

Home Assignment

Abhayapuri College

Class: FYUGP 5th Semester (Major/Minor)

Paper: Numerical Analysis

Department of Mathematics

Marks: 20

Answer the following questions.

1. Show that a. $\Delta = \mu\delta + \frac{\delta^2}{2}$ b. $E^{\frac{1}{2}} = (1 + \frac{\delta^2}{4})^{\frac{1}{2}} + \frac{\delta^2}{2}$
2. Using Lagrange's interpolation formula find a polynomial which passes the points (0,-12),(1,0),(3,6),(4,6).
3. Solve by Gauss Seidal Method.

$$27x + 6y - z = 85$$

$$6x + 15y - 2z = 72$$

$$x + 15y + 54z = 110$$

4. Solve by Gauss Jacobi's Method.

$$27x + 6y - z = 85$$

$$6x + 15y - 2z = 72$$

$$x + 15y + 54z = 110$$

.....