

Code: EE8T4A

IV B.Tech-II Semester–Regular/Supplementary Examinations–April 2017

**REAL TIME CONTROL OF POWER SYSTEMS
(ELECTRICAL & ELECTRONICS ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

Answer any FIVE questions. All questions carry equal marks

1. a) Explain the concept of Static State Estimation and Dynamic State Estimation. 7 M
b) Explain how measurement errors and bad data are handled in Static State Estimation? 7 M
2. a) How bad data is detected identified and eliminated? 7 M
b) What is bad data observability? 7 M
3. a) Distinguish between static security and transient security. 7 M
b) What is contingency analysis? Describe how contingency analysis for generator outage is performed using load flow? 7 M
4. a) Describe how computers are used in the control of power system and why is it needed? 7 M

- b) Describe the various operating states of a power system. 7 M
5. a) Describe how a SCADA system operates in a power System? 7 M
- b) Describe software considerations for SCADA implementation. 7 M
6. a) Describe how and why voltage collapse takes place? 7 M
- b) What are the various ways in which voltage instability can be prevented? 7 M
7. a) Explain how PV and QV curves are used to analyse voltage stability? 7 M
- b) What are voltage stability indices and how they are useful in voltage stability analysis? 7 M
8. a) Explain how artificial neural networks can be used for fault Diagnosis? 7 M
- b) Discuss various ways in which artificial intelligence in being used in power systems. 7 M