Roll No .....

EE-8303

B.E. VIII Semester

Examination, June 2017

Computer Applications to Power System

(Elective - III)

Time : Three Hours

Maximum Marks : 70

Note : Attempt any five questions. All questions carry equal marks.

1. a) What are the main components of a Power System? Explain the modeling of any one of the system. 7

   b) Explain how do you form y Bus using graph theory? 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 is meant by sensitivity factor? Explain the role of compensated shift factor in system security analysis. 7

   b) Describe how sensitivity relations predict changes in reactive power generation with changes in PV bus voltage for anticipatory preventive control. 7

4. a) Enumerate and explain the power system static security levels. 7

   b) Describe the concepts of reactive and real power corrective rescheduling. 7

5. a) Describe voltage stability and angle stability of power system and discuss their control variable with example. 7

   b) What are PV and QV curves? Discuss how voltage stability is monitored using PV curve. 7

6. a) How does the series compensation affect the voltage stability? 7

   b) Explain the load models on voltage stability. 7

7. a) Why series compensation is preferred over shunt compensation for long transmission line. What are the demerits of series compensation? 7

   b) What do you understand by regulated shunt compensation? 7

8. Write short notes (any two) : 14

   i) Pre and post contingency

   ii) Corrective load re-scheduling in security level

   iii) Security control in power system

   iv) Economic dispatch

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