**Supplementary Lectures [RRH]**

**Chapter - 1**

**1. Floating Point Representation**

<https://youtu.be/0JeXaAk9P80>

**IEEE standard (1985) for double precision [From BUX]**

<https://youtu.be/g3IQhiSkBh8>

**Practice Question on IEEE standard for double precision -**

[Practice Question on IEEE standard (1985) for double precision](https://docs.google.com/document/d/1xBi_wNK9T5PZ-VbGiSX6gjFwOPStXavirMpORv8WNfo/edit?usp=sharing)

**Practice Question on Floating Point and Rounding Error-**

[Practice Question](https://docs.google.com/document/d/1lnVcreHOKTFdQ7aDFpGDGebIRMloURNgxApWHBge46o/edit?usp=sharing)

**2. Rounding Error**

<https://youtu.be/-RQa4WeHSwc>

**Chapter - 2**

**3. Polynomial**

<https://youtu.be/svtmXey06Sw>

**Practice Question on Taylor Series**

[Practice Question on Taylor Series](https://docs.google.com/document/d/1ttqUvuzmxTlceEIQtXhK8VW37ZkKDKtiLhvGZ1s1aTQ/edit)

**4. Vandermonde matrix**

<https://youtu.be/zCqSUCWKdA8>

**EXTRA -** [**How to Find The Inverse of a Matrix**](https://www.youtube.com/watch?v=ZZismUUKxzc) **using Calculator -**

**5. Lagrange**

<https://youtu.be/SgM0-iF03qU>

**6. Newton’s Divided Difference and Cauchy’s Theorem**

<https://youtu.be/2dEf4GqdwQI>

**7. Hermite**

<https://youtu.be/8L5fAcwPWeg>

**8. Runge Phenomenon**

<https://youtu.be/ie9BL5xDarQ>

**Practice Question on Chapter 2**

[Chapter 2 Practice Questions](https://docs.google.com/document/d/10SzonxiAnsmNZOjMvJM_6nkJqT83dJGnMypas1w967I/edit?usp=sharing)

**Chapter - 3**

**9. Numerical Differenciation [Practice Problem]**

<https://youtu.be/f1wI40FjAVQ>

**10. Richardson Extrapolation Derivation**

<https://youtu.be/gTOmtRkk5ec>

**11. Richardson Extrapolation [Practice Problems]**

<https://youtu.be/XuahzK1t2ko>

**Practice Question on Chapter 3**

[Chapter 3 Practice Questions](https://docs.google.com/document/d/1gqHBq9tiBYSPk2XE2BLeFhXm2PTg_ISp73pglTvSc40/edit?usp=sharing)

**Further Practice** [Practice](https://docs.google.com/document/d/17JEf1_9RbSx0uZW7De18AEk5okTYCgSjwWOcnBZSh7Y/edit)

**Chapter - 4**

**11. Bisection Method**

[**https://youtu.be/fLI98Oxoyzo**](https://youtu.be/fLI98Oxoyzo)

**12. Fixed Point Iteration**

[**https://youtu.be/NC3haiISXA4**](https://youtu.be/NC3haiISXA4)

**13. Newton Raphson**

[**https://youtu.be/kJ\_CJfqxLqQ**](https://youtu.be/kJ_CJfqxLqQ)

**14. Aitken Acceleration and Secant Method**

[**https://youtu.be/ubZdOa4gBNM**](https://youtu.be/ubZdOa4gBNM)

**Chapter - 5**

**15. Gaussian Eimination**

[**https://youtu.be/-JHjyLDZaF8**](https://youtu.be/-JHjyLDZaF8)

**16. LU Decomposition**

[**https://youtu.be/RV1\_5RODiSU**](https://youtu.be/RV1_5RODiSU)

**Chapter - 6**

**15. Discrete Least Square Method**

[**https://youtu.be/NKu9ERJ1KUg**](https://youtu.be/NKu9ERJ1KUg)

**16. QR Decomposition**

[**https://youtu.be/gdfxlPn88js**](https://youtu.be/gdfxlPn88js)

**Chapter - 7**

**17. Integration Part 1**

[**https://youtu.be/qXTlqVX5a2E**](https://youtu.be/qXTlqVX5a2E)

**18. Integration Part 2**

[**https://youtu.be/ZUeWmSuD0WA**](https://youtu.be/ZUeWmSuD0WA)

**Practice Worksheet [Final]**

[Practice Worksheet Final CSE 330.pdf](https://drive.google.com/file/d/1Gfco3-fZPuKyaK9_b9_2kW_1aDjqLXm8/view?usp=sharing)

[Practice Worksheet 2](https://docs.google.com/document/d/18O7wGsmzEASmI70y7g4juX5IkgB1gXzXX7wj_1nZYsw/edit?usp=sharing)

[More practice](https://docs.google.com/document/d/1aLNhGJJDhC6I4sr7D5Usl-II_3kMDv63m1Ti8IJxm2Q/edit?usp=sharing)