Question Bank

Q1 Solve the system of equations using Gauss elimination: 2x+y-z=6
5x+2y+2z=-4
3x+y+z=5

Q2. Using the Gauss–Jordan method, find the solution of the system: : x+y+z=3
x+2y-z=4
x+3y+2z=4

Q3. Solve the system of equations using the Gauss–Seidel iterative method up to **three iterations**: : 20x+y-2z=17
3x+20y-z=-18
2x-3y+20z=25

Q4. Using Rayleigh's power method, determine the **dominant eigenvalue** and its corresponding eigenvector (approximate after 3 iterations) for the matrix: A= [2 3]
[5 4]

Q5. Using Rayleigh's power method, determine the **Largest eigenvalue** and its corresponding eigenvector (approximate after 3 iterations) for the matrix: A = [1 6 1]
[1 2 0]
[0 0 3]

Q6. Explain a Elementary row transformation of matrix with example.

Q7 . Q6. Let D {1 ,2,3,4,……9} Determine the truth value of each of the following statement, (a) (∀x - D) , x + 4 < 15
(b) (∃x -D) , x + 4 = 10
(c) (∀x -D) , X + 4 ≤ 10
(d) (∃x - D) , X + 4 > 15

Q8. Define propositional logic with an example.

Q9. Explain Truth Table of Propositional Logic.(Negation, Conjunction, Disjunction ,Implication, Biconditional)

Q10. Explain Applications of Propositional Logic.

Q11. Explain Rules of Inference