Seat No.:	Enrolment No.
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## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE - SEMESTER-VIII • EXAMINATION – SUMMER 2013

Subject Code: 180304			Date: 09-05-2013	
Subject Name: Electronic System Design Time: 10.30 am - 01.00 pm Instructions:		30 am - 01.00 pm Total Marks: 70	Total Marks: 70	
	2. N	Attempt all questions. Aake suitable assumptions wherever necessary. Figures to the right indicate full marks.		
Q.1	(a) (b)	State Faradayøs Law of Electromagnetic Induction. Explain the process of electromechanical energy conversion.  Explain static & dynamic characteristics of SCR.	07 07	
Q.2	(a) (b)	Explain two transistor model of SCR in detail.  What is commutation? Explain class óC commutation with necessary waveform in detail.	07 07	
		OR		
	(b)	Explain the construction & working of a Servomotor.	07	
Q.3	(a)	Enlist & explain the problem encountered during the series & parallel connection of SCR.	07	
	(b)	Explain series & parallel resonant inverter in detail.  OR	07	
Q.3	(a)	Explain the difference between a DC motor & Stepper motor. Also explain the advantages and disadvantages of a stepper motor.	07	
	(b)	Explain Half Step, Full Step and Micro Stepping operation of a Stepper motor	07	
Q.4	(a) (b)	Write a short note on Solenoid & Solenoid Valves Explain class- E resonant inverter in detail.  OR	07 07	
Q.4	(a) (b)	Write a detailed note on various drive circuits used for Stepper Motors Explain Electromagnetic Compatibility & Electromagnetic Interference in detail. Also explain the basic difference between the two.	07 07	
Q.5	(a) (b)	Write a short note on Electromagnetic & Solid State Relay. Enlist & Explain the different types of power Diode, explain the performance parameter of power diode in detail.  OR	07 07	
Q.5	(a)	Enlist & Explain the control strategy of converter. explain the step up convertor in detail	07	
	(b)	Write a short notes on  1. Power MOSFET  2. IGBT	07	

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