Total No. of Questions :10] *[Total No. of Printed Pages :2*

Roll No .....

EX-802

B.E. VIII Semester

Examination, June 2017

Computer Applications to Power System

Time : Three Hours

Maximum Marks :70

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

1. a) Explain formation of bus admittance matrix using graph theory approach. 7
   b) Derive 'π' model of an load tap changing transformer. 7

OR

2. a) Explain line loadability in brief. 7
   b) What do you understand by capability curves of alternator? 7

3. Explain SVC and SVS in detail. 14

OR

4. a) Distinguish between series and shunt compensation. 7
   b) What do you understand by regulated shunt compensation? 7

5. a) Establish a general sensitivity relations applicable, in power system operation. 7
   b) Derive the following sensitivity factors 7
      i) GSDF ii) LODF

OR

6. a) Explain with the help of necessary derivation the load bus voltage changes in terms of P-V bus voltage changes. 7
   b) Explain V-Q sensitivity. 7

7. a) What do you understand by power system security. 7
   b) Describe contingency analysis. 7

OR

8. a) Explain the meaning of pre-contingency and post-contingency corrective rescheduling. 7
   b) Develop necessary condition for security constrained economic dispatch SCED. Suggest any method for its solution. 7

9. a) Explain 'voltage stability'. How is it different than 'Angle stability'. 7
   b) How P-V curve is used for voltage stability assessment? Explain. 7

OR

10. a) Enlist the various method for voltage stability enhancement and explain any one. 7
    b) Develop any proximity index for voltage stability assessment. 7

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