Seat No.:	Enrolment No.
Sear NO	Enrolment No

GUJARAT TECHNOLOGICAL UNIVERSITY

		ME – SEMESTER I (NEW) – • EXAMINATION – SUMMER 2016	
Subject Code: 2710809 Date:19/0			16
Sul	bject	Name: MECHATRONICS	
	-	2:30 pm to 05:00 pm Total Marks:	70
	ruction	-	
		Attempt all questions.	
	2. 3.	Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	What is Mechatronics? Briefly explain role of Mechatronics in automation. Discuss the merits and demerits of Mechatronics system.	07 07
Q.2	(a)	Explain Mechatronics Control in automated Manufacturing.	07
	(b)	Explain control relays and thermal over load relays in details. OR	07
	(b)	Explain Linear Variable Differential Transformer (LVDT) with neat diagram.	07
Q.3	(a)	Explain performance terminologies of Static and Dynamic characteristics of sensors.	07
	(b)	Discuss the various stages involved in the design of mechatronics systems	07
		OR	
Q.3	(a)	Explain need for networks in Industrial Plants.	07
	(b)	Write short note on (HMI) Human Machine Interface.	07
Q.4	(a)	What is a PLC? Explain with advantage & feature.	07
	(b)	Explain DC stepper motor's working and construction in detail. OR	07
Q.4	(a)	Write a short note on Supervisory Control and Data Acquisition (SCADA) and Explain its communication methods.	07
	(b)	Explain interfacing of different hard wares in industry	07
Q.5	(a)	Explain the construction of a pick and place robot and explain the various	07
	<i>a</i>	mechatronics system in the design	
	(b)	Compare open loop control system and closed loop control system. OR	07
Q.5	(a)	Explain the advantages and disadvantages of CNC Machines.	07
	(b)	Write a detailed note on pressure measuring systems and pressure measuring transducer.	07
