Reg. No. : | | | | | | | | | | |

Question Paper Code: 39304

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Elective

Electrical and Electronics Engineering

01UEE904 - PROGRAMMABLE LOGIC CONTROLLER AND SCADA

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. List out the different programming techniques of PLC.
2. Mention the role of counters in PLC.
3. List the sequence of operations carried out in PLC programming.
4. What standard format is used for PLC math instructions?
5. What factor makes SCADA different from other control and monitoring systems?
6. List the different levels of SCADA.
7. State the salient features of IEC 61850 SCADA.
8. State the role of energy management system functions.
9. Distinguish between SCADA and PLC.
10. Give the PLC based speed control applications.

PART - B (5 x 16 = 80 Marks)

11. (a) Describe how the I/O modules connect to the processor in a modular type PLC configuration. (16)

Or

(b) Describe the operation of a typical input and output modules of PLC Systems. (16)

12. (a) Write short notes on: (i) Advanced intermediate function (ii) Networking of PLC. (16)

Or

(b) Summarize the steps to follow when commissioning a PLC installation. Also discuss about trouble shooting. (16)

13. (a) Explain the various architectures of SCADA with relevant diagram. (16)

Or

(b) Discuss the following:

(i) Remote terminal unit of SCADA (8)

(ii) SCADA server (8)

14. (a) Draw and explain IEC 61850 layered architecture. (16)

Or

(b) Discuss the automatic substation control using SCADA with block diagram. (16)

15. (a) Discuss speed control of DC motor using PLC. (16)

Or

(b) Discuss the SCADA applications in power systems. (16)

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