

Exam 6 - April - 2016

1. OPC UA as industrial standard for process automation. Make a comparison with the older OPC and describe its role in cloud computing and Internet of Things. (5p)
2. Compare Foundation Fieldbus H1 with Profibus PA/DP (5p)
3. Describe security in process automation. (5p)
4.
  - a. Describe the basic methods to increase process reliability. (3p)
  - b. Describe hard real-time. Please give examples. (2p)
5. Answer shortly to the following questions (5p)
  - a. Hub vs. Switch in Process Control: benefits & drawbacks
  - b. IEEE 1588 Precision Time Protocol
  - c. MAC- vs. IP-address. Please give a routing example.
  - d. Ladder logic language vs Structured text
  - e. Fiber optic vs. copper cable