Total No. of Questions :5] *[Total No. of Printed Pages :2*

Roll No .....

EX-702

B.E. VII Semester

Examination, December 2012

Computer Application to Power Systems

Time : Three Hours

Maximum Marks : 100 ***Minimum Pass Marks :35***

Note : 1. Attempt any One Question from each unit.
2. All Questions carry equal marks

UNIT - I

1. a) What are capabiiity curves of an alternator? Discuss their role in voltage stability of the power system.

   b) Describe the formation of network model of the sample power system.

   OR

   a) Develop an algorithm for the formation of bus impedance matrix.

   b) Explain what you mean by loadability of over load lines and discuss loadability characteristic of these lines.

UNIT - II

2. Discuss in detail about the generation and absorption of reactive power in power system components.

   OR

   What is a static compensator? Explain with diagrams and characteristics, working principle of various types of static compensators.

UNIT - III

3. Describe generation shift distribution, line outage distribution and compensation shift factor.

   OR

   Explain how sensitivity relations predict changes in load bus voltage and reactive power generation for changes in P-V bus voltages.

UNIT - IV

4. a) Explain major function of power system security

   b) Enumerate power system static security levels.

   OR

   a) Develop an algorithm for contingency analysis.

   b) Describe pre-contingency and post- contingency analysis.

UNIT - V

5. a) Explain what you mean by reactive compensation of load and discuss how it helps in maintaining voltage stability.

   b) What are P-V and V-Q curves? Discuss how these help in studying voltage stability of the system.

   OR

   a) Derive the elements of Jacobian Matrix of a power system.

   b) Discuss the approach for voltage stability analysis of a given system.

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