

For Syllabus, Question Papers, Notes & many More

RO6703 TOTALLY INTEGRATED AUTOMATION

DETAILED SYLLABUS

UNIT I TOTALLY INTEGRATED AUTOMATION

Need, components of TIA systems, advantages, Programmable Automation Controllers (PAC), Vertical Integration structure.

UNIT II HMI SYSTEMS

Necessity and Role in Industrial Automation, Need for HMI systems. Types of HMI- Text display - operator panels - Touch panels - Panel PCs - Integrated displays (PLC & HMI). Check with PLC 502 and remove.

UNIT III SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA)

Overview – Developer and runtime packages – architecture – Tools – Tag – Internal & External graphics, Alarm logging – Tag logging – structured tags– Trends – history– Report generation, VB & C Scripts for SCADA application.

UNIT IV COMMUNICATION PROTOCOLS of SCADA

Proprietary and open Protocols – OLE/OPC – DDE – Server/Client Configuration – Messaging – Recipe – User administration – Interfacing of SCADA with PLC, drive, and other field device

UNIT V DISTRIBUTED CONTROL SYSTEMS (DCS)

DCS – architecture – local control unit- programming language – communication facilities – operator interface – engineering interfaces. APPLICATIONS OF PLC & DCS: Case studies of Machine automation, Process automation, Introduction to SCADA Comparison between SCADA and DCS.

TEXT BOOKS

1. John.W.Webb & Ronald A. Reis, "Programmable logic controllers: Principles and Applications", Prentice Hall India, 2003.
2. Michael P. Lukas, "Distributed Control systems", "Van Nostrand Reinhold Company"1995.

For Syllabus, Question Papers, Notes & many More

REFERENCES

1. Win C C Software Manual, Siemens, 2003.
2. RS VIEW 32 Software Manual, Allen Bradly, 2005.
3. CIMPLICITY SCADA Packages Manual, Fanuc India Ltd, 2004.

OBJECTIVES

To gain knowledge in various electrical and electronic programmable automations and their applications.