F 3329 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch : Applied Electronics and Instrumentation/Electronics and Instrumentation Engineering

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

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours Maximum : 100 Marks

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Part A

Answer **all** *questions.*
Each question carries 3 *marks.*

1. What is the concept of SCADA ? Explain.
2. Explain about I/O scanning.
3. Explain about ringing of poles.
4. What are the different line symbols in DCS flow diagram ?
5. What is the importance of grounding ?

(5 × 3 = 15 marks)

Part B

Answer **all** *questions.*
Each question carries 5 *marks.*

6. Explain about RTUs of SCADA.
7. Discuss about PLC installation.
8. Explain about the block diagram of digital controller.
9. Compare DCS with PLC.
10. What are the required information about safety ?

(5 × 5 = 25 marks)

Part C

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

11. (a) Discuss about PC based data acquisition system.

Or

(b) Discuss about operator interface and application of SCADA.

Turn over

12. (a) Briefly explain about the architecture of PLC.

Or

(b) Draw a ladder diagram to implement clocked master slave JK flip flop operation with preset and clear.

13. (a) Explain about dead beat characteristics. Give a procedure to implant dead beat algorithm.

Or

(b) Explain about position recursive and non-recursive PID algorithm.

14. (a) Discuss about the displays of DCS.

Or

(b) Discuss about man-machine interface and integration of DCS with PLC.

15. (a) Explain about NEM standards.

Or

(b) What is process hazard analysis ? Explain with an example.

(5 × 12 = 60 marks)

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