GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-V • EXAMINATION – SUMMER • 2014

Subject Code: 152403Date: 19-06-Subject Name: Applied Power ElectronicsTotal MarkTime: 10.30 am - 01.00 pmTotal Mark		Code: 152403Date: 19-06-2014Name: Applied Power ElectronicsTotal Marks: 70	2014	
I III Insti	Instructions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary.			
	3. 4.	Figures to the right indicate full marks. Notations used have usual meaning.		
Q.1	(a) (b)	 What is Power Processing? Explain with neat block diagram. Draw and explain following signal processing circuits. (i) Precision rectifier (ii) Peak detector 	07 07	
Q.2	(a) (b)	Write a short note on battery charging methods. Describe basic principle of induction heating. Discuss its applications. OR	07 07	
	(b)	Explain working of basic DC to DC converter circuit with its application.	07	
Q.3	(a) (b)	Explain digital to analog converter with suitable example. Discuss state variable filter circuit. Where it is used? OR	07 07	
Q.3	(a) (b)	Explain controlled rectifier as basic power modulator with merits and demerits. Where it is used? Explain the concept of HVDC transmission with neat diagram	07 07	
Q.4	(a)	What is an active filter circuit? Discuss low pass active filter with its frequency response.	07	
	(b)	Explain working of un-interrupted power supply (UPS) with block diagram. OR	07	
Q.4	(a) (b)	Explain working principle of DC drive with neat block diagram. Discuss electroplating as an industrial application.	07 07	
Q.5	(a)	With suitable example, explain how solution of simultaneous equation can be obtained?	07	
	(b)	What is PLL? Explain working principle of PLL with neat diagram. OR	07	
Q.5	(a) (b)	Write a brief note on high frequency fluorescent lighting. Explain voltage to frequency converter circuit.	07 07	
