Code No: NR420208 **Set No.1**

IV B.Tech. II Semester Supplementary Examinations, July -2005
REAL TIME CONTROL OF POWER SYSTEMS
(Electrical & Electronic Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Explain the main activities of control center.
   (b) In power system what are the different types of control.
2. What do you mean by data acquisition? What is the need of data acquisition? What are the different types of data acquired?
3. (a) What are the different parameters presented in Dynamic Point Presentations.
   (b) How Dynamic Point presentation differs from VDU.
4. (a) Explain difference between 'Analog interfacing' and 'Digital interfacing'.
   (b) Explain the applications of pulse interfacing. Why it is more useful in electrical power system.
5. (a) Explain 'Dynamic performance' for typical interconnected areas.
   (b) What are the advantages of hydro-thermal Co-ordination? Which plant is base plant and why?
6. Explain 'Tracking State Estimation' for power system with algorithm.
7. With neat layout explain a typical distribution scheme for LT consumers. What are the parameters controlled and monitored.
8. (a) Explain the capabilities of DA.
   (b) Classify the DA capabilities.

⋆ ⋆ ⋆ ⋆ ⋆

Code No: NR420208 **Set No.2**

IV B.Tech. II Semester Supplementary Examinations, July -2005
REAL TIME CONTROL OF POWER SYSTEMS
(Electrical & Electronic Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Explain the construction and functioning of mimic boards.
   (b) With neat diagram explain the functioning of traditional control rooms with mimic boards
2. (a) How energy values are obtained and processed.
   (b) What is scanning of measured values and how scanning is done.
3. (a) Why it is necessary of subdivision of system parts at Operator's console? And how it is sub divided?
   (b) What are the different alarms provided in Operator's console room? What is function of them?
4. (a) Explain the advantages and disadvantages of feedback control system.
   (b) Explain parallel computers. What are the advantages of parallel computers.
5. (a) What is modulation? What is necessity of modulation?
   (b) Explain optical fiber communication.
6. (a) What are the computational considerations in State Estimation?
   (b) How bad data is detected and treated in State estimation?
7. (a) What are the equipments involved in distribution automation?
   (b) Explain how DA will minimize technical and non technical losses.
8. What is Distribution? Explain in brief different techniques used for failure distribution.

⋆ ⋆ ⋆ ⋆ ⋆

Code No: NR420208 **Set No.3**

IV B.Tech. II Semester Supplementary Examinations, July -2005
REAL TIME CONTROL OF POWER SYSTEMS
(Electrical & Electronic Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) What are the expected characteristics of VDU in SCADA?
   (b) In step by step, how traditional control rooms with mimic boards are extended for further expansion.
2. What do you mean by data acquisition? What is the need of data acquisition? What are the different types of data acquired?
3. (a) Explain in detail VDU and its use in Operator's console.
   (b) What are the different types of VDUs and how they are arranged in Operator's console room?
4. (a) Give a simple structure of a real time program with syntax.
   (b) What is run time support? In particular why 'Run time support' is helpful in power system application.
5. Explain the effect of line reactance on power flow and voltage regulation. Brief about methods of VAR compensation.
6. (a) How Security Monitoring differs from Security Control?
   (b) What are the different techniques used for On-Line load flow control.
7. (a) Explain how DA will improve operating efficiency.
   (b) What will be the required maintenance schedule for DA?
8. (a) Explain remote control load management for agricultural load.
   (b) What are the advantages of automatic meter reading? Explain automatic meter reading scheme.

⋆ ⋆ ⋆ ⋆ ⋆

Code No: NR420208 **Set No.4**

IV B.Tech. II Semester Supplementary Examinations, July -2005
REAL TIME CONTROL OF POWER SYSTEMS
(Electrical & Electronic Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) What are the different indicators available in control centers?
   (b) Explain why the electrical power system is so critically designed.
2. (a) With neat sketch explain indications from level monitoring.
   (b) Explain trend monitoring.
3. (a) Explain power system Event display? What are the events displayed?
   (b) Explain power system Status list? What are the statuses listed?
4. (a) What is use of LAN and WAN in real time software. In electrical power system how it is achieved.
   (b) What is DMA? What is function of DMA? How it increases the processing speed.
5. Explain, the general modelling of Generator, Transmission line, Transformer and Load in a typical power system.
6. (a) Explain software co-ordination in real time control of power system?
   (b) What are the different types of simulators available for power system studies?
7. (a) Explain consumer interface automation?
   (b) What are the purposes served by DA apart from distribution and control of power.
8. (a) Explain remote control load management for agricultural load.
   (b) What are the advantages of automatic meter reading? Explain automatic meter reading scheme.

⋆ ⋆ ⋆ ⋆ ⋆