

ST. ANN'S COLLEGE OF ENGINEERING & TECHNOLOGY, CHIRALA
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
LECTURE SCHEDULE

Subject: Advanced Data Structures
Name: T.Y.Srinivasa Rao
No. of Lectures per Week: 3+1* (Tutorial)

Academic Year: 2017 – 2018
Year & Sem/Section: II - II 'A'

S. No.	Date	Unit No.	Topics to be Covered
1	20-11-17	UNIT-1	External Sorting
2	21-11-17		Introduction to Two-way Merging
3	22-11-17		K-way Merging
4	23-11-17		Buffer Handling for Parallel Operation
5	25-11-17		Run Generation
6	27-11-17		Tutorial
7	28-11-18		Optimal Merging of Runs
8	29-11-17		Unit -I Test
9	30-11-17	UNIT-2	OT-I, Introduction-Static Hashing
10	02-12-17		Hash Table
11	04-12-17		Tutorial
12	05-12-17		Hash Functions
13	06-12-17		Secure Hash Function
14	07-12-17		Overflow Handling
15	11-12-17		Tutorial
16	12-12-17		Theoretical Evaluation of Overflow Techniques
17	13-12-17		Dynamic Hashing- Motivation for Dynamic Hashing
18	14-12-17		Dynamic Hashing Using Directories
19	16-12-17		Directory less Dynamic Hashing
20	18-12-17		Tutorial
21	19-12-17		Unit - II Test
22	20-12-17	UNIT-3	OT-II, Heap Operations
23	21-12-17		Other Heap Operations
24	23-12-17		Applications of Priority Queues
25	26-12-17		The Selection Problem
26	27-12-17		Event Simulation Problem
27	28-12-17		Binomial Queues
28	30-12-17		Binomial Queue Structure
29	01-01-18		Tutorial
30	02-01-18		Binomial Queue Operation
31	03-01-18		Implementation of Binomial Queues
32	04-01-18		UNIT-4
33	06-01-18	AVL Trees Operations	
34	08-01-18	Tutorial	
35	09-01-18	Red-Black Trees, Definition	
36	10-01-18	Representation of a Red- Black Tree	
37	11-01-18	Searching a Red-Black Tree	
38	17-01-18	Revision/ST-I	
39	18-01-18	Revision/ST-I	
40	20-01-18	Revision/ST-I	
41	22-01-18	Tutorial	
42	23-01-18	Inserting into a Red Black Tree	
43	24-01-18	Deletion from a Red-Black Tree	
44	25-01-18	Joining Red-Black Trees	
45	27-01-18	Splitting a Red-Black Tree	
46	29-01-18	Tutorial	
47	30-01-18	Unit - IV Test	
48	31-01-18	UNIT-5	OT-IV, M-Way Search Trees, Definition and Properties
49	01-02-18		Searching an M-Way Search Tree
50	03-02-18		B-Trees - Definition and Properties
51	05-02-18		Tutorial

52	06-02-18		Number of Elements in a B-Tree
53	07-02-18		Insertion into B-Tree
54	08-02-18		Deletion from a B-Tree
55	10-02-18		B+Tree – Definition, Searching a B+Tree
56	14-02-18		Insertion into B+ Tree
57	15-02-18		Deletion from a B+Tree
58	17-02-18	UNIT-6	OT-V, Digital Search Trees – Definition, Search
59	19-02-18		Tutorial
60	20-02-18		Unit – V Test
61	21-02-18		Insert and Delete in Digital Search Trees
62	22-02-18		Binary Tries, Compressed Binary Tries, Patricia
63	24-02-18		Multiway Tries - Definition, Searching, Sampling Strategies
64	26-02-18		Tutorial
65	27-02-18		Insertion into a Trie, Deletion from a Trie
66	28-02-18		Keys with Different Length - Height of a Trie
67	01-03-18		Space Required and Alternative Node Structure- Prefix Search and Applications
68	03-03-18		Compressed Tries- Compressed Tries With Skip Fields- Compressed Tries With Labeled Edges- Space Required by a Compressed Tries
69	05-03-18		Tutorial
70	06-03-18		Tries and Internet Packet Forwarding, IP Routing- 1-Bit Tries- Fixed-Stride Tries-Variable-Stride Tries
71	07-03-18		Revision
72	08-03-18		Revision
73	12-03-18		Revision
74	13-03-18		Revision
75	14-03-18		Revision
76	15-03-18		Revision
77	17-03-18		Revision
78	19-03-18		Revision
79	20-03-18		Revision
80	21-03-18		Revision
81	22-03-18		Revision
82	24-03-18	Revision	

TEXT BOOKS

1. Data Structures, A Pseudocode Approach, Richard F Gilberg, Behrouz A Forouzan, Cengage.
2. Fundamentals of Data Structures in C++, Ellis Horowitz, Sartaj Sahni and Dinesh Mehta, 2nd Edition, Universities Press (India) Pvt. Ltd.
3. Data structures and Algorithm Analysis in C++, 2nd edition, Mark Allen Weiss, Pearson.

REFERENCE BOOKS

1. <http://lcm.csa.iisc.ernet.in/dsa/dsa.html>
2. http://utubersity.com/?page_id=878
3. <http://freevidelectures.com/Course/2519/C-Programming-and-Data-Structures>
4. <http://freevidelectures.com/Course/2279/Data-Structures-And-Algorithms>
5. File Structures: An Object oriented approach with C++, 3rd ed., Michel J Folk, Greg Riccardi, Bill Zoellick.
6. C and Data Structures: A Snap Shot oriented Treatise with Live examples from Science and Engineering, N B Venkateswarlu & E V Prasad, S Chand, 2010.

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