Se	at No	Enrolment No	
		GUJARAT TECHNOLOGICAL UNIVERSITY	
a		BE- V th SEMESTER-EXAMINATION – MAY/JUNE - 2012	
	•	ct code: 150203 Date: 04/06/2012	
	-	ct Name: Power Electronics & Control Engineering	
		02:30 pm – 05:00 pm Total Marks: 70	
In		actions:	
		Attempt all questions. Make suitable assumptions wherever necessary.	
		Figures to the right indicate full marks.	
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Q.1	(a)	Explain the principle and operation of SCR with two transistor analogy.	07
	(b)	Explain the phase control using Triac.	07
Q.2	(a)	<u> •</u>	07
	(b)	Explain matching of speed-torque characteristics of motor and load. OR	07
	(b)	Explain variable speed AC motor drives.	07
Q.3	(a)	Describe timing and sequential control in welding process.	07
	(b)	Explain variable reactance method for current control in welding process. OR	07
Q.3	(a)	What is the basic principle of induction heating? Show the relation between depth of heat penetration and power requirement.	07
	(b)	What is the basic principle of dielectric heating? Show the relation between depth of heat penetration and power requirement.	07
Q.4	(a)	Explain the functions of following pins of 8085. (i) Address and Data Bus (ii) Control and status signals (iii) Power supply and	07
		clock frequency (iv) serial I/O ports.	
	(b)	Describe memory read machine cycle in 8085. OR	07
Q.4	(a)	(i) Explain any one Data transfer instructions.(ii) Explain any two Arithmetic instructions.	07
		(iii) Explain any two Logical instructions.	
	(b)	Describe memory write machine cycle in 8085.	07
Q.5	(a)		07
	(b)	What is Digital to Analog converters? Explain any one type of Digital to Analog converter.	07
		OR	
Q.5	(a)	What is Analog to digital converters? Explain any one type of Analog to digital converter.	07
	(b)		07
