B.Tech. (CSE) 5<sup>th</sup> Sem  
Programming in Java  
ACCS-16501**

**Time: 1 hour 30 minutes**

**Maximum Marks: 30**

**Instruction to Candidates:**

- 1) Section-A contains five questions. All questions are compulsory.
- 2) Section-B contains three questions. Attempt any two questions.
- 3) Section-C contains two questions. Attempt any one question.

**Section – A**

**(5\*2=10)**

**Q1)**

- i. What will be the output of the following code and Give the reason why?  

```
if (-0.0==0.0)
    system.out.println ("these are equal");
else
    system.out.println ("these are not equal");
```
- ii. Write a program code to display some text in application box and how to run java file instead of html file?
- iii. If num is an integer array with ten elements, then write a program to set all the elements of an array to 0.
- iv. Write a java program for following image and implement event listener on submit button.

Login Page

Username

Password

Submit

- v. What can go wrong if you replace && with & in the following code:  

```
String a=null; if (a!=null && a.length()>10) { ...}
```

## **Section B**

**(2\*5=10)**

- Q2) Write a program that prompts user to input cost of three products as decimal numbers and then print the sum to the nearest integers.
- Q3) Write a program that create and starts four threads .Each thread is instantiated from the same class .It executes a loop 20 times .Each iteration displays the characters 'A' and sleep between 200 and 900 milliseconds ,the program waits for all thread to complete and then displays the appropriate message .
- Q4) Create an account class to model a bank account .An Account has the fields: account number, balance, annual interest rate and date created and methods to deposit and withdraw. Create two subclasses for current and saving accounts .A current account has an overdraft limit, but a savings account cannot be overdrawn.

## **Section C**

**(1\*10=10)**

- Q5) a) Write a client –server program in which the client sends a string to the server and the server returns the reversed sting to the client .Suppose the server listens on port number 1489.
- b) Write a program that starts with an empty string and repeatedly read a char, concatenates it to the front of the string and prints the string
- Q6) Write an abstract super class encapsulating a number .This class has one abstract void method: square ().This class has two non abstract sub classes: one encapsulating a complex number and another encapsulating a rational number. A complex number is represented by two real numbers, the real part and the complex part of the complex number .A rational number is represented by two integers, the numerator and the denominator of the rational number. Also write the client class to test these classes.