Seat No.:	Enrolment No.

## GUJARAT TECHNOLOGICAL UNIVERSITY PDDC - SEMESTER - V • EXAMINATION - WINTER 2012

Subject code: X 50903 Date: 23/01/2		3	
Subje	ect l	Name: Power Electronics - II	
Time	: 02	2.30 pm - 05.00 pm Total Marks: 70	
Instr	uct	ions:	
		Attempt all questions.	
		Make suitable assumptions wherever necessary.	
	3.	Figures to the right indicate full marks.	
Q.1	(a)	What is the basic principle of Voltage source inverter? How is it differ from current source inverter?	07
	<b>(b)</b>	What is the 120 degree operation of inverter?	<b>07</b>
Q.2	(a)	Explain how the output voltage and frequency of inverter can be controlled?	07
	<b>(b)</b>	Explain the full wave topology of inverter with necessary wave form.  OR	07
	<b>(b)</b>	Which power electronics devices are preferred for inverter operation? Give your reasons.	07
Q.3	(a)	Explain 180 degree operation of inverter.	07
	<b>(b)</b>		07
Q.3	(a)	List out the different method of PWM. Explain sinusoidal PWM.	<b>07</b>
	<b>(b)</b>	Explain selective harmonics elimination method of PWM. How third harmonics can be eliminated?	07
Q.4	(a)	What is the space vector modulation technique? Compare it with other PWM techniques.	07
	<b>(b)</b>	1	07
		OR	
<b>Q.4</b>	(a)	1 0	07
	<b>(b)</b>	Explain single phase voltage controller with R-L load with necessary wave form.	07
Q.5	(a)	Explain basic principle of matrix converter.	07
	(b)		07
Q.5	(a)		07
χ.υ	(b)		07

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