Seat No.:	Enrolment No.
Scat No	Linoment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2016

Subject Name: Programmable Logic Controller			Date: 02/06/2016	
		0:30 am to 01:00 pm Total Marks:	70	
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.		
Q.1	(a)	Draw the ladder program for following functions. $F(w,x,y)=\sum (1,3,5,7)$ $F(a,b,c,d) = \prod (0,1,2,3,5,7,9,11)$	10	
	(b)	Compare PLC with Relay logic diagram.	04	
Q.2	(a)	Explain On delay Timer with timing diagram.	07	
	(b)	Explain PLC memory organization in brief.	07	
		OR		
	(b)	Explain PLC scan cycle.	07	
Q.3	(a) (b)	Explain various counter instructions available in PLC with suitable example. Develop the ladder diagram such that output A is latched after 10 seconds of switch B is pressed and it will unlatched if switch B is pressed 10 times.	07 07	
		OR		
Q.3	(a) (b)	Explain various data comparison instruction with suitable example. Three conveyor feeds main conveyor. The counter from each feeder conveyor is fed into input register in PLC. Construct a PLC program to obtain total count of parts of main conveyor.	07 07	
Q.4	(a)	Explain MCR instruction with example.	07	
	(b)	Discuss various selection criteria of PLC	07	
		OR		
Q.4	(a)	Write a short note on PLC networking.	07	
	(b)	List out various data handling function of PLC and explain any one.	07	
Q.5		Design and implement ladder logic for traffic control system. OR	14	
Q.5		Implement ladder diagram for water level control system.	14	
