Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY				
Su	ıbjec	BE - SEMESTER-VI (OLD) - EXAMINATION – SUMMER 2017 t Code: 163405 Date: 01/05/20	017	
Ti	me: istructi 1 2	t Name: Mechatronics 10:30 AM to 01:00 PM Total Marks ons: Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	: 70	
Q.1	(a) (b)	Explain basic elements of a closed-loop system. Define: Response time, Precision, Accuracy, Sensitivity, Repeatability, Drift and Resolution.	07 07	
Q.2	(a) (b)	Explain electrical relays as an actuation system. Explain RTDs and Thermocouple. OR	07 07	
	(b)	Explain Diaphragm pressure transducer.	07	
Q.3	(a) (b)	Explain capacitive pressure transducer with neat diagram. Explain Hydraulic mechanical system as system model. OR	07 07	
Q.3	(a) (b)	Explain Potentiometric pressure transducer. Explain Adaptive control.	07 07	
Q.4	(a) (b)	Explain PID controller. Explain Basic PLC structure in details with figure. OR	07 07	
Q.4	(a) (b)	Explain different types of control mode. Explain master & jump controls in PLC.	07 07	
Q.5	(a) (b)	Explain mechatronics system design of timed switch. Explain data handling in PLC. OR	07 07	
Q.5	(a) (b)	Explain mechatronics system design of windscreen wiper motion. Explain different logic function used in PLC.	07 07	
