SOMAIYA VIDYAVIHAR UNIVERSITY
K J Somaiya School of Engineering
(formerly K J Somaiya College of Engineering)

**K. J. Somaiya School of Engineering, Mumbai-77**
(Somaiya Vidyavihar University)

Somaiya TRUST

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course:** | Structured Programming Methodology | | | **Semester:** | I | **Date:** | |
| **Division:** | | **Batch:** | | **SET** | J | **Name:** | |
| **Exam:** | OST | | | **Time:** | | **Roll No:** | |

| Q No | Question (Show all test cases in Output) | Marks |
|---|---|---|
| 1 | Write a program using function to print even Fibonacci numbers that fall within a given range. If the range is invalid (for example, when the lower limit is greater than the upper limit ), display an appropriate error message(use recursive function for Fibonacci). | 15 |

| **Test case 1:** | **Test case 2:** |
|---|---|
| Enter lower and upper limit: 50 5<br>Output: Invalid range! | Enter lower and upper limit: 5 50<br>Output:<br>Fibonacci numbers between 5 and 50 are: 8 34 |

**OR**

| | | |
|---|---|---|
| 2 A | Write a program using function to find the second smallest element in the array without sorting the array. If no second smallest exist (all equal or n<2), print an appropriate message**.** | 8 |

| **Test case 1:** | **Test case 2:** | **Test Case 3:** |
|---|---|---|
| Enter the number of elements: 5<br>Enter the elements: 4 2 9 2 7<br>Output:<br>Second smallest element: 4 | Enter the number of elements: 3<br>Enter the elements: 5 5 5<br>Output:<br>There is no second smallest element | Enter the number of elements: 1<br>Enter the element: 6<br>Output:<br>There is no second smallest element |

| | | |
|---|---|---|
| 2B | Write a program to check whether a given string is a palindrome or not without using library functions.<br>The program should ignore letter case while performing the comparison. | 7 |

| **Test case 1:** | **Test case 1:** | **Test case 2:** |
|---|---|---|
| Enter the input string : A1B2b1A<br><br>Output:<br>A1B2b1A is a palindrome | Enter the input string : Level<br><br>Output:<br>Level is a palindrome | Enter the input string : Hello<br><br>Output:<br>Hello is not a palindrome |