PROGRAMMING

Course Objective:

The primary objective of our online C programming course is to provide students with a comprehensive and structured learning experience that equips them with the fundamental skills necessary to excel in the field of programming. Through a well-organized curriculum, practical exercises, and interactive doubt-solving sessions, we aim to foster logical thinking and a deep understanding of the C programming language. Our course intends to bridge the gap between traditional classroom education and online learning, addressing common drawbacks associated with the latter.

This course aims to:

1. Teach Fundamental Concepts: Ensure students grasp the fundamental concepts of C programming.

2. Enhance Problem-Solving Skills: Develop student's ability to solve complex problems using C programming by providing a diverse range of exercises.

3. Facilitate Practical Application: Enable students to apply their knowledge to real-world scenarios, fostering the development of practical coding skills.

4. Promote Logic Building: Strengthen logical thinking and algorithmic reasoning abilities, which are essential for success in computer programming.

5. Address Individual Doubts: Offer dedicated doubt-solving sessions on weekends to ensure that no student's queries go unanswered.

6. Reduced Learning Gaps / Overcome Missed Classes: The availability of doubt sessions and class repetition on weekends will ensure that students can maintain consistent learning, even if they miss a class.

7. Cultivate Self-Reliance: Encourage students to become independent learners by providing them with a rich resource base and continuous support.

Course Outcomes:

Upon successful completion of this course, students will achieve the following:

1. Proficiency in C Programming: Students will have a strong command of the C programming language.

2. Effective Problem Solving: Graduates of the course will be adept at solving programming challenges, applying logical thinking, and crafting efficient algorithms.

3. Improved Logical Thinking: The course will enhance students' logical reasoning skills, which will benefit them not only in programming but in other problem-solving contexts as well.

4. Confidence in Independent Learning: Graduates of this course will be equipped with the confidence and resources to continue learning and exploring C programming beyond the course.

This course is designed to empower students with the knowledge and skills required to succeed in the world of programming while addressing the limitations of online learning. We are committed to providing a rich and interactive educational experience that ensures students are well-prepared and confident in their programming abilities.

Syllabus:

- **Introduction**
  - About C Language
  - Extensions
  - Compiler & It's Working
  - Header Files

- **Basics**
  - Variables & Constant
  - Keywords
  - Standard I/O Functions
  - Escape Sequence
  - Operators

- **Decision Making**
  - if...else Statement
  - Multiple if (if...else if)
  - Nested if Statement
  - Switch Case

- **Loops**
  - while Loop
  - do...while Loop
  - for Loop

- **Array**
  - Single Dimension Array
  - Multi - Dimension Array

- **Sorting**
  - Bubble Sort
  - ...

- **String Operations**

- **Structure**

- o Access Structure Members
- o Array of Structure

- **Union**

- **Pointer**
  - o Pointer
  - o Pointer to Array
  - o Pointer to Structure

- **Function**
  - o Pre - Define Function
  - o User - Define Function
    - ▪ Categorization of Function on basis of Arguments & Return Type
    - ▪ 2 Types of Arguments

- **User Define Header File**

- **Graphics**

- **File Handling**

- **Projects**
  - o **...**
  - o **...**
  - o To make virus.