



SETHU INSTITUTE OF TECHNOLOGY
(An Autonomous Institution | Accredited with 'A' Grade by NAAC)
PULLOOR, KARIAPATTI – 626 115.



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
Activity Supports Employability/Entrepreneurship/Skill Development

Course Code : 15UEE502
Course Name : Power System Analysis
Academic Year : 2020 – 2021 (ODD) **Class** : III Year

Category	Employability
Activity	Simulation using Matlab
Topic	Gauss seidal method

```
Editor - G:\Documents\MATLAB\Examples\2019\January\GaussSeidelmethod.m
angrymatlab.m x sorrowfaceinMATLAB.m x gaussianeliminationwithbackward
1
2 * Gauss-Seidel method
3
4 n=input('Enter number of equations, n: ');
5 A = zeros(n,n+1);
6 x1 = zeros(n);
7 tol = input('Enter the tolerance, tol: ');
8 m = input('Enter maximum number of iterations, m: ');
9
10 A=[4 2 3 9; 3 -5 2 -14; -2 3 8 27];
11 x1=[0 0 0];
12
13 k = 1;
14 while k <= m
15     err = 0;
16     for i = 1 : n
17         s = 0;
18         for j = 1 : n
19             s = s-A(i,j)*x1(j);
20         end
21         s = (s+A(i,n+1))/A(i,i);
22         if abs(s) > err
23             err = abs(s);
24         end
25         x1(i) = x1(i) + s;
26     end
27
Command Window
Solution vector after 41 iterations is :
-0.99919498
2.99974076
2.00028892
>> GaussSeidelmethod
Enter number of equations, n: 3
Enter the tolerance, tol: 0.001
Enter maximum number of iterations, m: 100
Solution vector after 8 iterations is :
-0.99984713
3.00008152
2.00000765
```

Simulation of Gauss Siedal Method

Outcome	Power system analyses are an essential part of electrical power system design. Calculations and simulations are performed to verify that the electrical system , including the system components, are correctly specified to perform as intended, withstand expected stress and be protected against failures. Awareness about the simulation of electrical systems leads to increase employability.
----------------	---

Course Instructor

HoD/EEE