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| CHAPTER 4  Solving a System of Linear Equations   * Solve S.L.E. using Gaussian Elimination with partial pivoting system (following additional sheet) + Jacobi & Gauss-Seidel iterative method * MATLAB code for Gaussian Elimination, Iterative method and backslash operator. | Page: 155 | Exercise: 4.1, 4.2,  4.6 → Gaussian Elimination with P. P. S. + Jacobi & Gauss-Seidel iterative method |
| Page: 156 | Exercise: 4.8 → Gaussian Elimination with pivoting  4.15, 4.31  Solve using backslash operator (Exercise: 4.32, 4.36, 4.49, 4.43) |
| CHAPTER 3  Solving Nonlinear Equations   * Solve single nonlinear equation using Graphical, Secant, Newton’s and Iterative formula * Solve system of nonlinear equations using Newton’s and Iterative formula (Jacobi + Gauss-Seidel) * MATLAB code for Secant, Newton’s and Iterative formula | Page: 66 & 82 | Derivation of Newton’s formula for single & system of nonlinear equations using Taylor’s series |
| Page: 71 | Derivation of Secant formula |
| Page: 88 | Exercise: 3.2 |
| Page: 89-90 | Exercise: 3.4 - 3.14  MANDATORY(3.2, 3.7, 3.10, 3.12 – 3.14)  Using MATLAB fzero/roots solve (Exercise: 3.27, 3.28, 3.34)  Additional sheet will be provided |
| CHAPTER 6  Curve Fitting and Interpolation   * Newton’s Divided Difference Interpolation * Lagrange Interpolation * Transform nonlinear equations to linear form and fit the curve to the given of data. * Linear spline * Natural cubic spline * MATLAB using polyfit | Page: 215 & 221  Page: 243 | Example: 6-4, 6-5  \*Exercise: 6.15 (Mandatory) |
| Page: 241-243 | Exercise: 6.1-6.8, 6.11-6.13, 6.15  (Solve by using Newton’s Divided Difference Interpolation & Lagrange Interpolation)  Using MATLAB Solve 6.9 |
| Page: 241-242 | Exercise: 6.1 - 6.6, 6.27, 6.28, 6.29, 6.31  Curve fitting by least square method (don’t apply regression to solve the equation) |
| Page: 224 | Example: 6-6 |
| Page: 244 | Exercise: 6.16, 6.18 |