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MA-8491 Numerical Methods
Important 2Mark Questions

Unit I

1. Interpret Newton Raphson method geometrically.
2. Give two direct methods to solve a system of linear equations.
3. State the order of convergence of the Iterative method.

Unit II

1. Distinguish between Newton divided difference interpolation and Lagrange's interpolation.
2. Construct the divided difference table for the data (0, 1), (1, 4), (3, 40) and (4, 85).
3. State Newton's forward formula and Backward formula.

Unit III

1. Evaluate $\int_{-1}^1 \frac{dx}{1+x^2}$ by two-point Gaussian formula.
2. Find $y'(0)$ from the following table.
x: 0 1 2 3 4 5
y: 4 8 15 7 6 2
3. State Simpson's 3/8th formula.

Unit IV

1. Distinguish between single step methods and multi-step methods.
2. State Adam's Predictor-Corrector formulae.
3. State Modified Euler's formula to solve first order initial value problems.

Unit V

1. What is the central difference approximation for y^n
2. Write down the standard five-point formula.
3. What is the error for solving Laplace and Poisson's equation by finite difference method?