Seat No.:	Enrolment No
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GUJARAT TECHNOLOGICAL UNIVERSITY BE – SEMESTER – V (NEW) EXAMINATION – WINTER 2015

Subject Code: 2153406 Subject Name: Mechatronics Time:10:30am to 1:00pm Instructions:			Date:10/12/2015 Total Marks: 70	
Q.1	(a) (b)	Write a short note on conductor, insulator and semi conductor. Explain static errors and sources of errors.	07 07	
Q.2	(a) (b)	Explain the design process of mechatronic system. Explain open loop and closed loop system control system.	07 07	
	(b)	OR Explain linear variable differential transducer.	07	
Q.3	(a) (b)	Write short note on optical encoders. Explain diaphragm pressure transducer.	07 07	
		OR		
Q.3	(a) (b)	Explain hall effect sensor. Write a short note on tachometer generator.	07 07	
Q.4	(a) (b)	Explain proportional control mode in details with diagram. Explain timers & counters in PLC.	07 07	
		OR		
Q.4	(a) (b)	Explain any two types of stepper motor. Explain master & jump controls in PLC.	07 07	
Q.5	(a) (b)	Explain Pick & place robot in details. Explain Forward & reverse kinematics of robotic arm.	07 07	
		OR		
Q.5	(a) (b)	Explain mechatronics system design of windscreen-wiper motion Explain various types of mechanical joint used on robotics.	n. 07	
