

G 1218

(Pages : 2)

Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2016

Eighth Semester

Branch : Applied Electronics and Instrumentation Engineering

COMPUTERISED PROCESS CONTROL (A)

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. Explain different types of PLD's.
2. Write short note on programmable array logic.
3. Explain the structure of analog and digital input module of PLC.
4. Explain sequential logic controllers and differentiate combinational and sequential logic controller.
5. What is the use of multiplexers in DCS systems ?
6. What is LCU ?
7. Compare DCS and PLC.
8. What is TOP ?
9. Write short note on operator interfaces.
10. What is network protocol ?



Part B

Answer all questions.

Each question carries 12 marks.

(10 × 4 = 40 marks)

11. Implement the following Boolean functions using the PAL device :

$$W(A, B, C, D) = \sum m(2, 12, 13)$$

$$X(A, B, C, D) = \sum m(7, 8, 9, 10, 11, 12, 13, 14, 15)$$

$$Y(A, B, C, D) = \sum m(0, 2, 3, 4, 5, 6, 7, 8, 10, 11, 15)$$

$$Z(A, B, C, D) = \sum m(1, 2, 8, 12, 13)$$

Or

12. Explain the design and application of PLA.

Turn over

13. Explain the internal structure of PLC with the neat block diagram.

Or

14. (a) Implement a 24 hour clock using PLC logic.

(6 marks)

(b) What are the commercially available PLC ?

(6 marks)

15. Explain in detail about I/O hardware and setpoint stations.

Or

16. Explain the cost estimating method of DCS.

17. Explain the features and application of field buses.

Or

18. (a) How DCS is integrated with PC ?

(6 marks)

(b) What are the advantages of MAP ? Explain its features.

(6 marks)

19. Explain the working and different types of printers.

Or

20. Explain about operator interfaces and workstations.

[5 × 12 = 60 marks]

