

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 2903

Roll No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

B. Tech.

(SEM. VIII) THEORY EXAMINATION 2011-12

**SCADA AND ENERGY MANAGEMENT
SYSTEM**

Time : 3 Hours

Total Marks : 100

Note :— (1) Attempt *all* questions.

(2) All questions carry equal marks.

1. Answer any *two* parts of the following :— (10×2=20)
 - (a) What do you mean by “SCADA” system ? Also mention its advantages and disadvantages over P.M.U. systems.
 - (b) Discuss the general power system hierarchical structure. Also mention its importances.
 - (c) Explain the following :—
 - (i) Power line carrier
 - (ii) Microwaves
 - (iii) Fiber optical channels and Satellites.
2. Answer any *two* parts of the following :— (10×2=20)
 - (a) Explain the data acquisitions systems. Also explain the advantages and limitations.
 - (b) Explain the following :—
 - (i) On/Off control of lines
 - (ii) Data disturbance collection and analysis.

- (c) What do you mean by “Regulatory Functions” in “SCADA” systems ? Also mention its significances.
3. Answer any *two* parts of the following :— (10×2=20)
- (a) Explain the operator consoles and VDUs. Also mention their limitations and significances.
- (b) What do you mean by “Displays Units” in Man-Machine Communication ? Also mention its features.
- (c) Write short notes on the following :—
- (i) Mimic diagram
- (ii) Alarm and event loggers.
4. Answer any *two* parts of the following :— (10×2=20)
- (a) Write short notes on the following :—
- (i) Redundant Dual Processor
- (ii) Real Time Operation System Requirements.
- (b) Explain the multicontrol centers systems. Also mention their salient features and advantages.
- (c) Explain EMS and network data basis. Also give the details of EMS systems.
5. Answer any *two* parts of the following :— (10×2=20)
- (a) Explain the energy management center. Also discuss the advantages and limitations of energy management center.

- (b) Discuss the distributed centers and power pool management. Also mention their advantages and disadvantages. Discuss the functions performed at a centralized management center in power system environments.
- (c) Explain the production control and load management economic dispatch in power system environments. Enlist the advantages and disadvantages of load management economic dispatch in systems.