Seat No.: _____ Enrolment No._____

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**

****