

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V • EXAMINATION – WINTER 2013****Subject Code: 150203****Date: 04-12-2013****Subject Name: Power Electronics & Control Engineering****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) Describe principle and operation of Thyristor. **07**
(b) Explain V-I characteristic of TRIAC. **07**
- Q.2** (a) Write a short note on V – I characteristic of UJT. **07**
(b) Write a short note on speed control of DC shunt motor using SCRs. **07**
- OR**
- (b) Write a short note on Variable Speed AC motor drives. **07**
- Q.3** (a) Write a short note on welding transformers. **07**
(b) Write a short note on leading and trailing tube circuits. **07**
- OR**
- Q.3** (a) Explain basic principle of induction heating. **07**
(b) Explain basic principle of dielectric heating. **07**
- Q.4** (a) Describe machine instructions with suitable examples. **07**
(b) Describe basic input and output mechanism of microprocessor. **07**
- OR**
- Q.4** (a) Write a short note on A to D converter. **07**
(b) Write a short note on programmable logic controller. **07**
- Q.5** (a) Write a short note on thermocouples. **07**
(b) Write a short note on strain gauges. **07**
- OR**
- Q.5** (a) Write a short note on speed control of stepper motor. **07**
(b) Write a short note on ladder diagrams. **07**
