B.Tech. 7th Semester (EE) F-Scheme Examination, December–2017

COMPUTER APPLICATIONS TO POWER SYSTEM ANALYSIS

Paper–EE–409–F

Time allowed : 3 hours] *[Maximum marks : 100*

Note : ***First Question is compulsory.*** *Attempt five questions in all attempting at least one question from each section.*

1. (a) Differentiate between Gauss Seidal and Newton Raphson method. 5

   (b) What is Bus impedance Matrix ? Explain. 5

   (c) What are the features of EMTP ? 5

   (d) State the importance of power flow studies. 5

Section–A

2. Discuss the Ferranti effect in transmission lines. Calculate the performance of short transmission line. 20

3. Write notes on :-

   (i) Contingency analysis

   (ii) Performance of transmission system. 20

Section–B

4. Explain formation of Y-bus using singular transformation. 20

5. Explain the flow chart for computer applications to load flow studies using G–I method. 20

Section–C

6. What is meant by digital fault ? Explain calculation of digital fault in symmetrical fault. 20

7. Explain symmetrical components in power system. What is approximate load flow studies ? 20

Section–D

8. What are various states of a power system state and explain the role of SCADA system in an automatic power system unit. 20

9. Explain the applications of MATLAB power system block set. 20