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**ST. XAVIER'S COLLEGE**  
(AUTONOMOUS)



**1<sup>st</sup>. SEMESTER EXAMINATION**  
**NOVEMBER - DECEMBER 2013**  
**M.Sc. Computer Science**

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**CMSM 4157**  
**SET - I**

**LABORATORY 2**  
**(OBJECT ORIENTED**  
**PROGRAMMING LAB)**

Thursday, 12<sup>th</sup> December 2013

10:00 am to 1:00 pm

Time allowed : **3 hours**

Full Marks : **80**

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**Instructions:**

- 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 **ANY ONE** question.)

1. Write a program in Java to find out the frequency of the words starting with “TH” present in a set of words passed as command line arguments. Also ensure that there is no repetition of any command line argument.
2. Write a Java program to arrange an array of integers taken as inputs in the descending order. Remove any duplicate element, if any, from the array before sorting. Also perform binary search operation on the sorted list.
3. Write a program to implement the following methods in thread. You should take at least 3 threads –  

`getPriority( )` & `setPriority( )`.
4. Write a program that creates a base class called “Number”. This class holds an integer value and contains a virtual function called `displayNum( )`. Create two derived classes called “HexNum” and “OctalNum” that inherit “Number”. Override `displayNum( )` in the derived classes so that it displays the value in Hexadecimal and Octal, respectively. Write a `main( )` function 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 function.

**Marks Distribution:****Program Code – 45**

### Sample Output(s) – 15

**Viva – 20**

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

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