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**B.TECH.****THEORY EXAMINATION (SEM–VIII) 2016-17  
SCADA & ENERGY MANAGEMENT SYSTEM****Time : 3 Hours****Max. Marks : 100****Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.****SECTION – A****1. Explain the following:****10 x 2 = 20**

- (a) What is data acquisition?
- (b) Define RTUs.
- (c) Define commonly acquired data.
- (d) What is feedback loops?
- (e) Define VDUs .
- (f) What are application of SCADA ?
- (g) Define event loggers
- (h) What is power line carrier.?
- (i) Write the name of real time operation system.
- (j) What is EMS.?

**SECTION – B****2. Attempt any five of the following questions:****5 x 10 = 50**

- (a) Explain general power system hierarchical Structure in detail.
- (b) Discuss fiber optical channels advantage and disadvantages.
- (c) Explain majored values and energy values of Control Functions.
- (d) What are applications in process in industry - valve, opening, closing in control function?
- (e) Explain Machine Communication in details
- (f) Discuss printing facilities in details.
- (g) Explain SCADA system structure.
- (h) Discuss modularization of software programming languages.

**SECTION – C****Attempt any two of the following questions:****2 x 15 = 30**

- 3 Explain of the methods of data acquisition systems,
- 4 Explain redundant dual processor and multicontrol centers.
- 5 Explain various communication channels with example