Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

EE/EX-7003 (CBGS)

B.E. VII Semester

Examination, November 2019

Choice Based Grading System (CBGS)

Computer Application to Power System

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
ii) All questions carry equal marks.
iii) Assuming missing data suitably.

1. a) Write a brief note on line loadability and what do you understand by capability curves of alternator. 7
   b) Define Tree, Co-tree and Branch. Also explain with a simple example why Nodal analysis is preferred over Mesh analysis. 7

2. a) How do you control the Load bus voltage using reactive power control devices? 7
   b) Write short notes about the following: 7
      i) SVC
      ii) SVS

3. a) What do you understand by regulated shunt compensation? 7
   b) Distinguish between Series and Shunt compensation. 7

172

4. a) Describe the significance of generation shift and line outage distribution factors in sensitivity analysis of power system. 8
   b) Explain the sensitivity relating changes in reactive power for changes in P - V bus voltages. 6

5. Write short notes on:
   a) Pre and Post contingency 5
   b) Corrective load re-scheduling 5
   c) Security level 4

6. a) Explain major function of Power system security and Enumerate power system static security levels. 10
   b) Describe Contingency analysis. 4

7. a) Derive the elements of Jacobian Matrix of a power system. 7
   b) Discuss the approach for Voltage stability analysis of a given system. http://www.rgpvonline.com 7

8. a) Explain what you mean by reactive compensation of load and discuss how it helps in maintaining voltage stability. 7
   b) What are P-V and V-Q curves? Discuss how these help in studying voltage stability of the system. 7

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173