Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

		BE - SEMESTER-VI- EXAMINATION – SUMMER 2016	
Su	bject	Code:162405 Date:11/05/201	16
Su	bject	Name:Power Processing Circuits - I	
Tir	ne: 1	0:30 AM to 01:00 PM Total Marks:	70
Inst	ructio		
		Attempt all questions.	
	2.	Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
		Notations/ symbols used have usual meanings.	
		2.00 .0 0.02.5, 5 . 2.2.02.5 0.500 2.00, 0 0.5002 2.2.002.2.2.2.5	
Q.1	(a)	Explain single - phase, phase controlled rectifier with RL load using necessary waveforms for $\alpha = 60^{\circ}$.	07
	(b)	Describe modeling of a controlled rectifier.	07
Q.2	(a)	Give detailed classification of rectifiers. Explain the concept of phase-angle control.	07
	(b)	Explain working of input and output filter for a linear regulated power supply. OR	07
	(b)	Discuss any one three terminal IC based voltage regulator.	07
Q.3	(a)	Write short note on: Sepic converter.	07
C	(b)	Write short note on :- Multi - phase chopper OR	07
Q.3	(a) (b)	Write short note on: Forward converter. Write short note on:- Multi quadrant chopper.	
Q.4	(a) (b)	Draw and explain the Jone's chopper circuit in detail. Enlist its application(s). Discuss Cuk converter operation with equivalent circuit for both switch – on and switch-off conditions.	07 07
		OR	
Q.4	(a) (b)	Explain voltage commutated chopper with neat circuit diagram and waveforms Write short note on: Load resonant converter.	07 07
Q.5	(a) (b)	Classify isolated DC-DC converter and explain any one. Discuss the working principle of Full-bridge converter.	07 07
0 -	(.)	OR	^=
Q.5	(a)	Why Power supply is needed? Explain current – mode control of power supply with schematic diagram and waveform.	07
	(b)	Define series resonance. "ZVS can be used as clamped voltage DC-DC converter" Justify the statement.	07
