ST. XAVIER'S COLLEGE
KOLKATA
(AUTONOMOUS)

1st SEMESTER EXAMINATION
NOVEMBER - DECEMBER 2015
M.Sc. COMPUTER SCIENCE

CMSM4157

Monday, December 14 & 15, 2015
11:00 AM to 03:00 PM
4 hours
Full Marks : **80**

LABORATORY 2: OBJECT ORIENTED PROGRAMMING LAB

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.
- Answer each Group in a separate Answer Script.

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.

The question paper consists of **3** pages.

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.

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

(One question to be chosen by random draw.)

1. (a) Write a class to print the first N non-fibonacci numbers, where N≥10.
   (b) Write a class to search an element from an array of integers of size 10.

2. Create three threads A, B, C using Runnable interface. Execute the threads from the main program using the start () method. Implement the use of wait () and notify () methods also.

3. Create a calculator program to implement the addition, subtraction, product and division of two numbers. Exceptions should be handled.

4. Create a Linked List program in Java to add some elements from it after creating the linked list, Add() and Display() methods should be defined for function calls as required. Create a menu driven program.

5. Write a program that creates a base class called 'Number'. This class holds an integer value and contains an abstract method called displayNum ( ). Create two sub classes called 'Binary' and 'Num5' that inherit 'Number'. Override displayNum ( ) in the sub classes so that it displays the value in Binary and Number5 system, respectively. Write a main ( ) method to create objects of type 'Binary' and 'Num5' classes and display the binary and 5 number system form of the supplied integer value. Note: Use super class object to call a function.

6. Write a Java program to take a full name as an input. Now the output will show the surname first and then the initials sparated by full stop will be shown as shown below….

   Ex: Ajay Singh Rathore. — Rathore A. S.

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