

Syllabus for the Numerical Analysis Comprehensive Examination

1. Topics

- (a) Numerical solution of ordinary differential equations
- (b) Numerical integration
- (c) Numerical solution of a nonlinear equation in one unknown
- (d) Numerical solution of systems of equations
- (e) Interpolation and approximation

2. References

- (a) *An Introduction to Numerical Analysis*, Kendal Atkinson, Wiley, 1978, Ch. 2–8. (QA 297 A84)
- (b) *Numerical Methods*, Germund Dahlquist and Ake Bjorck, Prentice-Hall, 1974, Ch. 4–8. (QA 297 D3313 1974)
- (c) *Analysis of Numerical Methods*, Eugene Isaacson and Herbert B. Keller, Wiley, 1966. Ch. 2, 3, 5–8. (QA 297 18)
- (d) *A First Course in Numerical Analysis*, 2nd Ed., Anthony Ralston and Philip Rabinowitz, McGraw-Hill, 1978, Ch. 3–9. (QA 297 R3 1978)
- (e) *Introduction to Numerical Analysis*, J. Stoer and R. Bulirsch, Springer-Verlag, 1980, Ch. 2–5, 7, 8. (QA 297 S8213)