SEAT No. :

P3066

[Total No. of Pages : 2]

[5154]-632

B.E.(Electrical)

PLC and SCADA Applications

(2012 Pattern) (Semester - I) (End Semester) (403142)

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)   State advantages of Programmable Logic Controller in detail.   **[8]**

     b)   Explain Ton timer along with its three bits.   **[8]**

     c)   What is the difference between input and output devices? Give one example of each.   **[6]**

OR

Q2) a)   What are different applications of PLC?   **[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	1	0	1	0
0	1	0	1	0	1
1	0	0	1	0	1
1	1	1	0	1	0

     c)   Explain PID control of continuous process.   **[8]**

Q3) a)   Explain any one electromechanical sensor.   **[8]**

     b)   How level of water in the tank is measured?   **[8]**

OR

P.T.O.

Q4) a) Draw and explain controller for DC motor. **[8]**

b) Write a short note on AC motor overload protection. **[8]**

Q5) a) Write a short note on SCADA system used in Petroleum Refining Process. **[8]**

b) Explain with block diagram use of SCADA in power system generation.**[8]**

OR

Q6) a) Define SCADA and state its desirable properties. **[8]**

b) What are the different applications of SCADA system? **[8]**

Q7) a) Explain TCP/IP layered architecture. Also explain functions of TCP/IP model layers. **[8]**

b) Explain Control Net protocol in detail. **[8]**

OR

Q8) a) Explain IEC61850 layered architecture protocol. **[8]**

b) Explain DNP3 protocol. **[8]**