Assignment – SP – Theory

1.	(a)	Define an array? Explain different kinds of array in programming language c.
	(b)	Array declaration is very important in programming language. How can we declare array in programming language c. Give an example with appropriate syntax.
	(c)	Write a C program to find the largest value from the below array a[10] = { 10, 9, 7, 101, 23, 44, 12, 78, 34, 23}
2.	(a)	What do you mean by function? State the syntax to define the function in C programming
	(b)	Some function in C Programming: sqrt(), get(), pow(), exit(), put(), malloc(), call(), calloc(), main(), mall() What are the library functions for c Programming from the above given functions?
	(c)	Develop the C Program for getting the below output using the multiple parameter's function. Output of a C program: **Name: Al-Amin Age: 35** **Name: Sabbir Age: 30** **Name: Solaiman Age: 29**
3.	(a)	An array S[10][15] is stored in the memory with each element requiring 4 bytes of storage. If the base address of S is 1000, determine the location of S[8][9] when the array is S stored by (i) Row major (ii) Column major.
	(b)	File processing is a very important task in c. Now illustrate the necessary steps to process the file.
4.	(a)	What do you mean by switch? State the syntax to define the switch in C programming
	(b)	Design a pointer program to swap two numbers without using the 3rd variable using C programming. Output of the above problem is given below: **Before swap: *p1=20 *p2=30** **After swap: *p1=30 *p2=20**
5.	(a)	Define file with its necessity in programming language c.
	(b)	What do you mean by structure? State the syntax to define the structure in C programming.
	(c)	Output of a C program: **Enter First String: Dept. of CSE City University** **Enter Second String: Dept. of CSE City University** **Result: Strings are equal** Which string function will be appropriate for getting the above actual output do you think? Also, define the absolute code in C Programming using the correct string function, and remember that you must be used the gets() and puts() for user input & print.
6.	(a)	We cannot directly copy one array to another, even if they have the same length and share the same data type. Now show the technique to copy an array from one to another.

	(b)	Write down the output of the below code and trace the error.
		
		``c
		#include<stdio h>
		int main(){
		int number = 10;
		switch(number)
		{
		case 20 :
		printf("number is equals to 20");
		case 10:
		printf("number is equal to 10")
		break;
		default:
		printf("number is not equal to 10 or 20");
		}
		}
		``

7.	(a)	Define pointer? Why pointer is used in c. Write down the syntax how pointer is declared in c programming.
	(b)	Some functions for file handling is given below. Explain it. **fopen(), fprint(), fscan() fclose() fputc() fgetc()**
8.	(a)	Which types of Array show in the below scenario? Write down the syntax for this array. |	Column 0	Column 1	Column 2	Column 3
---	---	---	---	---
Row 0	a[0][0]	a[0][1]	a[0][2]	a[0][3]
Row 1	a[1][0]	a[1][1]	a[1][2]	a[1][3]
Row 2	a[2][0]	a[2][1]	a[2][2]	a[2][3]	
	(b)	Factorial is the product of all positive integers less than or equal to a given positive integer and denoted by that integer and an exclamation point. Thus, factorial seven is written 5!, meaning $1 \times 2 \times 3 \times 4 \times 5$. Factorial zero is defined as equal to 1. Now your task is to write a c program to find out the factorial of a given number n.