
Sistemi di automazione

Finalità

Provide an overview of the systems used in the automation industrial

Programma

AUTOMATION: ARCHITECTURE

- a) Introduction to industrial automation
- b) Automation of production processes
- c) Architectures control hardware

REAL TIME CONTROL SYSTEMS

- a) Classification of real time systems
- b) Scheduling Algorithms
- c) Outline of hardware and software implementation of a real-time system

ANALOG CONTROL VARIABLES

- a) The control loop and specific control
- b) Industrial Controllers: PID controller
- c) Implementation Problems of a digital controller

PROGRAMMABLE LOGIC CONTROLLER - PLC

- a) Hardware Architecture
- b) Software Architecture
- c) PLC programming languages: data types, identifiers, constants and variables, Ladder Diagram, Function Block Diagram, Structured Text, Instruction List

The SEQUENTIAL FUNCTIONAL CHART

- a) Introduction, rules and basic elements
- b) programming structures
- c) Examples

INTRODUCTION OF DISCRETE EVENT SYSTEMS

INTRODUCTION OF FUZZY LOGIC CONTROL

Attività d'esercitazione

Laboratory exercises

Modalità d'esame

Scritto e progetto di laboratorio

Propedeuticità

Sistemi Multivariabili, Sistemi non lineari

Testi consigliati

dispense fornite dal docente

manuali forniti dal docente dei PLC Siemens Logo, Siemens S7 1200 e Crouzet