Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – V (NEW) EXAMINATION – WINTER 2015

Subject Code: 2150903			Date:17/12/2015	
Tiı	•	Attempt all questions. Make suitable assumptions wherever necessary.	70	
Q.1	(a) (b)	Explain DIAC with its construction and V-I characteristic. Explain CUK converter.	07 07	
Q.2	(a) (b)	Draw circuit diagram for obtaining static V-I characteristic of an IGBT. Also draw and explain static V-I characteristic. Explain UJT relaxation oscillator.	07 07	
	(6)	OR	0,	
	(b)	Explain working of series connected SCRs.	07	
Q.3	(a) (b)	Explain pulse transformer and opto-coupler. Explain design of snubber circuit	07 07	
		OR		
Q.3	(a) (b)	Explain thermal modelling of SCR. Explain working of single phase half converter with R load.	07 07	
Q.4	(a)	Draw circuit diagram, waveform and derive expression for V_{RMS} for 3-phase half wave converter with R-L load.	07	
	(b)	Explain Morgan's chopper.	07	
Q.4	(a)	OR Draw circuit diagram and waveforms for continuous and dis-continuous mode of working for single phase semi-converter with freewheeling diode.	07	
	(b)	What is chopper? Explain step-up chopper.	07	
Q.5	(a)	Explain single phase full converter drive feeding separately exited dc motor for continuous conduction mode.	07	
	(b)	Explain single phase dual converter drive. OR	07	
Q.5	(a) (b)	Explain principle of regenerative brake control. Explain phase locked loop (PLL) control of dc motor.	07 07	
