PVP 14

Code: EE8T3B

IV B.Tech - II Semester – Regular / Supplementary Examinations
March 2020

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) State the objective of WLS criterion for state estimation.
c) Define measurement residual.
d) What is a power system blackout?
e) Differentiate between single and multiple contingencies.
f) Mention the four operating states of a power system.
g) List two important software requirements for achieving computer control of power system.
h) Define voltage collapse.
i) Mention the significance of PV and QV curves.
j) What are the functions of PMU in a power system?
k) Define Artificial Intelligence.

PART – B

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

2. a) Explain the process of power system state estimation with an example. 8 M

   b) Discuss about bad data observability and bad data detection. 8 M

3. a) Discuss about linear sensitivity factors. 8 M

   b) Draw the flowchart for contingency analysis procedure. 8 M

4. Discuss in detail about SCADA system implementation for real time control of power system network. 16 M

5. Discuss about the modified NR power flow for voltage stability analysis. 16 M

6. a) Discuss the algorithms for load flow using ANN. 8 M

   b) Explain about short term load forecasting using ANN. 8 M