DATA STRUCTURE Detail Syllabus

(Duration 100 hours)

Introduction

➡ What is Data Structure?

➡ What is Algorithm?

➡ What is list?

➡ Types of Data Structure

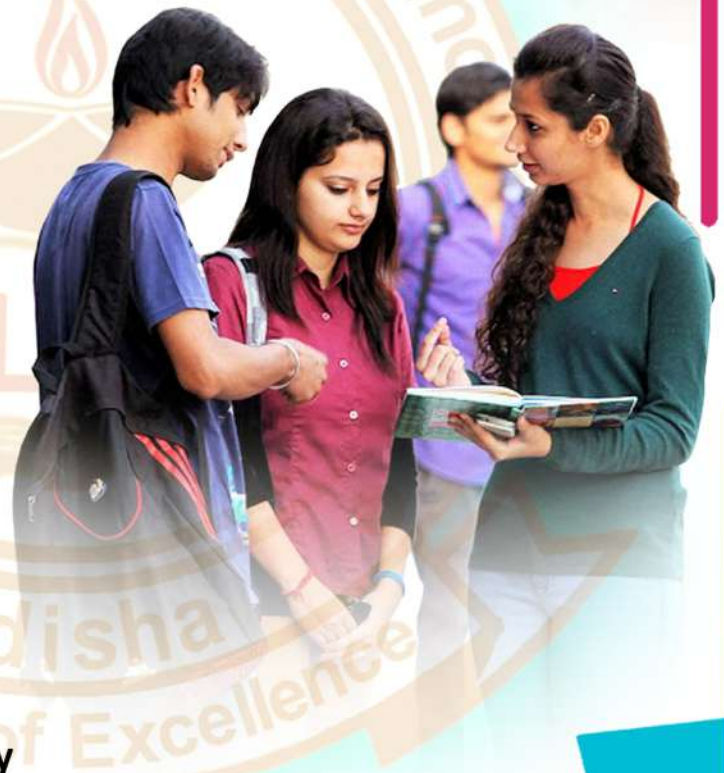➡ Introduction to an array and linked list

Array

➡ What is array?

➡ Why Array?

➡ Operations in an array

Function

➡ What is function?

➡ Types of function

➡ How function works?

➡ Function recursion and how it works?

Structure

➡ How structure allocates memory

➡ Tips on structure

➡ Why and what is structure

➡ Use of self-referential structure

➡ Memory leak and memory linked list

DATA STRUCTURE Detail Syllabus

(Duration 100 hours)

Linked list

- Why linked list
- How to create linked list
- Operation on Linked list
- Doubly linked list
- Operation on doubly linked list
- Programming approach to linked list

Stack as Data Structure

- Implementation of stack in array and linked list
- Operation on Stack
- Polish notation

Queue as Data Structure

- Implementation of Queue in array and linked list
- Operation on Queue
- Double Ended Queue (DeQue)
- Priority Queue

Tree

- Introduction
- Binary tree
- Binary tree representation in memory
- Tree traversal
- Binary search tree
- Balanced binary tree
- Tree rotation
- M-WAY search tree
- B-tree

BASIC C Detail Syllabus
(Duration 60 hours)

Graphs
➡ Introduction
➡ Representation of graphs
➡ Graph traversal
➡ Shortest path algorithm
➡ Warshall's algorithm for finding path matrix
➡ Warshal's algorithm for finding the shortest path matrix
➡ Dijkestra's technique
➡ Floyed's technique
➡ Minimum spanning tree
➡ Kruskal's algorithm
➡ Prim's algorithm

Searching and sorting
➡ Various searching technique
➡ Various sorting technique
Hashing