



# Swarnandhra College of Engineering & Technology

Autonomous and recognized under 2(F) and 12(B) by UGC

Recognized by AICTE, permanently affiliated to JNTUK Kakinada

Accredited by NAAC with 'A' Grade (2<sup>nd</sup> Cycle)

Seetharamapuram, Narsapur – 530280 (Andhra Pradesh)

## DEPARTMENT OF INFORMATION TECHNOLOGY

### TEACHING PLAN

Course Code	Course Title	Semester	Branch	Contact Periods/ Week	Academic Year	Date of commencement
23IT3L01	Advanced Data Structures and Algorithm Analysis Lab	III	IT	3	2024-25	30-07-2024

#### COURSE OUTCOMES

1	Acquire practical skills in constructing and managing Data structures
2	Apply the popular algorithm design methods in problem-solving scenarios

Experiment Number	Experiment	Contact Hours
1	Construct an AVL tree for a given set of elements which are stored in a file. And implement insert and delete operation on the constructed tree. Write contents of tree into a new file using in-order.	3
2	Construct B-Tree an order of 5 with a set of 100 random elements stored in array. Implement searching, insertion and deletion operations.	3
3	Construct Min and Max Heap using arrays, delete any element and display the content of the Heap.	3
4	Implement BFT and DFT for given graph, when graph is represented by	3
5	Write a program for finding the biconnected components in a given graph.	3
6	Implement Quick sort and Merge sort and observe the execution time for various input sizes (Average, Worst and Best cases).	3
7	Compare the performance of Single Source Shortest Paths using Greedy method when the graph is represented by adjacency matrix and adjacency lists.	3
8	Implement Job Sequencing with deadlines using Greedy strategy.	3
9	Write a program to solve 0/1 Knapsack problem Using Dynamic Programming	3



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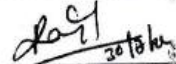
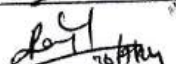
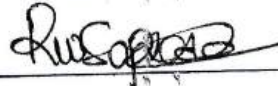
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Date of  
Commencement

07-2024

Contact  
Hours

10	Implement N-Queens Problem Using Backtracking.	3
11	Use Backtracking strategy to solve 0/1 Knapsack problem.	3
12	Implement Travelling Sales Person problem using Branch and Bound approach.	3
Cumulative Proposed Periods		36

		Name	Signature with Date
i	Faculty	Mr. Ch R K Raju	 30/10/24
ii	Module Coordinator	Mr. Ch R K Raju	 30/10/24
iii	Programme Coordinator	Dr. RVVS Prasad	

  
Principal

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