Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY ME – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2016

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Subject Code: 2722910 Date: 24/0			16
Sub	ject 🛛	Name: Power Converters - II	
Time:10:30 am to 01:00 pm Total Mark			70
Inst	ruction	18:	
	1.	Attempt all questions.	
	2.	Make suitable assumptions wherever necessary.	
	3.	Figures to the right indicate full marks.	
	4.	Notations used have usual meaning.	
Q.1	(a)	Describe the working of Zero voltage switching resonant converter with necessary circuit.	07
	(b)	Explain PushóPull type DC-DC converter with neat diagram.	07
Q.2	(a)	Discuss the multilevel inverter circuit based on Capacitor Clamped topology.	07
-	(b)	Write a short note on parallel resonant inverter circuit with diagram. OR	07
	(b)	Discuss about synchronous modulation for multilevel converters.	07
Q.3	(a)	Explain the concept of PWM Matrix Converters with illustration.	07
	(b)	Discuss venturini control method for matrix converter in brief.	07
		OR	
Q.3	(a)	Discuss the basic concept of multi pulse converter. Explain working of Twelve Pulse Converter.	07
	(b)	Write a short note on Hybrid AC-AC Frequency converter.	07
Q.4	(a)	Explain the need of High-Frequency Isolation Transformer for DC-DC converters. Also discuss the design aspects of high frequency isolation transformer.	07
	(b)	Discuss Diode Clamps multi-level inverter with switching strategy. OR	07
Q.4	(a)	Explain Single-Switch Forward Converter with neat diagram.	07
	(b)	Explain with suitable example, how number of pulses can be increased for Multi-pulse Converter operation?	07
0.5	(a)	Discuss about PI Controllers for power electronics circuits.	07
	(b)	Explain how averaged model is generated for buck type DC-DC converter.	07
	(-)	OR	
Q.5	(a)	Discuss hysteresis control used for the power electronics converters with	07
	(-)	merits and demerits.	c =
	(b)	Write a short note on Adaptive control method.	07
