GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VII • EXAMINATION – SUMMER 2018

Subject Code: 171702   **Date: 01-05-2018**

Subject Name: Programmable Automation Controller

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)**	Discuss advantages and disadvantages of PLC.	**07**
	(b)	List analog input-output devices interfaced with PLC and explain any one in detail.	**07**
Q.2	**(a)**	List out rules of proper construction of ladder diagram with suitable example.	**07**
	(b)	Explain scan cycle of PLC.	**07**
		OR	
	(b)	Draw the ladder diagram for AND, NOR and EX-OR gate.	**07**
Q.3	**(a)**	Develop a ladder diagram for $F(a,b,c,d) = \sum (1,2,4,6,9,10,11)$	**07**
	(b)	Explain On delay Timer (Ton) with timing diagram.	**07**
		OR	
Q.3	**(a)**	Explain counter instruction of PLC with suitable example.	**07**
	(b)	Discuss input, output and holding registers of PLC	**07**
Q.4	**(a)**	Explain arithmetical functions of PLC with suitable example.	**07**
	(b)	Discuss Jump instruction of PLC with its application.	**07**
		OR	
Q.4	**(a)**	Discuss PLC FIFO and LIFO function.	**07**
	(b)	Explain TABLE TO REGISTER and REGISTER TO TABLE function of PLC.	**07**
Q.5	**(a)**	List out factors to be considered in selecting PLC.	**07**
	(b)	Write a short note on Troubleshooting of PLC.	**07**
		OR	
Q.5	**(a)**	Explain PLC sequencer functions with example.	**07**
	(b)	Explain PLC register shift functions.	**07**

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