

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 'C'

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

52	07-02-18		Number of Elements in a B-Tree
53	08-02-18		Tutorial
54	09-02-18		Insertion into B-Tree
55	10-02-18		Deletion from a B-Tree
56	14-02-18		B+Tree Definition, Searching a B+Tree
57	15-02-18		Tutorial
58	16-02-18		Insertion into B+Tree
59	17-02-18		Deletion from a B+Tree
60	20-02-18	UNIT-6	OT-V, Digital Search Trees – Definition, Search
61	21-02-18		Insert and Delete in Digital Search Trees
62	22-02-18		Tutorial
63	23-02-18		Unit – V Test
64	24-02-18		Binary Tries, Compressed Binary Tries, Patricia
65	27-02-18		Multiway Tries- Definition, Searching, Sampling Strategies
66	28-02-18		Insertion into a Trie, Deletion from a Trie
67	01-03-18		Tutorial
68	03-03-18		Keys with Different Length- Height of a Trie
69	06-03-18		Space Required and Alternative Node Structure- Prefix Search and Applications
70	07-03-18		Compressed Tries- Compressed Tries With Skip Fields- Compressed Tries With Labeled Edges- Space Required by a Compressed Tries
71	08-03-18		Tries and Internet Packet Forwarding, IP Routing- 1-Bit Tries- Fixed-Stride Tries-Variable-Stride Tries
72	09-03-18		Revision
73	13-03-18		Revision
74	14-03-18		Revision
75	15-03-18		Revision
76	16-03-18		Revision
77	17-03-18		Revision
78	20-03-18		Revision
79	21-03-18		Revision
80	22-03-18		Revision
81	23-03-18		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://freevideolectures.com/Course/2519/C-Programming-and-Data-Structures>
4. <http://freevideolectures.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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