# B.Tech. DEGREE PROGRAM

00703

## Term-End Examination

## December, 2012

## BIEEE-007 : COMPUTER APPLICATIONS IN P.S.

*Time : 3 Hours*                    *Maximum Marks : 70*

*Note :* *Attempt any **seven** questions. All questions carry **equal** marks. Assume missing data, if any.*

1. Find the $[Z_{Bus}]$ for the system shown in Fig.1.    **10**
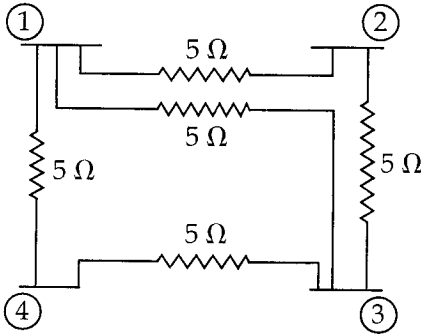   Assume bus 1 to be reference bus.



Fig. 1

2. Write an algorithm to calculate Bus voltage with    **10**
   addition of $Zx$ and $Zy$ between Bus i-j and k-l
   respectively.

3. Explain contigency analysis for interconnectors.    **10**

4. Explain clearly with a flow chart the computational procedure for load flow solution using Gauss - Seidal method when the system contains all types of buses. **10**

5. Compare the performance of G-S method and N-R method for load-flow solution using nodal admittance approach for the formulation of load- flow equations. **10**

6. What is an Oriented graph. Explain incidence matrix with an example. **10**

7. Write an algorithm for the Bus - admittance matrix formulation of a Network. **10**

8. Explain clearly how the nodal admittance matrix of a system is changed when an on - load tap changing transformer is introduced in a line connected between two - buses. **10**

9. Write short note on any of the *two* : **2x5=10**
   (a) Optimum scheduling of thermal plants taking losses into account.
   (b) Bus - mismatch and Convergence criteria.
   (c) Loop matrix with example.

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