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Question Paper Code: 39304

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2021

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. Define PLC.
2. List out any four differences between PLC Vs personal computer.
3. What are the different types of PLC Languages?
4. What standard format is used for PLC math instructions?
5. What factor makes SCADA different from other control and monitoring systems?
6. Draw the evaluation of SCADA.
7. Mention the advantages of SCADA system.
8. Identify the seven layers of OSI model.
9. Distinguish between SCADA and PLC.
10. List the applications of SCADA.

PART - B (5 x 16 = 80 Marks)

11. (a) Illustrate the overview of PLC in detail. (16)

Or

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

12. (a) Describe the robot controlling application in PLC with its neat algorithm, flow chart and ladder diagram. (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) Describe the Intelligent electronic devices in detail. (16)

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) Illustrate how the SCADA is used for substation monitoring and automatic control. (16)