

Roll No.

23288

**M. Tech. 2nd Semester
(Electrical Power Systems)
Examination – May, 2016**

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) Compare sequential and non- sequential methods
of process measurements. 10
- (b) Explain the WLS state estimation theory. 10
2. (a) How we can estimate and eliminate bad data ? 10
- (b) What are the observations helpful in finding the
bad data ? 5

23288-150 -(P-3)(Q-8)(16)

P. T. O.

- (c) What are the concerns related to the security of the power system ? 5
3. (a) Explain how security analysis is being done with the help of monitoring schemes. 10
- (b) Explain the structure and working of fast decoupled model. 10
4. (a) What are the various operating states of a power system ? Explain them. 10
- (b) What is the need of computer control of power systems ? 10
5. (a) Explain SCADA in detail. 10
- (b) What are the consideration required for the implementation of data acquisition systems in SCADA ? 10
6. (a) What is voltage collapse and voltage security ? Explain. 10
- (b) Derive an expression for relation of voltage stability and rotor angle stability. 10

7. (a) Explain the concept of 'P-V' curves and 'Q-V' curves. 10
- (b) Explain the power flow analysis for voltage stability. 10
8. Write short notes on : 10, 10
- (a) Applications of ANN in power systems.
- (b) Fault Diagnosis and state estimation.