Seat No.:	Enrolment No

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – VI (NEW).EXAMINATION – WINTER 2016

Date: 26/10/2016

Subject Code: 2161709

Subj	ect	Name: Programmable Logic Controller	
Time Instru	ıctioı	0:30 AM to 01:00 PM Total Marks: 70 as: Attempt all questions.	
	2. 3.	Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	Explain all PLC advantages and disadvantages in Detail. For following Boolean equation(a) draw a digital logic gate circuit	07 04
		and b) a ladder diagram $Y = (AB\overline{C}D + AB\overline{C}D + \overline{A}BCD + \overline{A}BCD) + D$	0.2
	(c)	Draw ladder diagram for 4 X 1 Multiplexer.	03
Q.2	(a) (b)	Explain PLC Scan cycle in Detail. Draw ladder for following: In the process there are three temperature sensors(T1,T2,T3), two pressure sensors (P1,P2) and one enable input.LampL1 should ON as per the conditions given below: • Any one of the temperature sensors from T1,T2,T3 should be ON. • Similarly one of the pressure transducer should be ON. • And enable input should be activated.	07 07
		OR	
	(b)	Explain All type of Registers of PLC.	07
Q.3	(a) (b)	1 full actions	07 07
Q.3	(a) (b)	Explain SHIFT REGISTER RIGHT and REGISTER ROTATE function.	07 07
Q.4	(a) (b)	The state of the s	07 07
Q.4	(a) (b)	Explain PLC SKIP and MASTER CONTROL RELAY Function.	07 07
Q.5	(a)	500 °C TO °F.	07
	(b)	Explain Selection Criteria for PLC. OR	07
Q.5	(a) (b)	Explain with example method used for Pushbutton Latching in PLC.	07 07
