# 5 Years Integrated M.Sc.(IT) – Semester 1

**060010109-CC1 Fundamentals of Programming**

| **Practical No : 1** | **Enrollment No:** |
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| **Practical Problems** | Solve following problem. |

1. To print "Hello World" on screen.
2. To find division of two numbers.
3. To find average of any two numbers.
4. To convert Kilogram into Gram.
5. To find area of rectangle.
6. To find simple interest. Simple Interest = p * r * n / 100
   Where p = principle amount, r = rate of interest and n=number of years
7. To find remainder of division operation where the dividend and divisor are both natural number.
8. To find volume of sphere. Formula V=(4πr^3)/3 where π=3.14 and r is radius of sphere.
9. To check whether the number is odd or even.
10. To find profit or loss based on cost price and sell price of an item.
11. Accept two Integers and check if they are equal.
12. To check whether the number is positive, negative and zero.
13. To find maximum from the given two number
14. To find maximum from the given three number.
15. Accept the height of a person & categorize as taller, dwarf & average.
16. Meeta scored 45 in Mathematics, 38 in Gujarati, 30 in Social Science, 42 in English and 39 in Science. Now calculate sum of five subject's marks and find percentage. Maximum marks in one subject is 100.
17. Mr. Roy is living in Canada where temperature is mapped in Fahrenheit. According to weather report current temperature in Canada is 130 °F. Roy's mother is living in different region of Canada where temperature is mapped in Celsius. Convert current temperature of Canada into Celsius.
    C = (F - 32) * 5 / 9

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| **Objective(s)** | • To give students practice at typing in, compiling and running a simple program.<br>• To learn how to read in input from the user. |
| **Pre-requisite** | ✓ Variable, constant, arithmetic operators, expression, assignment statements, decision statement, printf() and scanf() |
| **Duration for completion** | 4 Hours |
| **PEO(s) to be achieved** | PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem- solving, design and communication skill for life-long learning in chosen field.<br>PEO2: To provide quality practical skill of tools and technologies to solve industry problems. |
| **PO(s) to be achieved** | PO1: Proficiency in and ability to apply knowledge of computer science and application and mathematics through different equations, probability and statistics.<br>PO2: Ability to design and develop system, component or process as well as test and maintain it. |
| **CO(s) to be achieved** | CO1: Understand the basic concepts of programming.<br>CO2: Solve technical problems through program development life cycle. |
| **Solution must contain** | Algorithm, Flowchart, Program and Sample Calculation |
| **Nature of submission** | Handwritten in A4 size blank papers. Write using pencil only. |
| **Reference for solving the problem** | 1. BR # 2, 3 - pg no 26 to 102 |
| **Post laboratory questions** | 1. What is algorithm?<br>2. Define Flow Chart.<br>3. Draw different symbols of Flowchart. |

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| | 4. List steps involved in programming process.<br>5. What is compiler?<br>6. What is interpreter? |

| Objectives | Solution achieves the desire the desired objective(s) | Signature |
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| **To be able to write basic algorithms** | | |
| **To be able to draw basic flowcharts** | | |
| **To be able to compile, run and build basic program** | | |
| **Able to work with variables and printf() and scanf() function** | | |
| **To be able to perform basic arithmetic operations** | | |

| **Practical No : 2** | **Enrollment No:** |
|---|---|
| **Practical Problems** | Solve following problem. |
| 1. To check whether the number is divisible by 5 or not.<br>2. To print your name 10 times.<br>3. To find sum of first N natural numbers. [Hint: 1+2+3+4+….+N]<br>4. To find N! (5 factorial=1*2*3*4*5 )<br>5. Take basic salary as an input from user and find gross salary based on following condition<br>• HRA=10% of basic salary<br>• PF=12.5% of Basic Salary<br>• DA=90% of Basic Salary<br>• MA=100% of Basic Salary<br>[Hint: Addition of DA, HRA and MA and subtraction of MA and PF from Basic Salary]<br>6. To check whether the number is one-digit, two-digit or three-digit.<br>7. Write an algorithm to check age of student that can appear for exam. Student age must lies between 16 and 20 then he/she allows to appear in exam.<br>8. To find reverse of number.<br>9. To find whether the given year is a leap year or not. | |
| **Objective(s)** | • To give students practice at typing in, compiling and running a simple program.<br>• To learn how to read in input from the user. |
| **Pre-requisite** | Variable, constant, arithmetic operators, expression, assignment statements, printf() and scanf() |
| **Duration for completion** | 4 Hours |
| **PEO(s) to be achieved** | PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem- solving, design and communication skill for life-long learning in chosen field.<br>PEO2: To provide quality practical skill of tools and technologies to solve industry problems. |
| **PO(s) to be achieved** | PO1: Proficiency in and ability to apply knowledge of computer science and application and mathematics through different equations, probability and statistics.<br>PO2: Ability to design and develop system, component or process as well as test and maintain it. |
| **CO(s) to be achieved** | CO1: Understand the basic concepts of programming.<br>CO2: Solve technical problems through program development life cycle. |
| **Solution must contain** | Algorithm, Flowchart, Program and Sample Calculation |
| **Nature of submission** | Handwritten in A4 size blank papers. Write using pencil only. |
| **Reference for solving the problem** | 1. BR # 2, 3 - pg no 26 to 102 |
| **Post laboratory questions** | 1. What is the purpose of control statement?<br>2. Differentiate break and continue statement.<br>3. Is it possible to have more than one main() in a single program? Justify the answer.<br>4. Find error and output with justification:<br>int main()<br>{<br>int a; printf("%d",a1); return 0;<br>}<br>5. Find error and output with justification:<br>int main()<br>{ |

printf("%d",printf("%d",125));
return 0;
}

6. Find error and output with justification:

```
int main()
{
int a; a=sizeof(float); printf("%d",a1);
return 0;
}
```

| Objectives | Solution achieves the desire the desired objective(s) | Signature |
|---|---|---|
| **Able to use different operators** | | |
| **Able to use branching in programs** | | |

| **Practical No : 3** | **Enrollment No:** |
|---|---|
| **Practical Problems** | Solve following problem. |

1. To print sum of digit in a number. N = 1234 then 1 + 2 + 3 + 4 = 10.
2. To find & display multiplication table of number N.
3. To find total number of odd digit, even digit, sum of odd digit and sum of even digit from the given number.
4. To check whether the number is palindrome or not.
   [Hint: number and its reverse should be similar]
   121 is a palindrome number.
5. To print following series:
   a. 1 , 2, 6, 24, 120,.....N
   b. 1, 4, 9, 16, 25,....N
   c. 1 + 2 + 3 + 4 + 5 + ... + N
   d. (1) + (1+2) + (1+2+3) + (1+2+3+4) + ... + (1+2+3+4+...+N)
6. To add two times and display resulting time. If time1 is 2:30 and time2 is 3:45 then sum of time is 6:15.
7. To print sum of even numbers up to given N number.
   Ex. N = 10 then 2 + 4 + 6 + 8 + 10 = 30
8. To print sum of odd numbers up to given N number.
   Ex. N = 10 then 1 + 3 + 5 + 7 + 9 = 25

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| **Objective(s)** | • How to utilize compiler messages and printf statements for debugging.<br>• To learn how to solve problems using variables and the assignment statement.<br>• Practice using branch and loop statement. |
| **Pre-requisite** | ✓ Variable, constant, arithmetic operators, expression, assignment statements, printf() and scanf(), Branch and Loop Statement |
| **Duration for completion** | 4 Hours |
| **PEO(s) to be achieved** | PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem- solving, design and communication skill for life-long learning in chosen field.<br>PEO2: To provide quality practical skill of tools and technologies to solve industry problems. |
| **PO(s) to be achieved** | PO1: Proficiency in and ability to apply knowledge of computer science and application and mathematics through different equations, probability and statistics.<br>PO2: Ability to design and develop system, component or process as well as test and maintain it. |
| **CO(s) to be achieved** | CO1: Understand the basic concepts of programming.<br>CO2: Solve technical problems through program development life cycle. |
| **Solution must contain** | Algorithm, Flowchart, Program and Sample Calculation |
| **Nature of submission** | Handwritten in A4 size blank papers. Write using pencil only. |
| **Reference for solving the problem** | 1. Refer the text book |
| **Post laboratory questions** | Find error or output of following code segment:<br>`if(a==0);`<br>`printf("BCA Rocks");`<br>`else`<br>`printf("IT Rocks");`<br>2. Find error or output of following code segment:<br>`int a=6, b=4;`<br>`if (3*b%a < 0)`<br>`printf("One\n");` |

```
    else if (a*b%8 > 0)
            printf("Two\n");
    else if (a*b/5 > 4)
            printf("Three\n");
    else
            printf("Four\n");
```

3. Find error or output of following code segment:

```
int month=5, day=16;
if (month > 5)
if (day > 1)
        printf("One");
else
        printf("Two");
printf("Three");
```

| Objectives | Solution achieves the desire the desired objective(s) | Signature |
|---|---|---|
| **Able to use branching and looping in program** | | |

| **Practical No : 4** | **Enrollment No:** |
|---|---|
| **Practical Problems** | Solve following problem. |

1. Write a program to do the following operations:
   - Read any two positive integer operands (say op1 & op2) and one character type operator (say opr). Note that opr is any mathematical operator.
   - Depending upon the operator, do the appropriate operation. e.g. if opr is '+' then the display the value obtained by evaluating the expression (op1 + op2)
2. Write a program to calculate the amount to be paid by a customer for electricity bill.
   - Unit Consumed = Current meter reading – Past meter reading and
   - Total Bill = Unit Consumed * Charge per unit
   - Input: customer number, customer name, past reading (in units), present reading (in units), charge per unit
   - Output: (Print with same format shown here)

```
                Electricity Bill
---------------------------------------------------------
Customer Number          : *****
Customer Name            : *****
Past Reading             : *****
Current Reading          : *****
Units Consumed           : *****
Charge Per Unit          : *****
Amount to be paid (Rs.)  : *****
```

**3.** Write a program to find out the commission earned by a salesman. Input salesman number, salesman name, sales amount, and salesman type (P/D/W). If salesman type="P" than commission rate=9%, else if salesman type="D" than commission rate= 5%, else if salesman type="W" than commission rate= 2%. No commission for other type of salesman.

**Note:** P = Pioneer Salesman
D = Dealer Serving Salesman
W = Wholesaler's Salesman

**Output:** (Print with same format shown here)

```
                                Salesman report
-------------------------------------------------------------------------------------------
        Salesman number     :-
        Salesman name       :-
        Sales amount        :-
        Commission (%)      :-
        Commission (Rs.)    :-
 ------------------------------------------------------------------------------------------
        Net amount          :-
  ----------------------------------------------------------------------------------------
```

4. Write a program to find prime number between range of start number and end number.
   - Input
     Start Number = 1, End Number = 20
   - Output:
     Prime numbers from 1 to 20 are: 1 2 3 5 7 11 13 17 19

| | |
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| **Objective(s)** | • How to utilize compiler messages and printf statements for debugging.<br>• To learn how to solve problems using variables and the assignment statement.<br>• Practice using branch and loop statement. |
| **Pre-requisite** | ✓ Variable, constant, arithmetic operators, expression, assignment statements, printf() and scanf(), Branch and Loop Statement |

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| **Duration for completion** | 4 Hours |
| **PEO(s) to be achieved** | PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem- solving, design and communication skill for life-long learning in chosen field.<br>PEO2: To provide quality practical skill of tools and technologies to solve industry problems. |
| **PO(s) to be achieved** | PO1: Proficiency in and ability to apply knowledge of computer science and application and mathematics through different equations, probability and statistics.<br>PO2: Ability to design and develop system, component or process as well as test and maintain it. |
| **CO(s) to be achieved** | CO1: Understand the basic concepts of programming.<br>CO2: Solve technical problems through program development life cycle.<br>CO4: Design and develop programs using looping and controls statements. |
| **Solution must contain** | Algorithm, Flowchart, Program and Sample Calculation |
| **Nature of submission** | Handwritten in A4 size blank papers. Write using pencil only. |
| **Reference for solving the problem** | 1. Refer the text book |
| **Post laboratory questions** | 1. Find error or output of following code segment:<br>`int mon=3, day=8;`<br>`if (mon > 4)`<br>`if (day < 15)`<br>`printf("Late");`<br>`else`<br>`printf("Early");`<br>2. Find error or output of following code segment:<br>`int main()`<br>`{`<br>`switch("abc")`<br>`{`<br>`case "abc":`<br>`printf("FYIT\n");`<br>`break; case 'a':`<br>`printf("\nFYMCA\n"); break;`<br>`}`<br>`return 0;`<br>`}`<br>3. Write a program to display number of year, month and days when user gives total number of days. |

| Objectives | Solution achieves the desire the desired objective(s) | Signature |
|---|---|---|
| **Able to understand programming solution based on scenario based problem statements** | | |

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| **Practical No : 5** | **Enrollment No:** |
| **Practical Problems** | Solve following problem. |

To print following patterns.

| | | |
|---|---|---|
| `  *`<br>`  ***`<br>`  *****`<br>`  *******`<br>`  *********` | `  *********`<br>`  *******`<br>`  *****`<br>`  ***`<br>`  *` | 12345<br>4321<br>123<br>21<br>1 |
| `  **********`<br>`  ****  ****`<br>`  ***  ***`<br>`  **  **`<br>`  *  *`<br>`  **  **`<br>`  ***  ***`<br>`  ****  ****`<br>`  **********` | `  *`<br>`  ***`<br>`  *****`<br>`  *******`<br>`  *********`<br>`  *******`<br>`  *****`<br>`  ***`<br>`  *` | 11111<br>0000<br>111<br>00<br>1 |
| `  *`<br>`  * *`<br>`  *  *`<br>`  *  *`<br>`  *  *`<br>`  *  *`<br>`  * *`<br>`  *` | 5<br>54<br>543<br>5432<br>54321 | 1<br>10<br>101<br>1010<br>10101 |
| 55555<br>45555<br>34555<br>23455<br>12345 | A<br>AB<br>ABC<br>ABCD<br>ABCDE | EEEEE<br>DDDD<br>CCC<br>BB<br>A |

| | |
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| **Objective(s)** | Practice using loop statements. |
| **Pre-requisite** | Conditional Statement, Loop Statement |
| **Duration for completion** | 4 Hours |
| **PEO(s) to be achieved** | PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem- solving, design and communication skill for life-long learning in chosen field.<br>PEO2: To provide quality practical skill of tools and technologies to solve industry problems. |
| **PO(s) to be achieved** | PO1: Proficiency in and ability to apply knowledge of computer science and application and mathematics through different equations, probability and statistics.<br>PO2: Ability to design and develop system, component or process as well as test and maintain it. |
| **CO(s) to be achieved** | CO4: Design and develop programs using looping and controls statements. |
| **Solution must contain** | Algorithm, Flowchart, Program and Sample Calculation |
| **Nature of submission** | Handwritten in A4 size blank papers. Write using pencil only. |
| **Reference for solving the problem** | 1. BR # 6 - pg no 230 to 275 |
| **Post laboratory questions** | 1. What is the output of the following segment of code? (Assume that sum and index are declared as integer variables. |

```
sum = 0;
for (index = 1; index < 5; index++);
        sum += index;
printf("%d %d\n", sum, index);
```

2. What would be the output of the following segment of code?

```
for (i=2; i<10; i++)
        printf("%d ", i-2);
printf("%d", i-2);
```

3. What would happen if the following segment of code were executed?

```
int n = 10;
int i = 0;
while (i < n) {
        printf("Hello World!\n");
        if (i > n)
        i++;
}
```

A) It would print out "Hello World!" 10 times and stop.
B) It would print out "Hello World!" in an infinite loop.
C) It would never print out "Hello World!"
D) It would change the value of i to 10.
E) None of the Above

| Objectives | Solution achieves the desire the desired objective(s) | Signature |
|---|---|---|
| **Able to use looping and branching for printing patterns** | | |
| **Able to understand nested if..else and nested looping concepts** | | |

| **Practical No : 6** | **Enrollment No:** |
|---|---|
| **Practical Problems** | Solve following problem. |

1. To search an element from one dimensional array.
2. To print an array in reverse order.
3. To input an array, store the squares of inputted elements in an array & print it.
4. Find out the maximum, minimum, sum and average of the elements from the array and the difference between them.
5. To find second largest element from one dimensional array.
6. Arrange the elements of an array of number in increasing order of their value and then decreasing order of their value.
7. Write a program to find the sum of each row of the n*n matrix and sum of each column of the n*n matrix. Note that store the sum of each row in single-dimensional array (sumrow[n]) and sum of each column in single-dimensional array (sumcol[n]).
8. Write a program to calculate sum and multiplication of two n*n matrix.

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| **Objective(s)** | • Practice using branch and loop statement.<br>• Learn how to use an array to store data and manipulation of that data. |
| **Pre-requisite** | Expression, Branch and Loop Statement and Array |
| **Duration for completion** | 4 Hours |
| **PEO(s) to be achieved** | PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem- solving, design and communication skill for life-long learning in chosen field.<br>PEO2: To provide quality practical skill of tools and technologies to solve industry problems. |
| **PO(s) to be achieved** | PO1: Proficiency in and ability to apply knowledge of computer science and application and mathematics through different equations, probability and statistics.<br>PO2: Ability to design and develop system, component or process as well as test and maintain it. |
| **CO(s) to be achieved** | CO5: Declare, initialize and perform basic operations on single dimensional array. |
| **Solution must contain** | Algorithm, Flowchart, Program and Sample Calculation |
| **Nature of submission** | Handwritten in A4 size blank papers. Write using pencil only. |
| **Reference for solving the problem** | 1. BR # 8 - pg no 350 to 363 |
| **Post laboratory questions** | 1. What is the difference between string and array?<br>2. Consider the following array:<br>int a[] = { 1, 2, 3, 4, 5, 4, 3, 2, 1, 0 };<br>What are the contents of the array a after the following loops complete?<br>for (int i = 1; i < 10; i++) { a[i] = a[i - 1]; }<br>for (int i = 9; i > 0; i--) { a[i] = a[i - 1]; }<br>3. Look at the following array definition. int values[10];<br>a. How many elements does the array have?<br>b. What is the subscript of the first element in the array?<br>c. What is the subscript of the last element in the array?<br>d. If an int uses four bytes of memory, how much memory does the array use? |

| **Objectives** | **Solution achieves the desire the desired objective(s)** | **Signature** |
|---|---|---|

| | | |
|---|---|---|
| **Able to understand concept of array** | | |
| **Able to declare and initialize array** | | |
| **Able to manipulate array** | | |

| **Practical No : 7** | **Enrollment No:** |
|---|---|
| **Practical Problems** | Solve following problem. |
| 1. Write a program to print length of string.<br>2. Write a program that will read a string and calculate number of words in a string.<br>3. Write a program that will read a string and character and calculate number of occurrence of given characters from a string.<br>4. Write a program that will read a string and rewrite it in the alphabetical order. e.g., the word STRING should be written as GINRST.<br>5. Input 2 strings. Display all those characters which are common in both.<br>6. Write a program to read string and check string is palindrome or not.<br>Input : good Input : nayan<br>Output : Output :<br>String is not palindrome String is palindrome<br>7. Write a program to input two digit number and convert it to an equivalent in words.<br>Input : 37<br>Output : Three Seven | |
| **Objective(s)** | 1. Practice using branch and loop statement.<br>2. Learn how to use a character array to store string and manipulation of that string. |
| **Pre-requisite** | String manipulation |
| **Duration for completion** | 4 Hours |
| **PEO(s) to be achieved** | PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem- solving, design and communication skill for life-long learning in chosen field.<br>PEO2: To provide quality practical skill of tools and technologies to solve industry problems. |
| **PO(s) to be achieved** | PO1: Proficiency in and ability to apply knowledge of computer science and application and mathematics through different equations, probability and statistics.<br>PO2: Ability to design and develop system, component or process as well as test and maintain it. |
| **CO(s) to be achieved** | CO6: Design and develop programs using multi-dimensional arrays and string manipulations. |
| **Solution must contain** | Algorithm, Flowchart, Program and Sample Calculation |
| **Nature of submission** | Handwritten in A4 size blank papers. Write using pencil only. |
| **Reference for solving the problem** | 1. BR # 11 - pg no 518 to 536 |
| **Post laboratory questions** | 1. What will be the output of the program?<br>#include<stdio.h><br>#include<string.h><br>int main()<br>{<br>char str1[20] = "Hello", str2[20] = " World"; printf("%s\n",<br>strcpy(str2, strcat(str1, str2))); return 0;<br>}<br>2. What will be the output of the program?<br>#include<stdio.h><br>int main(){<br>char str[25] = "IndiaUTU"; |

```
printf("%s\n", &str+2);
return 0;
}
```

3. Which of the following statements are correct?
   a. A string is a collection of characters terminated by '\0'.
   b. The format specifier %s is used to print a string.
   c. The length of the string can be obtained by strlen().
   d. The pointer CANNOT work on string.

| Objectives | Solution achieves the desire the desired objective(s) | Signature |
|---|---|---|
| **Able to working with string and perform operations on string** | | |

| **Practical No : 8** | **Enrollment No:** |
|---|---|
| **Practical Problems** | Solve following problem. |
| 1. Write a program to calculate whether a given number is divisible by 3 or not using Function.<br>2. Write a program to calculate factorial of positive integer using Recursive function.<br>3. Write a program to obtain maximum value among two values using Function.<br>4. Write a program to calculate compound interest using function.<br>CI = p + (p * n * i / 100.0) | |
| **Objective(s)** | • Practice using control statements and concepts of array.<br>• Learn how to design and develop a program using functions. |
| **Pre-requisite** | Function |
| **Duration for completion** | 4 Hours |
| **PEO(s) to be achieved** | PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem- solving, design and communication skill for life-long learning in chosen field.<br>PEO2: To provide quality practical skill of tools and technologies to solve industry problems. |
| **PO(s) to be achieved** | PO1: Proficiency in and ability to apply knowledge of computer science and application and mathematics through different equations, probability and statistics.<br>PO2: Ability to design and develop system, component or process as well as test and maintain it. |
| **CO(s) to be achieved** | CO7: Design and develop methods with declaration and calling. |
| **Solution must contain** | Algorithm, Flowchart, Program and Sample Calculation |
| **Nature of submission** | Handwritten in A4 size blank papers. Write using pencil only. |
| **Reference for solving the problem** | 1. Refer text book |
| **Post laboratory questions** | 1. Why should you prototype a function?<br>2. If a function doesn't return a value, the word _____ will appear as its return type.<br>3. Following function has errors. Locate as many errors as you can.<br>void total(int value1, value2, value3)<br>{<br>return value1 + value2 + value3;<br>} |

| **Objectives** | **Solution achieves the desire the desired objective(s)** | **Signature** |
|---|---|---|
| **Able to define and call a function** | | |
| **Able to build user defined function and use the functions in program** | | |

| **Practical No : 9** | **Enrollment No:** |
|---|---|
| **Practical Problems** | Solve following problem. |

1. Write a program to calculate sum of any 10 numbers using pointer.
2. Write a program to calculate average of given n number using pointer.
3. Write a program to find students grades in a class through structure.
   Total mark is 500.

| Percentage | Grade |
|---|---|
| >=80 | A |
| >=60 | B |
| >=50 | C |
| >=40 | D |
| <40 | F |

4. Write a program to write content in file called Data.txt.
5. Write a program to read content from file called Data.txt.
6. Write a program to copy one file to another.
7. Write a program which reads numbers from a user and writes it in a file. Also find odd and even numbers by reading that file and store it in 2 separate files OddNo.txt and EvenNo.txt.

| | |
|---|---|
| **Objective(s)** | • Practice using control structures, array and functions.<br>• Learn how to use a file to store data and manipulation of that data |
| **Pre-requisite** | Array, Pointer, File Handling, Structure |
| **Duration for completion** | 4 Hours |
| **PEO(s) to be achieved** | PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem- solving, design and communication skill for life-long learning in chosen field.<br>PEO2: To provide quality practical skill of tools and technologies to solve industry problems. |
| **PO(s) to be achieved** | PO1: Proficiency in and ability to apply knowledge of computer science and application and mathematics through different equations, probability and statistics.<br>PO2: Ability to design and develop system, component or process as well as test and maintain it. |
| **CO(s) to be achieved** | CO8: Develop programs to perform file operations namely read, write, and append.<br>CO9: Design and develop derived data type and use it in problem solution. |
| **Solution must contain** | Algorithm, Flowchart, Program and Sample Calculation |
| **Nature of submission** | Handwritten in A4 size blank papers. Write using pencil only. |
| **Reference for solving the problem** | 1. BR # 7 - pg no 301 to 336 |
| **Post laboratory questions** | 1. Assuming diskF is an FILE stream pointer; write a statement that opens the file names.dat for reading.<br>2. Which are file opening access modes in C?<br>3. What is the difference between text and binary file? |

| **Objectives** | **Solution achieves the desire the desired objective(s)** | **Signature** |
|---|---|---|
| **Able to understand and working of pointer** | | |
| **Able to working with files** | | |