List of Practical for Class XII
Computer Science

P.01.

Write a complete C++ program to define class Garment with following description:

Private members:

Code - type string
Type - type string
Size - type int
Material- type string
Price - type float
Nos - type int

Function Calc_Price( ) which calculate and assign the value Price as follows:

If material is "COTTON"

Type	Price
TROUSER	1500
SHIRT	1200

For material other than "COTTON" reduce price by 25%

Public members:

Constructor to assign initial values of Code, Type and Material with "Not Assigned" and size and Price with 0.

Function Enter( ) to read data values and call Calc_Price( ).

Function Show( ) to display contents of all data members.
Create the objects of class in main ( ) as per user choice and display the same.

P.02.

Declare a class Account to represent bank account of customers with the following data members. Name of the depositor, account no., type of account(S for saving and C for current), balance amount.

Write a program using above class to do the following:

- To initialize data members.
- To deposit money.
- To withdraw money after checking the balance (minimum is Rs.1000)
- To display the Details of particular account
- Display the List of all account details.
- Exit.

P.03.

Define a class Teacher with the following specification:

Private members:

- Name 20 Characters
- Subject 10 Characters
- Basic, DA, HRA float
- Salary float
- Calculate() function which computes the salary and returns it. Salary is sum of Basic, DA, and HRA. And also calculate DA as 57% of Basic and HRA as 30% of Basic.

Public members:

- Constructor to assign Name as "Null", Subject as English and Basic, DA, HRA, Salary as 0.0.
- Parameterized Constructor
- Copy Constructor
- Destructor
- ReadData() function which accepts the data values and invoke the function Calculate().
- DisplayData() function which prints the data on the screen.

Write a program to create object of class as per user choice and display the same.

P.04.
Write a menu driven C++ program to read & write records from a class Stud having Rollno, Sname, Age, class, Marks as private data member and Input( ), Display( ) , Retrollno( ) as public function members. Perform following actions.

1. Create objects and write the records to the file STUDENT.DAT as per user choice.
2. Read all records from the files and display.
3. Search and display a records of the given rollno.

P.05.
Write a menu driven C++ program to read & write records from a class Stud having Rollno, Sname, Age, class, Marks as private data member and Input( ), Display( ), Retrollno( ) as public function members. Perform following actions.

1. Create objects and write the records to the file STUDENT.DAT as per user choice.
2. Read all records from the files and display.
3. Delete a record with warning of the given rollno.

P.06.
Write a menu driven C++ program which contains 1-D Array of 10 elements. Perform the following:

1. Read the data values from user for array
2. Invoke a function LSearch( ) for linear search of given element and display it's position in array.
3. Invoke a function BSearch( ) for binary search of given element and display it's position in array.

P.07.
Write a C++ program containing a one Dimensional Array of 10 elements. Perform the following:

1. Read data values from user.
2. Invoke a function SelSort( ) to sort the elements using selection sort and display.
3. Invoke a function BSort( ) to sort the elements using bubble sort and display.

P.08.
Write a C++ program containing a one Dimensional Array of 10 elements. Perform the following:

1. Read data values from user.
2. Invoke a function SelSort( ) to sort the elements using selection sort and display.
3. Invoke a function InsSort( ) to sort the elements using insertion sort.

P.09.
Write a C++ program containing a one Dimensional Array of 10 elements. Perform the following:

1. Read data values from user.
2. Invoke a function BSort( ) to sort the elements using bubble sort and display.
3. Invoke a function InsSort( ) to sort the elements using insertion sort.

P.10.
Write a menu driven C++ program to merge two given arrays A in ascending order. Perform the following:

1. Read ascending array A of 10 element from user and display.
2. Read ascending array B of 10 element from user and display.
3. Create ascending third array C, which contains merged elements of A and B in ascending order.

P.11. Write a menu driven complete C++ program to:

1. Read two matrices A[10][10], B[10][10] from user.
2. Add the matrices A and B into matrix C[10][10] and display.
3. Subtract the matrices and put in matrix C[10][10] and display.
4. Multiply the matrices and put in matrix C[10][10] and display

P.12 Write a menu driven C++ program to create a link list to read information from user.

1. Using insertion in the beginning of the list.
2. Using insertion in the end of the list.
3. Display the content of the list.

P.13 Write a menu driven C++ program to create a link list and perform the following:

1. Read information from user using insertion in the end of the list.
2. Delete nodes from the beginning of the list.
3. Display the contents of the list.

P.14 Write a menu driven C++ program to implement dynamic stack and do the following:

1. Push the elements on the stack.
2. Pop the elements on the stack.
3. Display the elements on the stack.

P.15 Write a menu driven C++ program to implement the dynamic queue and do the following:

1. Insert the elements in the queue.
2. Delete the elements from the queue.
3. Display the elements of the queue.

P.16 Write a menu based program using array to do Stack operations with the following options on the basis of user's choice.

1. Push an Element
2. Pop an Element
3. Print Stack
4. Exit

P.17 Write a menu based program using array to do Queue operations with the following options on the basis of user's choice.

1. Insert an Element
2. Delete an Element
3. Print Queue
4. Exit

P.18 Write a menu based program to do the following on double dimensional array (Square Matrix)on the basis of user's choice write function for all the operations.

1. To Sum elements of each diagonal display it on screen
2. To Display only Middle Row and Middle Column
3. To Display only Lower Half part of matrix
4. Exit

P.19 Write a menu based program to do the following on double dimensional array (M X N Matrix) on the basis of user's choice write function for all the operations.

1. To Sum elements of each Row display it on screen
2. To Sum elements of each Column display it on screen
3. To Sum only those elements which are divisible by either 3 to 5
4. Exit

P.20 Write a menu based program to do the following on circular queue of 10 integer elements using functions.

1. Insert element in Circular Queue
2. Delete element from Circular Queue
3. Display contents of Circular Queue
4. Exit