Details of course:-

Course Title	Course Structure			Pre-Requisite
	L	T	P	
Data structure and algorithm (BT 204)	3	0	2	

Course Objective:
The course aims to introduce a no. of popular data structures and algorithm, along with the basic technique in algorithm analysis.

Course Outcome (CO)

1. Understand basic data structures such as arrays, strings. Study linear data structures such as stacks and queues and understand their difference
2. Understand need of dynamic memory allocation, study different types of linked list linked list
3. Study tree, various operations on binary search tree, Application of binary search tree
4. Study different techniques for solving problems like sorting and searching. Describe the hash function and concepts of collision and its resolution methods.
5. .Study graph, and various operations on that and their application

S.No.	Content	Contact Hours
Unit 1	Introduction: Introduction to Algorithmic, Complexity- Time-Space Trade off. Introduction to abstract data types, design, implementation and applications.Introduction to List data structure.Arrays and Strings: Representation of Arrays in Memory: one dimensional, Twodimensional and Multidimensional, Accessing of elements of array, performing operations like Insertion, Deletion and Searching. Sorting elements of arrays. Strings and String Operations.Stacks and Queues: Introduction to data structures like Stacks and Queues.Operations on Stacks and Queues, Array representation of Stacks , Applications ofStacks : recursion, Polish expression and their compilation conversion of infix expression to prefix and postfix expression, Operations of Queues,Representations of Queues Applications of Queues, Priority que	9
Unit 2	Linked Lists: Singly linked lists, Representation of linked list, Operations of Linked list such as Traversing, Insertion and Deletion, Searching, Applications of Linked List.Concepts of Circular linked list and Doubly linked list and their Applications. Stacks and Queues as linked list.	8