SARDAR PATEL UNIVERSITY
Programme & Subject: B.Sc. (CA & IT) – M.Sc. (CA & IT) Dual Degree
Semester – II
Syllabus with Effect from: June-2016

Paper Code: PS02CIIT03		**Total Credit: 3**
Title Of Paper: Advanced 'C' Programming & Introduction to Data Structure		
Unit	**Description in detail**	**Weightage (%)**
I	**Usage of Pointers & Structures** Introduction and usage of pointers Declaration, initialization and dereferencing of pointer variables Pointers and addresses Pointers and function arguments Returning multiple values through pointers, Dynamic memory allocation, Pointers and arrays, Pointer arithmetic Basics of structures, Structures and functions, Structures and arrays, Pointers to structures, Nested structures	25%
II	**Unions & File Handling** Unions Typedefs Introduction and Usage 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 Introduction to linked lists Types of linked lists Singly linked lists, Doubly linked lists, Circular linked lists Applications of linked lists	25%

Basic Text & Reference Books:-

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