

B.TECH. DEGREE EXAMINATION, MAY/JUNE 2009

Eighth Semester

Branch : Applied Electronics and Instrumentation Engineering

COMPUTERISED PROCESS CONTROL (A)

(Regular/Supplementary)

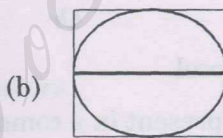
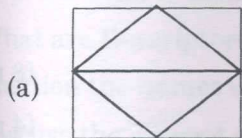
Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

1. Give the basic architecture of PLA.
2. Explain the operation of PAL.
3. Differentiate between combinational logic controller and sequential logic controller.
4. What are the features of programmable logic controller ?
5. Explain the following flow sheet symbols :



6. Explain about the remote terminal units.
7. Write a note on the integration of DCS with PLC.
8. What are the components of fiber optic communication link ?
9. What are the sources of noise ?
10. Explain the uses of network protocols.

(10 × 4 = 40 marks)

Part B

1. (a) Differentiate between PLA and PAL . (4 marks)
- (b) Discuss the various applications of PLA. (8 marks)

Or

2. Explain, in detail, the design and applications of PAL. (12 marks)

Turn over

13. (a) Explain the features of a typical commercially available PLC. (6 marks)

(b) Write a note on microprocessor based PLCs. (6 marks)

Or

14. (a) With a suitable example, explain the design of a logic controller using programmable logic device. (8 marks)

(b) Write a note on PLC programming languages. (4 marks)

15. Describe the guideline for estimating the total cost of distributed of control system. (12 marks)

Or

16. With a block diagram, explain the components of a CRT display. (12 marks)

17. (a) Explain the various types of tasks performed by supervisory computers. (7 marks)

(b) Write a note on TOP. (5 marks)

Or

18. (a) What are the generic features of DCS ? (4 marks)

(b) List the advantages of field buses over hard-wired installation. (4 marks)

(c) Discuss about the integration of DCS with computers. (4 marks)

19. Discuss, in detail, about any two types of printers. (12 marks)

Or

20. (a) Explain Allen-Bradley protocol. (8 marks)

(b) What are the types of noise present in a communication system. (4 marks)

[5 × 12 = 60 marks]

