Seat No.:	Enrolment No.
-----------	---------------

## GUJARAT TECHNOLOGICAL UNIVERSITY

## BE - SEMESTER-V • EXAMINATION – SUMMER • 2015

Subject code: 150903  Subject Name: Power Electronics-I  Time: 02.30pm-05.00pm  Total Mark Instructions:		/05/2015	
		ks: 70	
	1. 2.	Attempt all questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.	
Q.1	(a)		07
	<b>(b)</b>	analogy.  Explain snubber circuit. Give design guidelines for selecting it's component	07
Q.2	(a)		07
	<b>(b)</b>	over-voltage protection of SCR Explain V-I characteristic & working of Triac.  OR	07
	<b>(b)</b>	Draw the circuit of a single phase fully controlled converter with R-L load. Derive necessary equations and sketch output waveform.	07
Q.3	(a)	Draw the circuit diagram and waveforms of input & output voltages and currents for a single phase half wave controlled converter with	07
	<b>(b)</b>		07
0.2	(a)	OR Explain LUT based triggering of themiston	07
Q.3	(a) (b)	Explain UJT based triggering of thyristor. Explain concept of 'Dual Converter'. Using circuit diagram, briefly explain the working of any one type of dual converter.	07
Q.4	(a)		07
	<b>(b)</b>	Chopper circuit .State its applications & limitations.  What are the different methods of breaking DC motor? Explain regenerative braking scheme with schematic diagram.  OR	07
Q.4	(a)		07
	<b>(b)</b>	Write a short note on buck-boost converter.	07
Q.5	(a)	Draw & explain the V-I characteristics of UJT. Define peak point and valley point clearly.	07
	<b>(b)</b>		07
Q.5	(a)		07
	<b>(b)</b>	Compare MOSFET with SCR in terms of basic structure	07

\*\*\*\*\*