

Total No. of Questions :6]

SEAT No. :

**P217**

[Total No. of Pages :2

**Oct./ BE/ Insem. - 533**

**B.E. (Electrical)**

**PLC AND SCADA APPLICATIONS**

**(2015 Course) (Semester - I) (403142)**

*Time : 1 Hour]*

*[Max. Marks :30*

*Instructions to the candidates:*

- 1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*

**Q1)** a) List & discuss the advantages & disadvantages of Programmable Logic Controller. [8]

b) Which are various selection criteria for PLC? [2]

OR

**Q2)** a) Explain the types and the function of programmer and monitors. [5]

b) Explain input and output modules in PLC. [5]

**Q3)** a) Explain various output ON/OFF devices. [5]

b) Explain linear variable differential transformer (LVDT) with proper diagram. [5]

OR

**Q4)** a) What are different types of actuators? Explain any one of them in detail. [5]

b) Write a short note on encoders explaining its types. [5]

**P.T.O.**

**Q5) a)** Draw explain ladder diagram for OFF delay timer along with its bits. Also draw its timing diagram. **[8]**

b) State some applications using timers in PLC. **[2]**

OR

**Q6) a)** What is Master control relay (MCR)? **[3]**

b) Develop the ladder diagram for the combination of Timer and Counter for lamp ON/OFF operation. Generate a delay of 50 sec using Timer (TON) for 5 sec along with the counter (UP counter) for 10 counts. (5 sec X 10 counts = 50 sec). The lamp should be ON after a delay of 50 sec. **[7]**