**Group A**

1. Write a C++ program to Generate series of prime numbers.

2. Write a C++ program implement simple Arithmetic Calculator.

3. Write a C++ program to create class with usage of all access specifiers.

4. Write a CPP to create class Student with appropriate member variable and member functions and make use of following .

Constructors

a. Destructors

b. Inline, static, friend function

5. Write a CPP to implement following inheritances using car rental system

a. Single Inheritance

b. Multilevel inheritance

c. Multiple Inheritance

d. Hierarchical Inheritance

**Group B**

1. Write a CPP to implement Online Payment system using function overloading for Online Shopee.

2. Implement a class Complex which represents the Complex Number data type. Implement the following operations:

a. Constructor (including a default constructor which creates the complex number 0+0i).

b. Overloaded operator +, - to add and subtract two complex numbers

c. Overloaded operator \* , /to multiply and divide two complex numbers.

d. Overloaded << and >> to print and read Complex Numbers.

3. Implement CPP to demonstrate Exception Handling for Gmail Account Login OR ATM Pin Verification.

4. Write a C++ program to implement stack of characters and integers using function

template.

5. Implement Virtual function: Create a base class Employee with a virtual function calculateSalary() returning a base salary (e.g., 1000). Derive two classes: Manager, overriding calculateSalary() to add a bonus (e.g., 500), and Developer, overriding it to add a project bonus (e.g., 200). Implement a function that accepts an Employee\* and prints the salary by calling calculateSalary(). Finally, create instances of Manager and Developer, and pass them to the function to demonstrate polymorphism, ensuring the correct salary is calculated based on the actual object type.

6. Implement a function template that finds the maximum of two values of any data type (e.g., integers, floats, strings). Create a class template Stack that implements a basic stack data structure. The class should support push, pop, as well as checking if the stack is empty.

**Group C**

1. Implement following functionality using file handling.

a. Create and write student object.

b. Display student details.

c. Search a record based on Roll no. and name

d. Modify a student record e. Delete student record

2. Write a C++ program to generate Country-Currency chart of all countries across the globe using MAP Container

3. Write a C++ program using Vector -Create a vector of integers, Add at least 5 elements to the vector, Display the contents of the vector, Access and print the 3rd element using both index and at() method. Remove the last element from the vector and print the updated vector.

4. Write a C++ program using List- Create a list of integers and initialize it with the following values: 10, 20, 30, 40, 50.Perform the following operations :Add an element with the value 60 at the front of the list. Add an element with the value 5 at the back of the list. Remove the first and last element from the list. Print the contents of the list after each operation. Implement a function to display all elements of the list.

5. Write a C++ program to write and read data from a file using basic file operations (ofstream and ifstream).Demonstrate the use of seekg() to move the read pointer to a specific position in the file and display content. Use seekp() to move the write pointer and modify data at a specific position in a file.