Paper Code: US02CIIT21	Total Credit: 4
Title Of Paper: Advanced C Programming & Introduction to Data Structures	

Unit	Description in detail	Weightage (%)
I	**Usage of Pointers** Introduction and usage of pointers , Declaration, initialization and dereferencing of pointer variables , Pointers and function arguments , Returning multiple values through pointers, Dynamic Memory Allocation, Pointers and arrays, Pointer arithmetic, Pointer to Pointer	25%
II	**Structures Unions & File Handling** Basics of structures, Structures and functions, Structures and arrays, Pointers to structures, Nested structures , Introduction to Unions , Typedefs , Introduction and Usage of files, Operations on files, File access modes, Handling text files.	25%
III	**Introduction to Data Structures & Stacks** Introduction to data structures, their usage, applications and advantages, Primitive and non-primitive data structures and operations on them, Linear and non-linear data structures, Introduction to stacks, Operations on stacks , Applications of stacks.	25%
IV	**Queue & Linked Lists** Queues and their uses Types of queues : Simple queues, Circular queues, Double ended queues, Priority Queue. Application of Queue, Introduction to linked lists, Types of linked lists, Singly linked lists, Doubly linked lists, Circular linked lists , Circular Doubly linked list, Applications of linked lists.	25%

Basic Text & Reference Books:-

1. Kernighan B., Ritchie D. : The C Programming Language, Prentice Hall, 1988
2. Cooper H. & Mullish H : The Sprit of C, Jaico Publication House, New Delhi.
3. Balaguruswami : Programming in ANSI C., Tata McGraw Hill Publication.