**SRM Institute of Science and Technology**

**Delhi – Meerut Road, Sikri Kalan, Ghaziabad, Uttar Pradesh – 201204**

**Department of Computer Applications**

**Circular – 2024-25**

**BCA 1st Sem**

**Digital Logic Design (UCA24101J)**

**List of Programs**

Lab1 : Verification of Basic Gates and Derived Gates

Lab2:NAND as Universal Gate NOR as Universal Gate

Lab 3:Laws of Boolean Expressions

Lab 4: Verifications of Distributive Law

Lab 5-Simplifying Boolean Expressions using theorems

Lab 6: Implementation of Binary Addition and Subtraction

Lab 7: Half Adder and Full Adder

Lab 8:Half Subtractor and Full Subtractor

Lab 9: Implementation of Multiplexer

Lab 10: Implementation of DeMultiplexer

Lab 11: Implementation of Shift Registers and Serial Transfer

Lab 12: Four Bit Binary Shift Counters

Lab 13: Ring Counters

Lab 14: Implementation of DOWN Counter

Lab 15: Implementation of DOWN Counter

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**Circular – 2024-25**

**BCA 1st Sem**

**Programming for Problem Solving (USA24102J)**

**List of Programs**

Lab 1: Basic Program

Lab 2: Program using Input and Output Statements

Lab 3: Program using Operators

Lab 4: Operators and Expressions

Lab 5: Control Statements

Lab 6: Arrays – One Dimensional

Lab 7: Arrays : Multi-dimensional

Lab 8: Strings, structures and union

Lab 9: Functions

Lab 10: Functions

Lab 11: Pointers

Lab 12: Pointers

Lab 13: File: reading and writing

Lab 14: File Handling fputw(),fgetw(), remove();

Lab 15: Creating Macros

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**BCA 2nd Sem**

**Data Structures and Algorithms (USA24201J)**

**List of Programs**

Lab 1:Recursion

Lab 2:Arrays

Lab 3: Implementation of Linked List

Lab 4:Implementation of stack and its applications

Lab 5:Queue implementation using array and pointers

Lab 6:Implementation of binary tree using Arrays

Lab 7: Implement all the three type of Tree Traversals

Lab 8:Implementation of BST Heap Data Structure

Lab 9:Implementation of Min and Max Heap

Lab 10:Implementation of Bubble and Insertion sort

Lab 11:Implementation of Quick sort and merge sort

Lab 12:Linear search and Binary search

Lab 13:Implementation of Graph using Array

Lab 14:Implementation of shortest path algorithm

Lab 15:Implementation of minimum spanning tree

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**BCA 2nd Sem**

**Object Oriented Programming (UCA24202J)**

**List of Programs**

Lab 1: I/O operations and operators

Lab 2: Control structures and Functions

Lab 3: Classes and Objects

Lab 4: Parameterized Constructor and Constructor Overloading

Lab 5: Function Overloading

Lab 6: Operator Overloading

Lab 7: Inheritance

Lab 8 : Multiple, Multilevel Inheritance

Lab 9 : Abstract classes and Virtual Functions

Lab 10: Simple file programs

Lab 11: Working with files

Lab 12: command line arguments program

Lab13 :Templates

Lab 14: Multilevel exceptional programs

Lab 15: User defined Exceptions and simple CPP application.

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**Circular – 2024-25**

**BCA 2nd Sem**

**Web Technology (UCA24M01J)**

**List of Programs**

Lab1: Learning to work with Linux Server

Lab2: Working with files and directory commands

Lab 3: Working with file commands, Creating and modifying files using VI Editor

Lab 4: Writing Simple PHP Programs

Lab 5: Operators & Control Statements

Lab 6: Embedding PHP script in HTML

Lab 7: Passing parameters to a function

Lab 8: Functions & Strings

Lab 9: String Manipulation

Lab 10: Arrays

Lab 11: Arrays & Objects

Lab 12:Introspection and Serialization

Lab 13: Creating Database and table

Lab 14: Working with various MySQL Queries

Lab 15: Developing Simple Database Applications