PVP 14

Code: EE8T3B

IV B.Tech - II Semester – Regular / Supplementary Examinations
March 2019

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

Duration: 3 hours Max. Marks: 70

PART – A

Answer ***all*** the questions. All questions carry equal marks

11 x 2 = 22 M

1.

a) What are Pseudo measurements?
b) How do you define the network observability?
c) Outline about the bad measurements with respect to state estimation?
d) List any two factors affecting the power system security.
e) Define contingency
f) What is SCADA?
g) List any two tasks of energy control centre.
h) What is meant by system blackout?
i) Sketch Q-V curve.
j) Write any two applications of PMU in power system.
k) What is meant by artificial neural network?

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.

3 x 16 = 48 M

2. Explain the solution procedure for state estimation using the weighted least square method with a suitable example. 16 M

3. a) Describe the network sensitivity method of calculating line outage distribution factor. 8 M

   b) Draw the flowchart of iterative linear power flow method for contingency analysis and explain the algorithm. 8 M

4. a) Justify the significance of each state of the power system in real time with necessary diagram. 8 M

   b) Summarize the requirements for implementing the SCADA in a particular system. 8 M

5. Develop the voltage stability analysis using P-V curves and Q-V curves. 16 M

6. Establish the importance of AI and ANN in power system. Discuss the algorithm for load flows and short term load forecasting using ANN technique in Power systems. 16 M