

Total No. of Questions :6]

SEAT No. :

**P72****OCT.-16/B.E./Insem. - 126**

[Total No. of Pages :2

**B.E. (Electrical)****PLC AND SCADA APPLICATIONS****(403142) (2012 Course) (Semester - I)***Time : 1 Hour]**[Max. Marks :30**Instructions to the candidates:*

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

- Q1)** a) With a neat block diagram explain architecture of PLC. [6]  
 b) Explain in brief various types of PLC. [4]

OR

- Q2)** a) Explain benefits of automation. [6]  
 b) Explain the criteria for selecting a PLC for particular application. [4]

- Q3)** a) Explain Programming equipment with different types. [6]  
 b) What are the different techniques of Programming with PLC? [4]

OR

- Q4)** a) Explain up counter in detail with its related bits and timing diagram. [6]  
 b) Draw the ladder diagram for the following function table. [4]

Inputs - I1, I2 Outputs - Q1, Q2, Q3, Q4

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

**P.T.O.**

- Q5)** a) What are the different signals with which PLC works? Explain input ON/OFF switching devices. [4]  
b) What is Adjust and Observe method? [6]

OR

- Q6)** a) Explain output analog devices. [4]  
b) What is the effect of change in proportional constant ( $K_p$ ) on the performance of the system. [6]



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