Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V EXAMINATION - WINTER 2015

Subj	ect (Code: 150903 Date:08/12/2015	
Subj	ect l	Name: Power Electronics-I	
Time	e: 10	2:30am to 1:00pm Total Marks: 70	
Instru			
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	What is snubber circuit? Why is it needed? Draw a snubber circuit for a SCR and give guidelines for selecting its components.	07
	(b)	Using voltage and current wave form, Explain the dynamic turn-ON and turn-OFF processes.	07
Q.2	(a) (b)	Describe the construction, working and characteristics of IGBT. With neat circuit diagram & waveform explain UJT oscillator triggering. OR	07 07
	(b)		07
Q.3	(a)	Explain the resistance triggering and R-C triggering method. What is advantage of RC triggering over resistance triggering?	07
	(b)	Explain three phase full converter with RL load using circuit diagram and wave form.	07
Q.3	(a)	OR Using relevant circuit diagram and waveforms, explain Class –C (Complimentary) forced commutation method.	07
	(b)	Explain A.C phase control of TRIAC using Diac.	07
Q.4	(a)	Describe the working principle of Jones chopper with neat circuit diagram.	07
	(b)	Explain in brief various control strategies of a chopper. OR	07
Q.4	(a)		07
	(b)		07
Q.5	(a) (b)		07 07
Q.5	(a)		07
	(b)		07
