UNIT III

LOAD FLOW ANALYSIS

BUS ADMITTANCE(Y BUS) MATRIX

Y BUS can be formed by 2 methods

1.Inspection method

2.Singular transformation

$$\text{Y BUS} = \begin{pmatrix} Y_{11} & Y_{12} \bullet\bullet & Y_{1n} \\ Y_{21} & Y_{22} \bullet\bullet & Y_{2n} \\ Y_{n1} & Y_{n2} \bullet\bullet & Y_{nn} \end{pmatrix}$$

INSPECTION METHOD

For n bus system

Diagonal element of Y BUS

$$Y_{ii} = \sum_{j=1}^{n} y_{ij}$$

Off Diagonal element of Y BUS

$$Y_{ij} = -y_{ij}$$

SINGULAR TRANSFORMATION METHOD

Y BUS = $A^T \left[y \right] A$

Where [y]=primitive admittance

A=bus incidence matrix

Thank You