PVP 14

Code: EE8T3B

IV B.Tech - II Semester – Regular/Supplementary Examinations – July 2021

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) Define state estimation.
b) What are bad data observability?
c) What is the purpose of state estimation?
d) Define power monitoring system.
e) What are network sensitivity methods in contingency analysis?
f) Expand SCADA.
g) List out the functions of energy control centers.
h) What is meant by voltage security?
i) Sketch P-V curves.
j) What is an artificial intelligence neural network?
k) What is the importance of PMU in power system?

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.
3 x 16 = 48 M

2. Explain weighted least square estimation method with suitable example. 16 M

3. a) Write a short note on generator outage and line outage distribution factors. 8 M

   b) Explain iterative linear power flow method for contingency analysis. 8 M

4. a) Describe the need for real time and computer control of power systems. 8 M

   b) What are the software requirements for implementing SCADA and explain. 8 M

5. Describe voltage stability analysis by using P-V and Q-V curves in detail. 16 M

6. Discuss the algorithm for short term load forecasting using ANN technique in power systems. 16 M