

GUJARAT TECHNOLOGICAL UNIVERSITY**BE SEM-VIII Examination May 2012****Subject code: 180304****Subject Name: Electronic System Design****Date: 08/05/2012****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) Draw & explain the block diagram of power electronic system. **07**

(b) Draw & explain series & parallel connection of power diode. **07**

Q.2 (a) Draw & explain basic structure & operation of thyristors. **07**

(b) Explain Gate drive circuit of thyristors. **07**

OR

(b) Explain two transistor model of thyristors. **07**

Q.3 (a) Explain half bridge single phase voltage source inverter. **07**

(b) Explain carrier based PWM technique in current source inverter. **07**

OR

Q.3 (a) Explain parallel resonant inverter. **07**

(b) Explain applications & features of multilevel inverter. **07**

Q.4 (a) Explain stepper motor with its construction & working. **07**

(b) Explain static & dynamic characteristics of stepper motor. **07**

OR

Q.4 (a) Explain electromagnetic and solid state relay. **07**

(b) Explain the principle of electromechanical energy conversion. **07**

Q.5 (a) Draw and explain the construction & working of servo motor & give its applications. **07**

(b) Explain solenoid design parameters. **07**

OR

Q.5 (a) Explain UPS as AC power supply. **07**

(b) What is electromagnetic compatibility? Explain E field & H field noise. **07**
