Text Book:

1. “Data Structures - A Pseudocode Approach with C” by Richard F Gilberg & Behrouz A Forouzan, Cengage Publications, 2nd Edition. (refer for concept wise example and algorithms)
2. Data Structures and Algorithms Made Easy by - Narasimha Karumanchi. (refer for concepts, code)

| **S.No.** | **Date** | **Concepts covered in the class** | **Concepts to be read before coming to next day's class.** |
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| 1. | 08-08-2023 | - | Linear search, Binary search. Topic 13.1 |
| 2. | 09-08-2023 | Why do we need Data Structures, Algorithms - def, characteristics, Introduction to Analysis of Algorithms | - |
| 3. | 10-08-2023 | Analysis of Algorithms   * Time Complexity | Asymptotic Notation - Definitions |
| 4. | 11-08-2023 | Linear search and binary search. | - |
| 5. | 16-08-2023 | - | Recursion, bubble sort, selection sort |
| 6. | 17-08-2023  (3 classes) | Recursion(factorial, towers of hanoi), bubble sort, selection sort | Towers of hanoi, prepare for viva on topics related to searching and recursion |
| 7. | 18-08-2023  (2 classes) | Insertion sort, merge sort | Program for insertion sort |
| 8. | 23-08-2023 | Merge sort recursive process | Step by step tracing of algorithms with an example. |
| 9. | 24-08-2023 | Merge sort tracing of algorithm with an example. 2 Logics to solve the merging process. Applications, advantages, drawbacks.  Compare the 2 logics with algorithms studied in PST for merging of arrays. | Take an example and complete the step by step process for bubble,selection,insertion and merge sort.  Write down for each no of iterations, comparisons, swaps.  SUBMISSION OF RECORD FOR EXP-1 AND 2.  VIVA VOCE ON TOPICS OF UNIT-1 |
| 10. | 25-08-2023 | Quick sort algorithm | - |
| 11. | 28-08-2023 | All students must attempt all the 4 quizzes in UNIT-1. Use only your complete registration number wherever asked (instead of name etc.) Lateral entry students use your temporary registration number.  <https://quizizz.com/join?gc=82361010>  <https://quizizz.com/join?gc=91001519>  <https://quizizz.com/join?gc=95056283>  <https://quizizz.com/join?gc=98531795>  Deadline 30-08-2023 11:00 pm.  <https://play.google.com/store/apps/details?id=com.quizizz_mobile> App install on your phone. | |
| 12 | 31-08-2023  (2 classes) | Quick Sort, ADT, Linked List | 1. Quick Sort Efficiency (worst,best) - refer from page 583 of textbook-1. 2. [Data Structure Types, Classifications and Applications - GeeksforGeeks](https://www.geeksforgeeks.org/what-is-data-structure-types-classifications-and-applications/) |
| 13. | 01-09-2023  (2 classes) | SLL - operations using only one pointer Head | SLL - operations using two pointers Head and Tail |
| 14. | 07-09-2023  (2 classes) | DLL - operations using only one pointer Head |  |
| 15. | 08-09-2023 | All students must attempt all the 3 quizzes in UNIT-2. Use only your **complete registration number** wherever asked (instead of name etc.) Lateral entry students use your temporary registration number.  <https://quizizz.com/join?gc=76456315>  <https://quizizz.com/join?gc=79014678>  <https://quizizz.com/join?gc=79835285>  Deadline 17-09-2023 11:30 pm. | |
| 16. | 12-09-2023 |  | 15 students are nominated to bring hand made boards to class. |
| 17. | 13-09-2023 | CLL - operations using only one pointer Head | Complete all the operations in the Circular single linked list. |
| 18. | 20-09-2023 | Stacks -(arrays, linked list) | Operator Precedence Table, Answer Slip Test Questions |
| 19 | 21-09-2023 | Infix to Postfix Conversion, Evaluation of Postfix, Balanced Parentheses checking | Viva and record correction in the lab on linked lists and stacks. |
| 20 | 22-09-2023 | Problems on Stack Applications and Linked List |  |
| 21 | 04-10-2023 | Conversion from postfix to infix |  |
| 22 | 05-10-2023 | Queue- arrays, linked list |  |
| 23 | 06-10-2023 | Circular Queue |  |
| 24 | 08-10-2023 | All students must attempt all the 2 quizzes in UNIT-3. Use only your **complete registration number** wherever asked (instead of name etc.) Lateral entry students use your temporary registration number.  <https://quizizz.com/join?gc=95185452>  <https://quizizz.com/join?gc=75966110>  Deadline 15-10-2023 11:00 pm. | |
| 25 | 25-10-2023 | Swot analysis | Study trees concepts |
| 26 | 27-10-2023  (3 classes) | Binary trees - terminology, representation,properties | Study binary trees traversals |
| 27 | 30-10-2023  (3 classes) | Binary trees - properties,traversals | Study binary trees traversals |
| 28 | 1-11-2023 | Binary trees-traversals | Study binary trees traversals |
| 29 | 2-11-2023 | Binary trees-traversals | Study binary search trees insertion |
| 30 | 3-11-2023  2 classes | Binary search tree- insertion,search | Study binary search trees traversals |
| 31 | 8-11-2023 | Binary search tree- traversals | Study binary search trees deletion |
| 32 | 9-11-2023  2 classes | Binary search tree- deletion | Study binary search trees - revision |
| 33 | 11-11-2023  6 classes | Graphs-dfs,bfs  Spanning tree | Study graphs - introduction |
| 34 | 22-11-2023 | Mst - kruskals | Study Mst - kruskals |
| 35 | 23-11-2023  (2 CLASSES) | Mst- prims | Study Mst - prims |