

Total No. of Questions : 8]

SEAT No. :

P1987

[Total No. of Pages : 2

[5059]-582**B.E. (Electrical)****PLC AND SCADA APPLICATIONS****(2012 Pattern) (End Semester)***Time : 2½ Hours]**[Max. Marks : 70**Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*

- Q1)** a) Draw and explain block diagram of Programmable Logic Controller. [8]
- b) What is programming equipment? State their types. [7]
- c) Explain input analog devices. [7]

OR

- Q2)** a) State advantages and disadvantages of PLC. [8]
- b) Draw the ladder diagram for the following function table [7]
- Inputs - I1, I2 Outputs - Q1, Q2, Q3, Q4

I1	I2	Q1	Q2	Q3	Q4
0	0	1	1	1	0
0	1	0	1	1	1
1	0	1	0	1	1
1	1	1	1	0	1

- c) What is the difference between ON/OFF and analog devices? Explain output analog devices. [7]
- Q3)** a) Explain any two types of transducers. [8]
- b) Explain how temperature is measured and controlled by PLC. [8]
- OR
- Q4)** a) Draw and explain AC motor overload protection. [8]
- b) Explain variable frequency drive for AC motor. [8]

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- Q5)** a) Explain SCADA architecture in detail. [8]
b) State advantages and disadvantages of SCADA systems. [8]

OR

- Q6)** a) Explain how SCADA is implemented in water purification system. [8]
b) Explain SCADA generations. [8]

- Q7)** a) Explain DNP3 SCADA protocol. [8]
b) Explain Flexible Function Block (FFB). [8]

OR

- Q8)** a) Explain Control and Information Protocol (CIP). [8]
b) Explain Open System Interconnection (OSI) model. [8]



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