



ST. XAVIER'S COLLEGE
KOLKATA
(AUTONOMOUS)

1st SEMESTER EXAMINATION
NOVEMBER - DECEMBER 2016
M.Sc. COMPUTER SCIENCE

CMSM4157 (SET-II)

Friday, December 9, 2016

10:00 AM to 02:00 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.

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 **2** pages.

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SET: II

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

**(Only the program code and the sample output(s) are to be written
in the answer script.)**

(One question to be chosen by random draw.)

1. Write a class to find the third largest element from an array (at least 10 numbers having the range of 1 -100) using Exception Handling.
2. The geometry package contains classes like "Triangle" and "Rectangle". Write proper data member, constructor and methods to compute any sort of 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.
3. Write a class to implement searching of an element from an array (at least 10 numbers having the range of 1 -100) using Exception Handling. The element to be searched is provided by the user.
4. Create three threads A, B, C using Runnable interface. Execute the threads from the main program using the start () method. Implement the use of sleep () and stop () methods also.
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 derived classes called "HexNum" and "OctalNum" that inherit "Number". Override displayNum() in both the derived classes so that it displays in Hexadecimal and Octal values, respectively. Write a main() method to create objects of type "HexNum" and "OctalNum" classes and display the hexadecimal and octal form of the supplied integer value. Note: Use base class object to call a method.

CMSM4157**SET: II**

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CMSM4157**SET: II**

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