Seat No.:	Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE - SEMESTER-VI • EXAMINATION - WINTER • 2014

Su	bject	Code: 160902 Date: 28-11-2014	
Ti	•	Name: Power Electronics - II 2:30 pm - 05:00 pm Total Marks: 70	
IIIS	1. 2.	Attempt all questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.	
Q.1	(a)	With suitable diagram explain the working of three phase inverter for 120° operation.	07
	<b>(b)</b>	State the merits & demerits of current source inverter & voltage source inverter.	07
Q.2	(a)	What are the methods of speed control of induction motor? Explain any one method in detail.	07
	<b>(b)</b>	Compare on-off control & phase angle control of AC voltage controller.  OR	07
	<b>(b)</b>	Explain the working of matrix converter.	07
Q.3	(a)	What are the methods for harmonic reduction in inverter? Explain SPWM method in brief.	07
	<b>(b)</b>	Explain the working principle of single phase cycloconverter.  OR	07
Q.3	(a) (b)	Explain static Scherbius drive for slip power recovery system.  Explain the working of AC voltage controller with PWM control.	07 07
Q.4	(a) (b)	What are the points to be considered for selection of AC drive / DC drive? With neat diagram explain the HVDC transmission system.	07 07
$\Omega A$	(a)	OR What are EACTs devices? Explain any one	07
Q.4	(a) (b)	What are FACTs devices? Explain any one. Write a short note on active filters.	07
Q.5	(a)	Derive equation for Average & RMS value of voltage for single phase AC controller with RL load.	07
	<b>(b)</b>	Write a short note on closed loop control of induction motor.  OR	07
Q.5	(a)	Explain parallel inverter in brief.	07
	<b>(b)</b>	Write a short note on Space Vector Pulse width Modulation (SVPWM) technique.	07

\*\*\*\*\*