C++

COURSE

1) Introduction

- Pop vs oops
- Cascading of cout ,cin

2) OPPs properties

- Class
- Object
- Data encapsulation
- Data abstraction (ADT)
- Inheritance
- Polymorphism
- Data hiding
- Message Passing System

3) Operator in C++

4) Explain Pointer

- Types of pointers
    - near
    - far
- Memory allocation
- Generic Pointer

5) Memory Management Operators

- new
- delete
- working with array using new operator

6) Data types

- Primitive
- Non-primitive
    - Derived
    - User-define

7) Reference variable

- Call by value
- Call by pointer
- Call by reference variable
- Return by reference

8) Scope resolution operator

- Local & Global Variable concept

9) Function Prototype

10) Explain static keyword

11) Inline function

- Explain Macro
  - #define
- Difference between Macro & Inline Function

12) Function with Default arguments

13) Function Overloading: static Polymorphism

- Rules for Function overloading
- Function Overloading with Function with Default arguments

14) Structure, union and Enumeration

15) class introduction

16) Define Function outside the class

- using scope resolution operator

17) Visibility mode (private, public protected)

- Class Program Practice

- Array of objects
- Array within the class
- Containership (associability of the class)

18) Constructor

- Default Constructor
- Parameterized Constructor
- Copy Constructor
- Dynamic Constructor
- Constructor chaining

19) Destructor

- Constructor without destructor
- Destructor without Constructor

20) Operator Overloading: static polymorphism

- Unary operators
- Binary operators
- Friend function
- Overload >> & <<
- Working with objects of two different classes
- Apply operator overloading on string class objects

21) Type Casting

- Inbuilt to inbuilt
- Inbuilt to user-define
- User define to inbuilt
- User define to user define

  - Using constructor
  - Using conversion function

22) Inheritance

- Introduction to Inheritance
- Advantages of Reusability
- Types of inheritance in C++
- Protected Keyword
- Constructors and Inheritance
- Method Overriding
- Virtual Base class
- Inherit the static function
- HAS-A and IS-A relationship

23) Pointer, virtual Functions & Polymorphism

- Pointer to objects
- Virtual function & pure virtual functions
- Abstract class

24) Console I/O streams

- Managing console &I/O operations
- C++ stream & Stream Classes
- Unformatted I/O operation
- Formatted I/O operations
- Managing output operations

25) Working with Files

- File Stream Classes

- Opening, Closing & Error Handling with files
- File modes, Input/output operations
- Updating Files: Random access
- command line arguments

26) Templates & Exception Handling

- Class Template & Function template
- Exception & Errors
- Controls Flow in Exceptions
- Use try, catch, throws in Exception handling