Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. Sem. - V - Examination – June- 2011

Subject code: 152403

Subject Name: Applied Power Electronics

Date:24/06/2011 **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)**	Explain LOG amplifier circuit as analog processing circuit.	**07**
	(b)	Write brief note on Power Electronics and its requirements. Also enlist its applications.	**07**
Q.2	**(a)**	What is cause of low power factor? Explain power factor correction with appropriate circuit.	**07**
	(b)	Write technical note on static VAR compensation.	**07**
		OR	
	(b)	Explain off-line UPS with block diagram.	**07**
Q.3	**(a)**	Describe High pass filter circuit.	**07**
	(b)	Explain biquad filter in brief.	**07**
		OR	
Q.3	**(a)**	Explain controlled rectifier as a basic power modulator.	**07**
	(b)	Explain any one charging method for battery. State its advantages and disadvantages.	**07**
Q.4	**(a)**	Explain induction heating as an industrial application.	**07**
	(b)	Discuss Electroplating process.	**07**
		OR	
Q.4	**(a)**	Write technical note on LED lighting.	**07**
	(b)	Describe fan regulator circuit.	**07**
Q.5	**(a)**	Explain basic principle of DC drive.	**07**
	(b)	Solve following through analog circuit. x+y=10 2x+3y=5	**07**
		OR	
Q.5	**(a)**	Explain basic concept of switched capacitor circuit. Also draw inverting amplifier circuit based on it.	**07**
	(b)	In Fig.1 switch k is turned on and off with frequency f. Explain how does fixed DC to variable DC conversion take place?	**07**

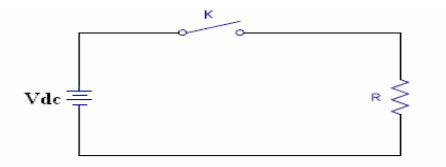

Fig.1

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