

Term: ODD (2021-22)

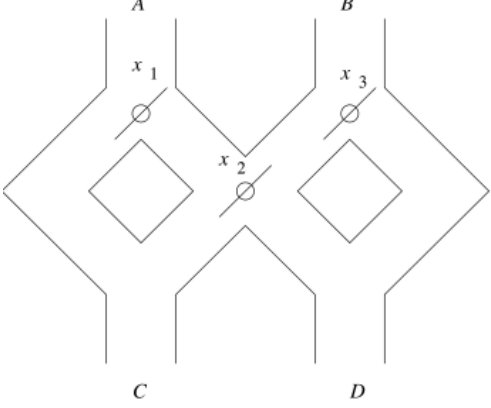
Class/Sem: FY/I

Course Outcomes (COs)

Course Outcome	After successful completion of the course students should be able to
CO 1	Formulate a problem statement and develop the logic (algorithm/flowchart) for its solution.
CO 2	Apply basic concepts of C programming for problem solving.
CO 3	Illustrate the use of derived and structured data types such as arrays, strings, structures and unions.
CO 4	Design modular programs using functions and demonstrate the concept of pointers and file handling.

List of Experiments

Sr. No.	Experiment Title	Outcomes to be achieved
1.	a. Program to find area and circumference of various Geometric shapes. b. Program to calculate EMI (Equated Monthly Installment) of loan amount if principal, rate of interest and time in years is given by the user. $(E = (P.r.(1+r)^n) / ((1+r)^n - 1)$	CO 2
2.	Program to accept 3 numbers from the user and find the largest of the 3 numbers using (If - else if) and (Ternary Operator)	CO 2
3.	Write a menu driven program for following option a. To find whether a number is palindrome or not. (e.g. 1221 is palindrome)(use while Loop only) b. To calculate the sum of the Fibonacci series up to 'n' terms (use do while loop only) c. To find the numbers and sum of all integer between 100 and 200 which are divisible by both 3 & 5.(use for loop only)	CO 2
4.	Program to print patterns for 'n' rows using nested loop. (5 different patterns to be given group wise in the batch)	CO 2
5.	Program to sort the 1D array in the ascending or descending order and then accept the element from user and insert in the same array at its correct place by keeping array sorted.	CO 3
6.	Program to declare an array of structure `players` having data members (name, total matches played, best bowling figure). Program should do the following operations using functions. a. Insert Minimum 5 player data in array of structure b. Sort and display this data in descending order of their best bowling figure (if wickets are same then consider less run conceded as priority) and in proper tabular form c. Delete the data for any one player. d. Search for a particular player using its name.	CO 3, CO 4
7.	Virtual Lab experiment on matrix multiplication https://cse02-iiith.vlabs.ac.in/	CO 3

	https://cse02-iiith.vlabs.ac.in/exp/arrays/simulation.html	
8.	Virtual Lab experiment on Call by reference http://cse02-iiith.vlabs.ac.in/ http://cse02-iiith.vlabs.ac.in/exp8/simulation/CallByReferencePointers/index.html Program to swap two number without using third variable using Call by reference.	CO 4
9.	Program to demonstrate dynamic memory allocation using malloc() & free () function.	CO 4
10.	Application Oriented Program: <u>Comp/ IT/ Mech Dept:</u> Consider the marble rolling toy as shown in figure:  <p>A marble is dropped at A or B. Levers x1,x2 and x3 cause the marble to fall either to the left or to the right. Whenever a marble encounters a lever, it causes the lever to reverse the direction after the marble passes, so the next marble will take the opposite branch. Write a C program to accept an input sequence and generate the appropriate output sequence. Example: input : “BAA” Its equivalent output sequence is “ CCD” i.e. three marbles are dropped sequentially at B, A and A. First marble will find its way through C, second through C and third through D.</p> <u>EXTC/ ETRX Dept.:</u>	CO 1, CO 2, CO 3, CO 4

Recommended Books:

1. *Programming in ANSI C*, E. Balagurusamy, 7th Edition, 2016, McGraw-Hill Education, India.
2. *Structured Programming Approach*, Pradeep Dey and Manas Ghosh, 1st Edition, 2016, Oxford University Press, India.
3. *Let Us C*, Yashwant Kanetkar, 15th Edition, 2016, BPB Publications, India.

Course In-Charges

Prof. Umang Patel, ETRX Dept

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