Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII EXAMINATION – SUMMER 2016

Subject Code:182403 **Date:16/05/2016**

Subject Name:Industrial Automation (Department Elective II)

Time:10:30 AM to 01:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Draw plc system layout & explain the functionality of interconnected parts.	**07**
	(b)	Describe PLC scanning considerations in detail.	**07**
Q.2	**(a)**	Explain the PLC arithmetic functions and draw block format of each.	**07**
	(b)	Explain about current trends in computer controlled of process plants. Also, explain about power ladder diagram.	**07**
		OR	
	(b)	Draw internal block diagram of PLC CPU and explain various blocks.	**07**
Q.3	**(a)**	Explain jump with return and jump with non return instructions.	**07**
	(b)	Explain plc add function. How plc handles overflow of numbers?	**07**
		OR	
Q.3	**(a)**	Describe PLC I/O blocks with necessary diagrams.	**07**
	(b)	Explain in detail the PLC Counter functions.	**07**
Q.4	**(a)**	Explain PLC skip function with suitable ladder logic diagrams.	**07**
	(b)	Explain input and output group registers of PLC.	**07**
		OR	
Q.4	**(a)**	Explain the P.L.C. SEQUENCER function. Write the ladder for sequencer with Timer pulsing.	**07**
	(b)	Explain about ladder diagram & Boolean mnemonics programming Language.	**07**
Q.5	**(a)**	Explain about DCS, its functions, advantages & limitations.	**07**
	(b)	Draw and explain ON Delay and Off-Delay timer ladder diagrams.	**07**
		OR	
Q.5	**(a)**	Explain DCS integration with PLCs and Computers.	**07**
	(b)	Explain about application development & industrial application for power.	**07**

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