

**St. Ann's College of Engineering & Technology: Chirala**

Department of COMPUTER SCIENCE &amp; ENGINEERING

**LECTURE SCHEDULE**

SUBJECT: Data Structures

ACADEMIC YEAR: 2017-18

NAME: G. Prasuna

YEAR &amp; SEM/SECTION: II-I CSE-B

No. of Lectures per week: 5 + 1\*(Tut)

S. NO	DATE	UNIT	TOPICS
1	12-Jun-17	UNIT I	Abstract Data Types and the C++ Class: An Introduction to C++ Class
2	14-Jun-17		Data Abstraction and Encapsulation in C++, Declaring Class Objects and Invoking Member Functions
3	15-Jun-17		Special Class Operations- Miscellaneous Topics- ADTs and C++Classes
4	16-Jun-17		ARRAYS as an Abstract Data Type
5	17-Jun-17		<b>Tutorial</b>
6	17-Jun-17		<b>Tutorial</b>
7	19-Jun-17		The Polynomial Abstract Data type- Polynomial Representation
8	21-Jun-17		Polynomial Addition
9	22-Jun-17		Sparse Matrices – Introduction, Sparse Matrix Representation
10	23-Jun-17		Transposing a Matrix
11	24-Jun-17		<b>Tutorial</b>
12	24-Jun-17		<b>Tutorial</b>
13	28-Jun-17		Matrix Multiplication, Representation of Arrays
14	29-Jun-17		<b>Revision through ppt / Nptel videos</b>
15	30-Jun-17		<b>Unit 1 Exam</b>
16	01-Jul-17		<b>Tutorial</b>
17	01-Jul-17		<b>Tutorial</b>
18	03-Jul-17	UNIT II	<b>OT-1</b> , Templates in C++, Template Functions- Using Templates to Represent Container Classes
19	05-Jul-17		The Stack Abstract Data type
20	06-Jul-17		The Queue Abstract Data type
21	07-Jul-17		Subtyping and Inheritance in C++
22	10-Jul-17		Evaluation of Expressions, Expression-Postfix Notation
23	12-Jul-17		Infix to Postfix
24	13-Jul-17		<b>Revision through ppt / Nptel videos</b>

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26	15-Jul-17		<b>Tutorial</b>	
27	15-Jul-17		<b>Tutorial</b>	
28	17-Jul-17	<b>UNIT III</b>	Defining a Node in C++-Designing a Chain Class in C++- Pointer manipulation in C++	
29	19-Jul-17		Chain Manipulation Operations, The Template Class Chain, Implementing Chains with Templates	
30	20-Jul-17		Chain Iterators- Chain Operations- Reusing a Class	
31	21-Jul-17		Circular Lists, Available Space Lists	
32	22-Jul-17		<b>Tutorial</b>	
33	22-Jul-17		<b>Tutorial</b>	
34	24-Jul-17		Linked Stacks, Linked Queues	
35	26-Jul-17		Single Linked List and Chains	
36	27-Jul-17		Polynomials, Polynomial Representation- Adding Polynomials	
37	28-Jul-17		Circular List Representation of Polynomials, Equivalence Classes	
38	29-Jul-17		<b>Tutorial</b>	
39	29-Jul-17		<b>Tutorial</b>	
40	31-Jul-17		Sparse Matrices-Sparse Matrix Representation, Sparse Matrix input-deleting	
41	02-Aug-17		Doubly Linked lists	
42	03-Aug-17		Generalised Lists, Representation of Generalized Lists	
43	04-Aug-17		Recursive Algorithms for list,Reference counts, Shared and recursive lists	
44	05-Aug-17		<b>Tutorial</b>	
45	05-Aug-17		<b>Tutorial</b>	
46	07-Aug-17		<b>I MID</b>	<b>Revision through ppt / Nptel videos</b>
47	09-Aug-17			<b>Revision</b>
48	10-Aug-17	<b>Revision</b>		
49	11-Aug-17	<b>Revision</b>		
50	12-Aug-17	<b>Tutorial</b>		
51	12-Aug-17	<b>Tutorial</b>		
52	16-Aug-17		Introduction-Terminology of trees, Representation of Trees	
53	17-Aug-17		Binary Trees: Binary Tree-The Abstract Data type, Properties of Binary Trees, Binary Tree Representations	
54	18-Aug-17		Binary Tree Traversal- Inorder Traversal, Preorder Traversal, Postorder Traversal	
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56	19-Aug-17	UNIT IV	<b>Tutorial</b>
57	21-Aug-17		Tree Iterators
58	23-Aug-17		Thread Binary Trees
59	24-Aug-17		Inorder Traversal of a Threaded Binary Tree, Inserting a Node into a Threaded Binary Tree
60	28-Aug-17		Heaps, Priority Queues, Definition of a Max Heap
61	30-Aug-17		Insertion into Max Heap, Deletion from a Max heap
62	31-Aug-17		Binary Search Trees-Definition, Searching a Binary Search Tree, Insertion into a Binary Search Tree
63	01-Sep-17		Deletion From a Binary Search Tree, Height of Binary Search Tree
64	04-Sep-17		<b>Unit 4 Exam</b>
65	06-Sep-17		UNIT V
66	07-Sep-17	Depth First Search, Breadth First Search	
67	08-Sep-17	Connected Components, Spanning Trees, Biconnected Components	
68	09-Sep-17	<b>Tutorial</b>	
69	09-Sep-17	<b>Tutorial</b>	
70	11-Sep-17	Minimum Cost Spanning Trees- Kruskal's Algorithm	
71	13-Sep-17	Prim's Algorithm, Sollin's Algorithm	
72	14-Sep-17	Shortest Paths and Transitive Closure	
73	15-Sep-17	Single Source/All Destination: Non-negative Edge Cost, General Weights	
74	16-Sep-17	<b>Tutorial</b>	
75	16-Sep-17	<b>Tutorial</b>	
76	18-Sep-17	All- Pairs Shortest Path	
77	20-Sep-17	<b>Revision through ppt / Nptel videos</b>	
78	21-Sep-17	<b>Unit 5 Exam</b>	
79	22-Sep-17	Sorting- Insertion Sort	
80	23-Sep-17	<b>Tutorial</b>	
81	23-Sep-17	<b>Tutorial</b>	
82	25-Sep-17	Quick Sort	
83	27-Sep-17	Merge Sort-Merging	
84	04-Oct-17	Iterative Merge Sort, Recursive Merge Sort	
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86	<b>06-Oct-17</b>		Heap Sort, Internal sortings left overs
87	<b>07-Oct-17</b>		<b>Tutorial</b>
88	<b>07-Oct-17</b>		<b>Tutorial</b>
89	<b>09-Oct-17</b>	<b>II Mid</b>	<b>Revision through ppt / Nptel videos</b>
90	<b>11-Oct-17</b>		<b>Revision</b>
91	<b>12-Oct-17</b>		<b>Revision</b>
92	<b>13-Oct-17</b>		<b>Revision</b>
93	<b>14-Oct-17</b>		<b>Tutorial</b>
94	<b>14-Oct-17</b>		<b>Tutorial</b>

FACULTY MEMBER

HEAD OF THE DEPARTMENT