

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- VI (New) EXAMINATION – WINTER 2019

Subject Code: 2162409
Date: 09/12/2019
Subject Name: Power Electronic Circuits – II
Time: 02:30 PM TO 05:00 PM
Total Marks: 70
Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) Define (1) THD (2) DF (3) HFn	03
	(b) Discuss basic concept of AFE and its advantages over conventional converter.	04
	(c) Explain AC Voltage Regulators.	07
Q.2	(a) Discuss importance of dead band in inverter circuit.	03
	(b) List out advantages of resonant pulse inverter.	04
	(c) Explain the single phase voltage controllers for RL type load with waveforms.	07
	OR	
Q.3	(c) Write & explain about the principle operation of quasi-square wave inverter.	07
	(a) Explain Multiple PWM Techniques in brief.	03
	(b) Explain ZVS and its significance.	04
	(c) Explain working of McMurray inverter.	07
	OR	
Q.3	(a) Define important performance parameter of inverter.	03
	(b) Discuss ZCS Resonant Inverter.	04
	(c) With necessary diagrams, explain McMurray-Bedford inverter.	07
Q.4	(a) Enlist the various applications of Voltage Source Inverter.	03
	(b) Discuss high and low side Switch Drivers for Inverter.	04
	(c) Explain the three phase inverter with 120° conduction mode.	07
	OR	
Q.4	(a) Give classification of resonant converters.	03
	(b) Define any one External Control Techniques for Inverter.	04
	(c) Explain the three phase inverter with 180° conduction mode.	07
Q.5	(a) Explain SVPWM Techniques in brief.	03
	(b) Give the classification of different control strategy of Voltage Source Inverter.	04
	(c) Draw and briefly explain five level cascade H bridge type multilevel inverter.	07
	OR	
Q.5	(a) Write the Advantages & Disadvantages of Multilevel Inverter.	03
	(b) Compare: Multilevel inverter with two level inverter.	04
	(c) Explain five-level diode clamped multilevel inverter with circuit diagram and waveforms.	07
