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

Roll No .....

MEPS-104

M.E./M.Tech., I Semester

Examination, December 2016

Power Electronics Applications to Power System

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. Write and explain algorithm for building bus impedance matrices with the help of example. 14

2. a) Develop mathematical model of an OLTC 7
   b) Explain capability curves of alternator. 7

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

4. a) Define power system security. Explain security level with the help of flowchart. 7
   b) Explain the meaning of pre-contingency and past contingency connective rescheduling. 7

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

6. a) Enlist the various methods for voltage stability enhancement. 7
   b) Develop any proximity index for voltage stability assessment. 7

7. What is FACT's and FACT's controller? Classify the various types of FACT's controller and explain any one type in brief with proper circuit diagram. 14

8. Explain the working principle of TCSC, its advantage and different mode of operation analysis. 14

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