ST. XAVIER'S COLLEGE
KOLKATA
(AUTONOMOUS)

1st SEMESTER EXAMINATION
NOVEMBER - DECEMBER 2014
M.Sc. Computer Science

CMSM4157

LAB 2; OBJECT ORIENTED PROGRAMMING LAB

Wednesday & Thursday,
10th December & 11th December 2014
10:00 am onwards
3 hours
Full Marks : **80**

READ THESE INSTRUCTIONS FIRST:

- Of the questions attempted, the answers to only the first required number of questions (as stipulated in the question paper) will be evaluated. **So please do not attempt extra questions**.
- Use fountain pen or ball-point pen of **blue** or **black ink**.
- Answer in your own words as far as practicable.
- Do not write anything on the Question paper other than your Roll No.

At the end of the examination, fasten all your work securely together.

The marks are given in **brackets [ ]** at the end of each question or part question.

SET: 4
PROGRAM CODE: 45; SAMPLE OUTPUT(S): 15; VIVA: 20

1. Write a calculator program to implement the addition, subtraction, product and division of two numbers. Numbers should be scanned from the user.

2. (a) Write a class to print the first n Fibonacci numbers of the series.
   (b) Write a class to find the factorial of n. (n is taken from the user)

3. Write a Java program to create a Linked List and to use delete() and display() methods to perform necessary actions for the created linked list. Create a menu driven program to satisfy all the objectives.

4. The geometry package contains classes like “Triangle” and “Rectangle”. Write proper data member, constructor and methods to compute any manipulation relevant to the above classes[e.g area(), perimeter() etc.] . The algebra package contains a class called “TwoDEquation”. Write the class such that it must include a method that returns the largest +ve root for a given equation. Demonstrate the above program by importing both the packages assuming that your application is in “MyApplication” directory.

5. Write a program to implement the following methods using thread. You should create at least 3 threads –
   wait(), notify(), join() and yield().

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