

**Power System Automation**
(Power System and Control Automation)**Date: 30-07-2025****Time: 3 Hours.****Max. Marks: 70****Answer ONE Question from each UNIT and each question carries 14 Marks****UNIT-1**

1. A) Explain the role of SCADA in real time control of power systems. [07 Marks;CO1;Understand]
B) List the advantages and limitations of SCADA system [07 Marks;CO1;Remember]
(OR)
2. A) What is SCADA? Explain about control of Substation using SCADA. [07 Marks;CO1;Understand]
B) Explain the function of control room in SCADA system. [07 Marks;CO1;Understand]

UNIT-2

3. Explain energy management system (EMS) architecture and its working in detail. [14 Marks;CO2;Understand]
(OR)
4. Explain programming languages used for PLC and it's applications to power system automation [14 Marks;CO2;Understand]

UNIT-3

5. A) Explain about HMI system in SCADA operation [07 Marks;CO3;Understand]
B) Explain about data concentrators' and merging units in RTUs. [07 Marks;CO3;Understand]
(OR)
6. Explain in detail about single master-multiple RTU, single master, multiple submaster, multiple remote used in SCADA system. [14 Marks;CO3;Understand]

UNIT-4

7. Explain the functioning of SCADA in distribution automation in detail. [14 Marks;CO4;Understand]
(OR)
8. Explain about substation automation architecture and application functions. [14 Marks;CO4;Understand]

UNIT-5

9. Write a short note on
(i) Centralized control,
(ii) Decentralized control, and
(iii) Control system interfaces [14 Marks;CO5;Remember]
(OR)
10. Explain the various factors that affect the planning of the distribution system. [14 Marks;CO5;Understand]

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