

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI • EXAMINATION – WINTER • 2014****Subject Code: 160902****Date: 28-11-2014****Subject Name: Power Electronics - II****Time: 02:30 pm - 05:00 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) With suitable diagram explain the working of three phase inverter for 120° operation. **07**
(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) Compare on-off control & phase angle control of AC voltage controller. **07**
OR
(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) Explain the working principle of single phase cycloconverter. **07**
OR
- Q.3** (a) Explain static Scherbius drive for slip power recovery system. **07**
(b) Explain the working of AC voltage controller with PWM control. **07**
- Q.4** (a) What are the points to be considered for selection of AC drive / DC drive? **07**
(b) With neat diagram explain the HVDC transmission system. **07**
OR
- Q.4** (a) What are FACTS devices? Explain any one. **07**
(b) 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) Write a short note on closed loop control of induction motor. **07**
OR
- Q.5** (a) Explain parallel inverter in brief. **07**
(b) Write a short note on Space Vector Pulse width Modulation (SVPWM) technique. **07**
