Seat No.:	Enrolment No.
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GUJARAT TECHNOLOGICAL UNIVERSITY

Subject Code: 2160902

BE – SEMESTER – VI (NEW).EXAMINATION – WINTER 2016

Date: 25/10/2016

T	ime	ect Name: Power Electronics – II : 10:30 AM to 01:00 PM ctions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks.	
Q.1	(a) (b)	State the merits & demerits of current source inverter & voltage source inverter. What are the methods of speed control of induction motor? Explain any one method in detail.	07 07
Q.2	(a) (b)	Explain 1-Ø full-wave AC controller with circuit diagram and wave form. Distinguish series inverter and parallel inverter. OR	07 07
	(b)	Explain Sine wave PWM technique. What is the effect of modulation index on output? Explain its merit and demerit.	07
Q.3	(a) (b)	Explain the working principle of 1-Ø cycloconverter. Explain 120 degree mode of 3-Ø bridge inverter with resistive load. OR	07 07
Q.3	(a)	Explain 180 degree mode of operation for 3-Ø bridge inverter with resistive load.	07
	(b)	Explain 3-Ø Cycloconverter.	07
Q.4	(a) (b)	Explain full bridge topology of 1-Ø bridge inverter with resistive load. Explain 3-Ø Synchronous Motor Drives using variable frequency control technique.	07 07
		OR	
Q.4	(a)(b)	Explain rotor resistive control for induction motor using power electronics device. Explain constant V/F control with the help of block diagram for Induction motor.	07 07
Q.5	(a)	Explain Stator voltage control with AC voltage controller for 3-Ø Induction Motor drive.	07
	(b)	Give classification of different techniques for voltage control of inverter. Explain any one.	07
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Q.5	(a) (b)	Explain working of Matrix AC to AC converter. Comparison of ac & dc drive and their selection for particular application.	07 07
