Lab	Type	Practical
1		**Class and Object, Constructors, Inheritance**
	A	1. Write a program to create a class named **Candidate** with ID, Name, Age, Weight and Height as data members & also create a member functions like GetCandidateDetails() and DisplayCandidateDetails().
	A	2. Write a program to create a class **Staff** having data members as Name, Department, Designation, Experience & Salary. Accept this data for 5 different staffs and display only names & salary of those staff who are HOD.
	A	3. Write a pogram to Create a class **Bank_Account** with Account_No, Email, User_Name, Account_Type and Account_Balance as data members. Also create a Member function GetAccountDetails() & DisplayAccountDetails().
	A	4. Write a program with following specifications: Class Name: **Student** Data Members: Enrollment_No, Student_Name, Semester, CPI and SPI Get Students Details using constructor and DisplayStudentDetails() using member function.
	A	5. Write a program to calculate area of a Rectangle using constructor.
	A	6. Write a program for implementing single inheritance which creates one class **Account_Details** for getting account information and another class **Interest** for calculating and displaying total interest from the data inserted from account details.
	B	7. Write a program to Define a class **Salary** which will contain member variable Basic, TA, DA, HRA. Write a program using Constructor with default values for DA and HRA and calculate the salary of employee.
	B	8. Write a program to Define a class **Distance** have data members dist1, dist2, dist3. Initialize the two data members using constructor and store their addition in third data member using function and display addition.
	B	9. Create a class **Furniture** with material ,price as data members. Create another class **Table** with Height , surface_area as data members. Write a program to implement single inheritance.
	B	10. Program to implement the following multiple inheritance using interface

Interface: Gross Method- Gross_sal()	Class : Salary Data Members - HRA, TA,DA Methods - Disp_sal()	Class : Employee Data Members - Name Methods - basic_sal()

2		**Exception Handling, Interface, Abstraction, String Functions**
	A	1. Write a program to Create a divide by zero exception and handle it.
	A	2. Write a program that reads 5 numbers from user. Demonstrate concept of IndexOutOfRange Exception.
	A	3. Write a program to create an **abstract class Sum** having abstract methods SumOfTwo(int a, int b) and SumOfThree(int a, int b,int c). Create another class **Calculate** which extends the abstract class and implements the abstract methods.
	A	4. Write a program to create **interface Calculate**. In this interface we have two member functions Addition() and Subtraction(). Implements this interface in another class named Result.
	A	5. Write program showing use of common methods of String class.
	A	6. Write a program to Replace lower case characters to upper case and Vice-versa.
	A	7. Write a program to create interface named **Shape**. In this interface, we have three methods Circle(), Triangle() and Square() which calculates area of Circle, Triangle and Square respectively. Implement Shape interface.
	B	8. Write a program to accept a number from the user and throw an exception if the number is not an even number.
	B	9. Write a program to find the longest word in a string.
	B	10. Write a program to change the case of entered character.

3		**Method Overloading, Method Overriding & Delegate**
	A	1. Write a program using method overloading by changing datatype of arguments to perform addition of two integer numbers and two float numbers.
	A	2. Write a program using method overloading by changing number of arguments to calculate area of square and rectangle.
	A	3. Create a class named RBI with calculateInterest() method. Create another classes HDFC, SBI, ICICI which overrides calculateInterest() method.
	A	4. Write a program to return the factorial from the method using delegate.
	B	5. Create a class Hospital with HospitalDetails() method. Create another classes Apollo, Wockhardt, Gokul_Superspeciality which overrides HospitalDetails() method.
	B	6. Write a programs to Find Area of Square, Rectangle and Circle using Method Overloading.

		7. Write a program to create a delegate called TrafficDel and a class called TrafficSignal with the following delegate methods.
		Public static void Yellow()
		{
		    Console.WriteLine("Yellow Light Signal To Get Ready");
		}
		Public static void Green()
		{
		    Console.WriteLine("Green Light Signal To Go");
		}
		Public static void Red()
		{
		    Console.WriteLine("Red Light Signal To Stop");
		}

		8. Write a program to create a delegate calculator to demonstrate the example of generic delegate.

4		**Collection Classes**
	A	1. Create an ArrayList for StudentName and perform following operations: a. Add() - To Add new student in list b. Remove() - To Remove Student with specified index c. RemoveRange() - To Remove student with specified range. d. Clear() - To clear all the student from the list
	A	2. Create a List for StudentName and perform following operations: a. Add() - To Add new student in list b. Remove() - To Remove Student with specified index c. RemoveRange() - To Remove student with specified range. d. Clear() - To clear all the student from the list
	B	3. Create a Stack which takes integer values and perform following operations: a. Push() - To Add new item in stack b. Pop() - To Remove item from the stack c. Peek() – To Return the top item from the stack. d. Contains() - To Checks whether an item exists in the stack or not. e. Clear() - To clear items from stack
	B	4. Create a Queue which takes integer values and perform following operations: a. Enqueue() - Adds an item into the queue. b. Dequeue() - Returns an item from the beginning of the queue and removes it from the queue. c. Peek() - Returns an first item from the queue without removing it. d. Contains() - Checks whether an item is in the queue or not e. Clear() - Removes all the items from the queue
5	A	Introduction to IDE, how to create project of .net core, how to add controllers, action methods and views. How to add NuGet package references.
6	A	Prepare a page which displays student details and his/her semester wise SPI in table format.
	A	Prepare semester wise SPI table data in controller file and store it in ViewBag. Display the data to view page using foreach loop.
7	A	Prepare employee page which displays employee details in table format. Create employee model class for it and use List collection class object to pass data from controller to view.
	A	Add delete functionality in table page.
	A	Add functionality to insert a record.
	A	Add functionality to update a record.

8	A	Create a project and add Home, About, Contact Us views. And add appropriate routing between these pages. Use bootstrap for better design. (use conventional routing)
	A	Add attribute routing in above practical along with optional parameters and apply ignore route templates functionality.
9	A	**Create Database and prepare stored procedures for Select command.** Create Database : StudentMaster also Create all tables SelectAll and SelectByPK stored procedures
10	A	**Prepare stored procedure for Insert, Update and Delete command** Create all tables Insert, Update and Delete stored procedures
11	A	Single page bootstrap theme conversion using View pages and Layout page. Also convert admin theme for the project with required pages. [Use Nice Admin Template]
12	A	Student registration form using Standard html helpers. (StudentName, Branch, Semester, Birthdate, Mobile, Email, Address, City, Hobbies, Gender)
	A	Student registration form using Strongly typed html helpers. (StudentName, Branch, Semester, Birthdate, Mobile, Email, Address, City, Hobbies, Gender)
13	A	Perform file upload operation and display the uploaded file.
	B	Perform multiple file upload operation and display it.
14	A	**Project Creation and Area Implementation** Create a new asp.net core project with MVC Template and Create appropriate MVC Areas for Country, State, City, Branch, and Student
15	A	**Prepare Design Pages** Design List Page & Add/Edit Pages. [For LOC_Country, LOC_State, LOC_City]
16	A	**Routing** Apply Attribute Routing in whole Project
17	A	**Database connectivity and Implementation of read operation** Create Database connectivity and Display data (All Records) for LOC_CountryList.cshtml, LOC_StateList.cshtml, LOC_CityList.cshtml view pages

18	A	**Model creation and Data annotation** Implement data annotation on all the model classes.
19	A	**Implementation of Delete functionality** Implement Delete functionality for LOC_Country, LOC_State, LOC_City with prompt Are you sure you want to delete record?
20	A	**Apply Server side validation** Apply server side validations with proper message.
21	A	**Implementation of Insert functionality** Implement Insert functionality for LOC_Country, LOC_State, LOC_City view pages with required validations
22	A	**Implementation of Update functionality** Implement Update functionality for LOC_Country, LOC_State, LOC_City view pages.
23	A	**Session implementation** Implement Session functionality in your project. [Add Login and Sign Up]
24	A	**Implementation of Search functionality** Implement Search functionality for all the list pages
25	A	**Implement functionality to change user profile** Implement functionality by which user can change their profile.
26	A	**Implementation of Cascade dropdown functionality** Implement functionality to fill state wise city using cascade dropdown functionality.
27	A	**Sweet alert implementation** Implement Sweet alert when user want to delete any record.
28	A A	**Dashboard design and Export excel functionality** Display Different counts & Statistics using Temporary Table and Temporary variables. Add a button by which user can export table data to excel.
29	A	**Delete many records** Add checkboxes in table as column. User can delete multiple selected records.

30	A	**URL Encryption and Decryption**
		Perform URL Encryption and Decryption using standard encryption decryption algorithm.