Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B E Sem-VI Examination May 2011

Subject code: 160902 **Subject Name: Power Electronics-II**

Date:17/05/2011 **Time: 10.30 am – 01.00 pm**

Total Marks: 70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	(a)	Explain half bride and full bridge topology of inverter.	**07**
	(b)	Explain 3 phase inverter operation for 180^0 .	**07**
Q.2	(a)	Give comparison between current source inverter and voltage source inverter.	**07**
	(b)	What is PWM? Explain SPWM techniques.	**07**
		OR	
	(b)	Explain space vector pulse modulation techniques.	**07**
Q.3	(a)	Explain inverter operation for 120^0 .	**07**
	(b)	Explain basic principle of cyclo- converter with circuit diagram and wave from?	**07**
		OR	
Q.3	(a)	Explain three phase to single phase cycloconvrter.	**07**
	(b)	Explain the basics of Matrix converter.	**07**
Q.4	(a)	Give the comparison between On/Off control and phase control of A.C voltage controller.	**07**
	(b)	Explain full wave controller with R-L load. Draw the necessary wave-form.	**07**
		OR	
Q. 4	(a)	Explain slip-power recovery by Static Scherbius method for speed control of induction motor.	**07**
	(b)	Explain application of converter in HVDC transmission.	**07**
Q.5	(a)	Explain V/f control of induction motor drives? Give its merits and demerits.	**07**
	(b)	Explain the method of rotor resistance control using static device for wound rotor motor.	**07**
		OR	
Q.5	(a)	Explain the stator voltage control of induction motor drives.	**07**
	(b)	Explain McMurray inverter with each mode of operation. Give its limitation.	**07**

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