

G 712

(Pages : 2)

Reg. No.....

Name.....



B.TECH. DEGREE EXAMINATION, MAY 2014

Seventh Semester

Branch : Applied Electronics and Instrumentation/Electronics and Instrumentation Engineering

AI 010 702/EI 010 702—COMPUTERIZED PROCESS CONTROL (AI, EI)

(Improvement/Supplementary)

[2010 Admissions]

Maximum : 100 Marks

Time : Three Hours

Part A

Answer all questions.

Each question carries 3 marks.

1. What is the need of computers in control system ? Explain.
2. What is the concept of redundancy ? Explain.
3. Can we eliminate ringing of poles ? How ?
4. Compare DCS with SCADA.
5. Explain about power grounding.

(5 × 3 = 15 marks)

Part B

Answer all questions.

Each question carries 5 marks.

6. Discuss about communication protocols used in SCADA.
7. Explain about programming using TIMER instruction. Also explain about different words used in TIMER.
8. Explain about Dalphin's method to design a digital controller.
9. Explain about the concept of centralized and decentralized control.
10. What are the different ways to reduce static electricity ? Explain.

(5 × 5 = 25 marks)

Turn over

Part C

*Answer all questions.
Each question carries 12 marks.*

11. (a) With a neat sketch, explain about multi channel data acquisition system.
Or
(b) Discuss about SCADA.
12. (a) Explain about different I/O configurations.
Or
(b) Discuss about addressing in PLC. Also explain about ladder diagram programming instruction sets.
13. (a) Explain about Smith predictor algorithm.
Or
(b) Explain about non-recursive position and velocity PID algorithm.
14. (a) Discuss about DCS architecture.
Or
(b) Discuss about field bus architecture and role of field bus in industry.
15. (a) Write a short note on NEMA standards.
Or
(b) Explain about process safety managements. What is process hazard analysis ?

(5 × 12 = 60 marks)

