**Session: 2020-21**

**BCSC 0800 : computer Programming lab**

**L–T–P : 0–0–2**

**Credits: 01**

**Semester: I**

**Module II**

**Experiment-1 : Operators**

1. Write a program to interchange two values by using the following operators:

(a)Assignment Operator (b)Arithmetic Operator (c)Bitwise Operator

1. Write a program to find the lowest marks of three students using conditional operator.
2. Input a no. and check no. is in power of 2 or not using bitwise and ternary operator.

**Experiment-2 : Decision Control Statement**

1. Write a C program to accept a coordinate point in a XY coordinate system and determine in which quadrant the coordinate point lies.
2. Write a C program to input electricity unit charges and calculate total electricity bill according to the given condition:

For first 50 units Rs. 0.50/unit

For next 100 units Rs. 0.75/unit

For next 100 units Rs. 1.20/unit

For unit above 250 Rs. 1.50/unit

An additional surcharge of 20% is added to the bill

1. Write a C program to input any character and if its uppercase alphabet then convert it into lowercase alphabet and vice versa using switch case.

**Experiment-3 : Loops**

1. Write a program to read an age of 15 person & find out how many of them fall under :
   1. Still a baby- age 0 to 5
   2. Attending school - age 6 to 17
   3. Adult life- age 18 & over
2. Write a C program to generate Armstrong number in the given range.
3. Write a C program to print all composite numbers from m to n.

**Experiment-4: Array**

1. In USA President election, there are 50 states, you have to create two arrays HILLARY and TRUMP store the number of vote polled in each state. Write a program to show result in each state and also find who is the winner?
2. Write a program in C to separate odd and even integers in separate arrays.
3. Write a program to input the height and weight of N no. of students of a class in cm and Kg and convert them in inches and pounds. Also print the height of those students, those weight is in range from 180 to 250 pounds.

**Experiment-5: 2-D Array**

1. Take input from the user in a 2D array and print the row-wise and column-wise sum of numbers stored in this 2D array.
2. Write a program to keep records and perform statistical analysis for a class of students. The class may have upto 10 students. There are three quizzes during the term. Each student is identified by a four digit roll no. The program will print the student scores and calculate and print the statistics (High score, Low score and average) for each quiz.
3. Write a program to multiply two Matrices.

**Experiment-6: String**

1. Write a program to check whether given string is palindrome or not.
2. Write a program to input a word from the user and print it in the following way. For example, if the word is PROGRAM, the program will print it as using single loop.

P

P R

P R O

P R O G

P R O G R

P R O G R A

P R O G R A M

1. Write a menu driven program to perform the following task-
   * 1. Find length of a string
     2. Copy of one string into another
     3. Capitalize all letters of a string
     4. Reverse of string
     5. Comparison of two strings

**Experiment-7: Function**

1. Write a program to calculate x^n without using library function pow( ).
2. Write a program to input coefficients of quadratic equation and pass them to function () QUAD. This returnable function computes whether roots of a quadratic equation are real or imaginary.
3. Write a program to calculate binomial coefficient.

**Experiment-8: Introduction to Pointer**

1. An employee in a company works 10 hours per day and gets 10,000 salary in a week. Write a program using pointer to read working hours per day for a week and calculate total working hours and find total salary paid to the employee based on following conditions.

|  |  |
| --- | --- |
| Overtime(Hrs) | Bonus |
| <5 | 5000 |
| 6-10 | 10000 |
| >10 | 15000 |

1. WAP to categorize each element of an array as prime or not using pointer.
2. There are two students Ria and Sia, store their 5 subject marks in two different array. Write a C program to find who scored more in individual subject as well as in average using pointer.