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

Roll No .....

MEPE-203

M.E./M.Tech., II Semester

Examination, December 2016

Power Electronics Applications to Power Systems

Time : Three Hours

Maximum Marks : 70

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

1. a) What are the important aspects of load flow analysis? Give the comparison of load flow methods.
   b) Write the algorithm for formation of Bus impedance matrix.

2. a) What is Power System Security? Describe the various function of security and its level.
   b) Develop an algorithm for contingency analysis.

3. a) Discuss the role of sensitivity factors in sensitivity analysis.
   b) What is the need of voltage stability in power system? How it is different from angle stability?

4. a) What is Voltage Stability Limit? Explain the uses of P-V curves for voltage stability analysis.
   b) What are the various types of FACTS devices? Explain.

5. a) Give the comparison between STATCOM and SVC.
   b) With the help of neat diagrams explain the operation of TCR and TSC.

6. a) Explain TCSC and its different modes of operation.
   b) Write the benefits and applications of FACTS controller.

7. a) What are the advantages of Y_{BUS} over Z_{BUS}.
   b) Explain security constrained economic dispatch.

8. Write short notes on any two :
   a) Reactive power control
   b) Phase shifting transformer
   c) Advantages of TCSC

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