

Total No. of Questions : 8]

SEAT No. :

P3590

[Total No. of Pages : 2

[4959]-1062

B.E. (Electrical) (End Semester)
PLC AND SCADA APPLICATIONS
(2012 Course)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

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

- Q1)** a) Explain overall PLC system with neat block diagram. [7]
b) Explain UP Down counter. [7]
c) What is the effect of change in proportional constant (Kp) on the performance of the system. [6]

OR

- Q2)** a) What is automation? Explain its advantages. [6]
b) Draw the ladder diagram for the following function table. [8]
Inputs - I1, I2 Outputs - Q1, Q2, Q3, Q4

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

- c) Explain output analog devices. [6]
- Q3)** a) Explain electromechanical transducers with examples. [8]
b) How temperature of the water in the tank is measured by PLC? [8]

OR

P.T.O.

- Q4)** a) Design traffic light controller using PLC ladder diagram. [8]
b) Explain variable speed (variable frequency) AC motor drive. [8]

- Q5)** a) Define SCADA and give its applications. [2]
b) Draw block diagram of SCADA and explain each block in detail. [8]
c) Explain application of SCADA in chemical plant. [8]

OR

- Q6)** a) Write advantages and disadvantages of SCADA system. [4]
b) Explain generation of SCADA architecture. [6]
c) Explain SCADA systems in operation and control of interconnected power system. [8]

- Q7)** a) Explain transmission control protocol/Internet protocol (TCP/IP) model in detail. [8]
b) Explain layered architecture of IEC61850. [8]

OR

- Q8)** a) Write note on control and information protocol. [8]
b) Explain Profibus (Process Fieldbus). [8]

