



SREE VIDYANIKETHAN ENGINEERING COLLEGE
(AUTONOMOUS)
SREE SAINATH NAGAR, A. RANGAMPET-517 102

Department of Computer Science and Systems Engineering

Lesson Plan cum Dairy: 2015 - 16

Name of the Subject: DATA STRUCTURES

Name of the faculty member: Mr. S.Shiva Prakash

Class & Semester: II B. Tech, I Semester

Section: CSSE - B

S. No.	Topic	No. of periods required	Date(s) covered	No. of periods used	Book(s) followed	Topics for self study
UNIT – I: LINKED LISTS						
1	Pre-requisite-1	1				Multiway linked list
2	Pre-requisite-2	1				
3	Diagnostic test, Introduction to data structures, pointers	1			T1	
4	Tutorial-I	1			T1	
5	Basic Operations	1			T1	
6	Implementations	1			T1	
7	Doubly Linked List	1			T1	
8	Tutorial-II	1			T1	
9	Circular Linked List, Applications	1			T1	
10	Formative Test - I	1				
Total periods required:		10				
UNIT – II: STACKS AND QUEUES						
11	Basic Stack Operations	1			T1	Implementation of recursive function call
12	Tutorial-III	1				
13	Stack Linked List, Implementation	1			T1	
14	Stack Applications	1			T1	
15	Queue Operations	1			T1	
16	Tutorial-IV	1				
17	Queue Linked List Design	1			T1	
18	Queue Applications	1			T1	
19	Formative Test- II	1				
Total periods required:		9				
UNIT -III: TREES, SEARCH TREES, AND HEAPS						
20	Tutorial – V	1				Red Black Trees
21	Basic tree concepts	1			T1	
22	Binary trees	1			T1	
23	Basic concepts, BST operations	1			T1	
24	Tutorial – VI	1				
25	BST Applications	1			T1	
26	AVL Search Trees	1			T1	
27	AVL Implementations	1			T1	
28	Tutorial – VII	1				
29	HEAPS, Basic Concepts	1			T1	
30	HEAP Implementation	1			T1	

31	HEAP Application	1			T1	
32	Tutorial – VIII	1				
33	Formative Test – III	1				
Total periods required:		14				
UNIT – IV: MULTIWAY TREES AND GRAPHS						
34	B-Trees, Simplified B-Trees	1			T1	Minimum Spanning Trees
35	B-Tree Variations	1			T1	
36	Tutorial-IX	1				
37	Graphs, Operations on Graphs	1			T1	
38	Graph Storage Structures	1			T1	
39	Graph Algorithms - I	1			T1	
40	Tutorial – X	1				
41	Graph Algorithms - II	1			T1	
42	Depth-first Traversal	1			T1	
43	Breadth-first Traversal	1			T1	
44	Tutorial – XI	1				
45	Formative Test - IV	1				
Total periods required:		12				
UNIT – V: SORTING AND HASHING						
46	Sorting By Exchange-I	1			T2	Comparison of Sorting and Hashing
47	Sorting By Exchange-II	1			T2	
48	Tutorial - XII	1				
49	Sorting By Distribution - I	1			T2	
50	Sorting By Distrubution - II	1			T2	
51	Sorting By Merging	1			T2	
52	Tutorial – XIII	1				
53	HASHING-Introduction, Hash Table Structure	1			R1	
54	Hash Functions, Linear Open Addressing	1			R1	
55	Tutorial – XIV	1				
56	Chaining, Applications.	1			R1	
57	Formative Test - V	1				
Total periods required:		12				
Grand total periods required:		57				

TEXT BOOKS:

- T1. Richard Gileberg, Behrouz A. Forouzan, "Data Structures: A Pseudocode Approach with C", Second Edition, 2007.
T2. DebasisSamanta, "Classic Data Structures", Phi Learning, Second Edition, 2009.

REFERENCE BOOKS:

- R1. G.A.V. Pai, "Data Structures and Algorithms", Tata McGraw Hill, Second Edition 2009.
R2. Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein, "Introduction To Algorithms", Third Edition, PHI LEARNING PVT-LTD,2009.

**Signature of the Faculty
Member**

**Signature of the Course
Coordinator**

Signature of the HOD