Proving techniques by contradiction and mathematical induction are not there in TT1 syllabus)

coremen chapters to refer:

1. Module 1

1.1 complexity : chapter 3 and 4

1.2 amortized analysis: chapter 17

2. Module 2 : chapter 5

3. Module 3: Red Black Tree, chapter 13

4. Module 4: flow Network and ford Fulkerson, chapter chapter 26

Videos to refer:

1. amortized analysis using dynamic tables : <https://www.youtube.com/watch?v=iy-WhloN6vA>
2. Probabilistic analysis Hiring Problem: <https://www.youtube.com/watch?v=BD-NJekPgsY>
3. Probabilistic analysis Randomized algorithms: <https://www.youtube.com/watch?v=u1z-1QVdm9I>
4. Indicator Random Variable(IRV): <https://www.youtube.com/watch?v=xVQm3eTbmqs>
5. Hiring Problem using IRV: <https://www.youtube.com/watch?v=yQAw564S-Xg>
6. Birthday Paradox: <https://www.youtube.com/watch?v=1tnas6FQxX8>
7. Balls and Bins: <https://www.youtube.com/watch?v=OOYl7_D2LvU>
8. Red Black Tree Violations: <https://www.youtube.com/watch?v=axa2g5oOzCE>
9. Red Black tree Rotation: <https://www.youtube.com/watch?v=PhY56LpCtP4>
10. Red Black Tree Insertion: <https://www.youtube.com/watch?v=UaLIHuR1t8Q>
11. Red Black tree Deletion: <https://www.youtube.com/watch?v=CTvfzU_uNKE>
12. Red Black tree Deletion: <https://www.geeksforgeeks.org/red-black-tree-set-3-delete-2/>
13. Red Black tree Deletion: <https://www.cs.purdue.edu/homes/ayg/CS251/slides/chap13c.pdf>
14. Ford Fulkerson: <https://www.youtube.com/watch?v=GiN3jRdgxU4>
15. Master Method examples with solution: <https://www.youtube.com/watch?v=lPUhHmgrpik>
16. Amortized Time complexity / analysis - <https://www.youtube.com/watch?v=MTl8djZFWE0>
17. Randomised BST -

<https://www.geeksforgeeks.org/treap-a-randomized-binary-search-tree/>