**INTERNAL ASSIGNMENT SET-II**

**SESSION**

**FEB/MAR 2021**

**PROGRAMME**

**BACEHOLOR OF COMPUTER APPLICATIONS (BCA)**

**SEMESTER**

**I**

**COURSE CODE & NAME**

**DCA1102- PROGRAMMING IN C**

**Q.1 a. What is an array? Explain the declaration and initialization of one and two-dimensional arrays with example.**

An array is defined as an ordered set of similar data items. All the data items of an array are stored in consecutive memory locations in RAM. The elements of an array are of same data type and each item can be accessed using the same name.

**1D ARRAY**

**b**. **A palindrome is a string that reads the same forwards or backwards. For instance, “madam”, “abba”, and “x” are palindromes, while “ab”, and “foo” are not. You are to complete a function to determine if a string is a palindrome. For this question, a string must be exactly the same forward and backward to be a palindrome, including whitespace (so the string “nurses run” is not a palindrome here). We will also consider an empty string (length 0) to be a palindrome.**

**Write function IsPalindrome() so it returns 1 (true) if its string argument is a palindrome and returns 0 (false) if it is not. You may assume that the function argument is a properly \0-terminated C string. You may use any of the C string library functions in. You may not copy or modify the string – only examine it.**

#incl

**Q.2 a. Explain any five string manipulation library functions with examples.**

| **Function** | **Work of Function** |
| --- | --- |
| [strlen()](https://www.programiz.com/c-programming/library-function/strlen) | computes string's length |
| [strcpy()](https://www.programiz.com/c-programming/library-function/strcpy) | copies a string to another |
| [strcat()](https://www.programiz.com/c-programming/library-function/strcat) | concatenates(joins) two strings |
| [strcmp()](https://www.programiz.com/c-programming/library-function/strcmp) | compares two strings |
| strlwr() | converts string to lowercase |

## The strlen () function

It returns the number of characters in a string.

## Syntax

int

**b. Write a C function isprime(num) that accepts an integer argument and returns 1 if the argument is prime, a 0 otherwise. Write a C program that invokes this function to generate prime numbers between the given ranges.**

#include <stdio.h>

int main()

{

   int i, num, p = 0;

   printf("Please enter a number: \n");

   scanf("%d", &

**Q. 3 a. What is a pointer? Explain how the pointer variable declared and initialized.**

Pointer is a variable used to store the address of another variable or a memory location. It always

**c. Write a C program to read n unsorted numbers to an array of size n and pass the address of this array to a function to sort the numbers in ascending order using bubble sort technique.**