

博士班資格考試筆試各科目考試範圍與參考書目

數值分析

考試範圍(參考書目一至十二章內容)：

1. Mathematical Preliminaries and Error Analysis
2. Solutions of Equations in One Variable
3. Interpolation and Polynomial Approximation
4. Numerical Differentiation and Integration
5. Initial-Value Problems for Ordinary Differential Equations
6. Direct Methods for Solving Linear Systems
7. Iterative Techniques in Matrix Algebra
8. Approximation Theory
9. Approximating Eigenvalues
10. Numerical Solutions of Nonlinear Systems of Equations
11. Boundary-Value Problems for Ordinary Differential Equations
12. Numerical Solutions to Partial Differential Equations

參考書籍：

Richard L. Burden; J. Douglas Faires; Annette M. Burden: Numerical Analysis, 10th Edition.