

Government College of Engineering, Aurangabad
(An Autonomous Institute of Government of Maharashtra)

M.E. (EPS) Examination
End Semester Examination

EE543 : Computer Aided Power System Analysis

Time: Three Hours

Date: 2 DEC 2016

Max.Marks:60

“Verify the course code and check whether you have got the correct question paper”

N.B:-

1. Attempt any four questions
2. Figures to the right indicate full marks
3. Assume suitable data if necessary
4. Use of non-programmable calculator is allowed

Q1. For the sample network-oriented graph shown in figure1, obtain the incidence matrices A and \hat{A} , B, \hat{B} , C, \hat{C} , K. (15M)

Q2. Construct the bus impedance matrix for the system shown in the figure 2 by building algorithm. (15M)

Q3. Find the power flow solution for the simple three bus power system shown in figure 3 using Gauss Siedel method. Line impedances are marked in per unit on a 100 MVA base & the line charging susceptances are neglected. (15M)

Q4.

- a. Explain the various methods of finding bus admittance matrix & bus impedance matrix.(7M)
- b. Explain sparse matrix solution by optimal ordering method. (8M)

Q5.

- a. Compare Newton Raphson method & Fast decoupled method of power flow analysis.(7M)
- b. Explain algorithm for static state estimation of power system. (8M)

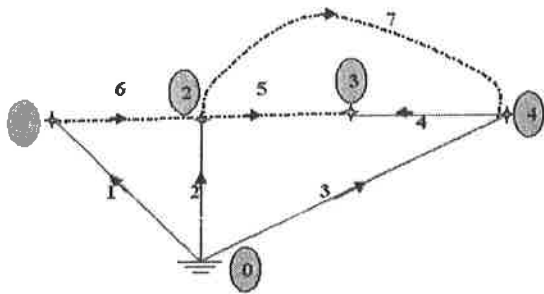


Fig. 1

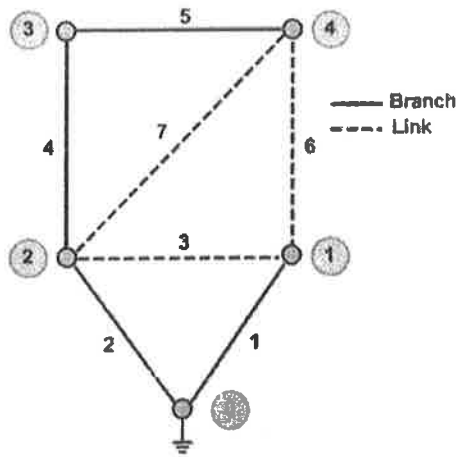


Fig. 2

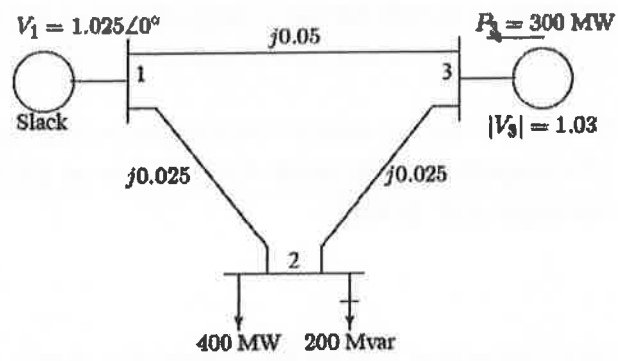


Fig. 3