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

(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.
