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Total No. of Pages : 01

Total No. of Questions : 08

M.Tech EPDT (Sem.-1)
PLC & INDUSTRIAL AUTOMATION
Subject Code : MTEP-PE1A-18
Paper ID : [75229]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWELVE marks.

- Q1 State the need of automaton in the Industry. Draw the block diagram of PLC and label it. (6+6)
- Q2 List the advantages of PLC over conventional Relay logic. State the classification of PLC based on type & size. (6+6)
- Q3 Describe the input device that sense the pressure & gives discrete output. State the need of HMI. (6+6)
- Q4 What is SCADA? Role of MMI/HMI SCADA in Industrial Automation. (6+6)
- Q5 Draw the functional block diagram of SCADA with neat label. Suggest the possible causes of an output LED being ON but the output failing to turn ON. (6+6)
- Q6 List the different applications of SCADA. Draw the waveforms for an ON delay timer. (6+6)
- Q7 A process fan P is to run only when all of the following conditions are met. (12)
- a) Input 1 is off.
 - b) Input 2 is on or input 3 is on, or both 2 and 3 are on.
 - c) Inputs 5 and 6 both are on.
 - d) One or more of inputs 7, 8 or 9 is on.
- Obtain PLC Ladder Logic diagram for this problem.
- Q8 Explain how communication takes place between PLC and SCADA. What are Alarm and Events in InTouch? (6+6)