National Institute of Electronics and Information Technology Gorakhpur

Name of Group: IT Division

Name of Course: Data Structure in C

Objective: This training facilitates classroom and laboratory learning, letting students develop competence and confidence in implementing and customizing Data Structure using C.

Duration: 4 Weeks / 6 Weeks

Eligibility: Undergoing / Graduation with knowledge of any programming Language.

Course Fees (Proposed): Rs. 1,000/- per week (+ GST)

Registration Process: Candidates have to apply in prescribed application form. The forms can be collected from NIELIT Gorakhpur centre or can be downloaded from the NIELIT Gorakhpur website. The duly filled form along with the course fees has to be submitted at NIELIT Gorakhpur centre. The Fees deposited is Non-Refundable.

Course Content:

Modules:	Duration	Contents
Module 1	4 Weeks	• Introduction: Basic Terminology, Elementary Data Organization, Built in Data Types in C. • Arrays: Definition, Single and Multidimensional Arrays. • Linked lists: Array Implementation and Pointer Implementation of Singly Linked Lists, Doubly Linked List, Circularly Linked List, Operations on a Linked List. • Searching: Concept of Searching, Sequential search, Index Sequential Search, Binary Search. • Stacks: Primitive Stack operations: Push & Pop, Array and Linked Implementation of Stack in C, Application of stack: Prefix and Postfix Expressions • Queues: Operations on Queue: Create, Add, Delete, Full and Empty, Circular queues, Array and linked implementation of queues in C, Dequeue and Priority Queue.
Module 2	2 Weeks	• Graphs: Terminology used with Graph, Data Structure for Graph Representations: Adjacency Matrices, Adjacency List. • Graph Traversal: Depth First Search and Breadth First Search, Connected Component, Spanning Trees, • Minimum Cost Spanning Trees: Prims and Kruskal algorithm. • Transitive Closure and Shortest Path algorithm: Warshal Algorithm and Dijikstra Algorithm.

* There will be 3 Hours Session per day.
* These sessions will include Theory Classes, Demo and Practical.

Mode of Payment: Fees can be paid either by swiping debit/credit card or by challan.

For any queries and more details please contact Sh. Ajay Verma (8317093902)