

Roll No.

23288

**M. Tech 2nd Semester
(Electrical Power Systems)
Examination – May, 2018**

REAL TIME CONTROL OF POWER SYSTEMS

Paper : MTEPS-203

Time : Three Hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions out of given eight.

1. (a) Explain the concept of state estimation. What are its different types. Explain any one. 10
(b) Explain theory and proves of NCS state estimation. 10
2. (a) Explain the process of indentifying and eliminating bad data. 15
(b) How bad data is detected ? 5
3. (a) What is Fast Decoupled Model ? Explain. 10
(b) What is network sensitivity methods ? Explain the same. 10

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4. (a) What are Real time networks ? Explain. 5
(b) What are operating states of a power system ? 10
(c) What is the need of real time and computer control ? 5
5. (a) Write a brief description of SCADA. 10
(b) What are the software requirements of implementing SCADA. 10
6. (a) Explain what is voltage regulation. How voltage is stabilized. 10
(b) Derive a relation of voltage stability to rotor angle stability. 10
7. (a) What are Mature Power systems ? Derive an expression for voltage stability. 10
(b) Explain the voltage stability static indices. 10
8. Write short notes on :
- (a) Algorithm for load flow. 10
(b) Short term load forecasting. 10
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