**Online Examination**

**Subsection: C1**

**Topic: function and string**

**Full Marks: 20 Time: 60 minutes**

**Problem 1**

Suppose, you are given the following code fragment.

*int main()*

*{*

*int factors[100], n, i, num;*

*scanf("%d",&num);*

*n = determineFactors(factors,num);*

*printf("The factors of the number are\n");*

*for(i=0;i<n;i++)*

*printf("%d ",factors[i]);*

*return 0;*

*}*

The purpose of this code is to determine the factors of a positive integer number. Your task is to copy the above code fragment into a .c file and implement the *determineFactors* function in such a way so that the factors of the given number can be determined. **Note that, you cannot use any global variable and you cannot change anything inside the main function.** [Marks: 5]

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| **Sample input** | **Corresponding Output** |
| 5 | The factors of the number are  1 5 |
| 12 | The factors of the number are  1 2 3 4 6 12 |
| 64 | The factors of the number are  1 2 4 8 16 32 64 |

**Problem 2**

Suppose, you are given two strings (the maximum length of a string can be 20). Your task is to determine whether the first string is the reverse of the second string. Write a C program to do that. [Marks 5]

The constraints are:

1. You cannot any library function associated with “string.h”.
2. You have to write a function which will take two strings as its arguments, and returns 1 if the strings are equal and 0 otherwise.
3. You cannot use any extra array or string.

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| **Sample Input** | **Corresponding Output** |
| abcd  dcba | Yes |
| abcd  dcb | No |

**Problem 3**

Suppose, you are given a string containing three words separated by spaces. Your task is to delete the second word from the string. Write a C program to do that. [Marks 10]

The constraints are:

1. You cannot any library function associated with “string.h”.
2. You cannot use any extra array or string.

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| **Sample Input** | **Corresponding Output** |
| cse sessional class | cse class |
| Bangladesh Cricket Team | Bangladesh Team |