

DATA STRUCTURE LAB (KCS 351)

List of Experiments

Exp. No.	Experiment Name	Course Outcome
1	a) Write a C Program to implement insertion and deletion operation in an array using function. b) Write Program in C Using 2D array to implement addition and multiplication of two 2D arrays. c) Write Program in C Using 2D array to implement transpose of 2D array.	CO1
2	a) Write a Program in C for implementation of Linear Search. b) Write a Program in C for implementation of Binary Search.	CO1
3	a) Write a C Program to implement Bubble Sorting. b) Write a C Program to implement Selection Sorting. c) Write a C Program to implement Insertion Sorting.	CO1
4	a) Write a Program in C for implementation of Factorial using recursion. b) Write a Program in C for implementation of Tower of Hanoi using recursion c) Write a Program in C for implementation of Merge sort. d) Write a Program in C for implementation of Quick Sort.	CO2
5	a) Write a Program in C for implementation of Stack Using Array (PUSH, POP & Traversing). b) Write a Program in C for implementation of Stack Using Linked List (PUSH, POP & Traversing).	CO2
6	a) Write a Program in C for implementation of simple Queue Using Array. b) Write a Program in C for implementation of Circular Queue Using Array.	CO2
7	a) Write a C program to implement operations of singly Linked List: Creation, insertion, and deletion b) Write a C program to implement operations of Doubly Linked List: Creation,	CO3

	insertion, and deletion c) Write Program in C for implementation of Addition of two polynomials using Linked List.	
8	a) Write a C program to implement binary tree traversal using Linked List. b) Write Program in C for implementation of Insertion and Deletion in BST Using Linked List. c) Write Program in C for implementation of Heap Sort.	CO4
Value added Programs		
9.	Write Program in C for Graph Implementation of BFS & DFS Using Linked List.	CO4
10.	a) Write Program in C for implementation of Queue Using Linked List. b) Write Program in C for implementation of Circular Queue Using Linked List.	CO2

Lab Incharge

Head (CSE)



MEERUT INSTITUTE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

**COMPUTER ORGANIZATION AND ARCHITECTURE LAB
(KCS-352)**

List of Experiments

Exp. No.	Experiment Name	Course Outcome
1	To design the circuit of half adder.	CO1
2	To design the circuit of full adder.	CO1
3	To design the circuit of half subtractor.	CO1
4	To design the circuit of full subtractor.	CO1
5	To design an 8×1 Multiplexer.	CO3
6	To design a 4 bit combinational shifter.	CO2
7	To design a BCD adder.	CO1
8	To design a 4-bit adder subtractor.	CO1
Value added Programs		
9	To design an ALU.	CO4
10	To design 2:4 Decoder	CO4

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DISCRETE STRUCTURE AND LOGIC LAB (KCS-353)

List of Experiments

Exp. No.	Experiment Name	Course Outcome
1	Implementation basic python program related to Data types, operators. a) Evaluate value of $2x^3 - 6x^2 + 2x - 1$ for $x = 3$ b) Write a Python program to find the roots of a quadratic function $ax^2 + bx + c = 0$, where a, b and c are real numbers and $a \neq 0$	CO1
2	Implementation of decision, Loop in python. a) Write a program to calculate factorial of a number. b) Write a program to calculate sum of first n natural numbers where n is finite. c) Write a program for cube sum of first n natural numbers where n is finite.	CO1
3	Implementation of various set operations (union, intersection, difference, symmetric difference, Power set, cardinality).	CO2
4	Write program to perform following operation: a) Is the given relation is reflexive? b) Is the given relation is symmetric? c) Is the given relation is Transitive?	CO2
5	Write program to generate recursive sequence of a closed formula and also calculate its value at particular non negative integer recursively for the following: a) Polynomial 2^n b) Fibonacci sequence c) Factorial of a number	CO4
6	Write program to: a. Perform $+ m$ (addition modulo) and x_m (multiplication modulo) for a particular set. b. Check closure property for $+ m$ (addition modulo) and x_m (multiplication modulo) for any set you have assumed. c. Find identity element in any given algebraic system if exist. Find inverse of all elements in a given group if identity element is given	CO2
7	Write program for various number systems:	CO3

	<ul style="list-style-type: none"> a. Decimal to binary, octal & hexadecimal b. Binary to decimal, octal and hexadecimal c. Octal to decimal, binary and hexadecimal d. Hexadecimal to decimal, binary and octal e. Logic gate simulation AND, OR, NOT, EXOR, NOR 	
8	<p>Write program to:</p> <ul style="list-style-type: none"> a. Implement the following Boolean expression: <ul style="list-style-type: none"> i. $A'B+AB'$ ii. $(AB'+C)+ C'A$ b. Implement full adder and half adder in python. 	CO3
Value added Programs		
9.	Write program to implement Birthday Problem.	CO4
10.	<p>Write program to test:</p> <ul style="list-style-type: none"> b. Given relation is equivalence or not. c. Given algebraic system is Abelian group or not. 	CO2

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OPERATING SYSTEM LAB (KCS-451)

List of Experiments

Exp. No.	Experiment Name	Course Outcome
1	a) Write Basic Commands for VI-Editor used in Linux. b) Write a basic program on VI Editor in Linux.	CO1
2	Write a program to show the process ID and parent process ID of a process.	CO1
3	a) Write a program to create a child process using fork () system call. b) Write a program to create child process and verify the child's parent ID and parent process ID.	CO1
4	Write a program to show the orphan process concept.	CO2
5	Write a program to show the status of processes [Zombie(Z), sleeping(S), running(R)].	CO2
6	Write a program to show the concurrent execution of child and parent process using fork() system call.	CO2
7	a) Write a program to simulate FCFS scheduling algorithm without arrival time. b) Write a program to simulate FCFS scheduling algorithm with arrival time. c) Write a program to simulate Shortest Job First (SJF) scheduling algorithm without arrival time. d) Write a Program to simulate Non- Preemptive Priority Scheduling Algorithm	CO2
8	Write a Program to simulate LEAST RECENTLY USED page replacement algorithm and OPTIMAL page replacement algorithm	CO4
9	Write a Program to simulate Round Robin Scheduling Algorithm	CO2
Value added Programs		
10	Write a program to simulate Banker's Algorithm.	CO3

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PYTHON LAB (KCS453)

List of Experiments

Exp. No.	Experiment Name	Course Outcome
1	a) To write a python program that takes in command line arguments as input and print the number of arguments. b) To write a python program find the square root of a number (Newton's method)	CO1
2	a) To write a python program exponentiation (power of a number). b) To write a python program to compute the GCD of two numbers. c) To write a python program first n prime numbers.	CO2
3	a) To write a python program find the maximum of a list of numbers. b) To write a python program to perform Matrix Multiplication.	CO1
4	To write a python program to find the most frequent words in a text file.	CO3
5	a) To write a python program linear search. b) To write a python program Binary search	CO4
6	a) To write a python program selection sort. b) To write a python program Insertion sort.	CO4
7	To write a python program merge sort.	CO4
8	To write a python program simulate bouncing ball in Pygame.	CO1
Value added Programs		
9.	a) To demonstrate working of classes and objects b) To demonstrate constructors c) To demonstrate class method and static method	CO5
10.	a) Concept of polymorphism in python (method overloading and overriding) b) To demonstrate inheritance	CO5

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