Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – VIII.EXAMINATION – WINTER 2016

Subject Code: 182403 **Date: 22/10/2016**

Subject Name: Industrial Automation (Department Elective II)

Time: 02:30 PM to 05:00 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)**	Explain analog signal processing in PLC.	**07**
	(b)	Explain DCS with the help of necessary diagram. List advantages and disadvantages of DCS.	**07**
Q.2	**(a)**	Explain the basic PLC sequencer function.	**07**
	(b)	Explain the AND/OR matrix function of PLC.	**07**
		OR	
	(b)	List shift register functions of PLC. Explain shift right and rotate function.	**07**
Q.3	**(a)**	List advantages and disadvantages of PLC.	**07**
	(b)	Explain process scanning considerations in PLC.	**07**
		OR	
Q.3	**(a)**	Draw block diagram of PLC and explain each block in detail.	**07**
	(b)	Draw the input module and output module layout of PLC and explain it in detail.	**07**
Q.4	**(a)**	Explain input registers of PLC.	**07**
	(b)	Explain retentive timer and ON-Delay timer with necessary diagrams.	**07**
		OR	
Q.4	**(a)**	Explain counter functions of PLC with necessary diagrams.	**07**
	(b)	Explain holding registers of PLC.	**07**
Q.5	**(a)**	Explain addition and subtraction functions of PLC.	**07**
	(b)	Explain the skip function of PLC.	**07**
		OR	
Q.5	**(a)**	Explain PLC conversions between decimal and BCD.	**07**
	(b)	Explain Jump with return and Jump with non-return functions of PLC.	**07**

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