

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2018****Subject Code:2162409****Date:27/11/2018****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.

- Q.1** (a) Define (1) THD (2) DF (3) HF **03**  
(b) List out advantages of resonant pulse inverter. **04**  
(c) Explain AC Voltage Regulators. **07**

- Q.2** (a) Explain Multiple PWM Techniques in brief. **03**  
(b) Discuss importance of dead band in inverter circuit. **04**  
(c) Enlist & explain advantages & applications of Active front end rectifier. **07**

**OR**

- (c) Explain working of single phase voltage controllers with RL load. **07**  
**Q.3** (a) Explain voltage mode & current mode control of inverter. **03**  
(b) Discuss operation of series inverter with necessary diagrams. **04**  
(c) Write about modulation techniques and Explain sinusoidal PWM. **07**

**OR**

- Q.3** (a) Draw only the circuit for McMurray Bedford Inverter. **03**  
(b) Define important performance parameter of inverter. **04**  
(c) Write a short note on three phase inverter with 180° conduction mode. **07**

- Q.4** (a) Explain SVPWM Techniques in brief. **03**  
(b) Draw the waveform of Sine PWM for three-phase inverter. **04**  
(c) Write a short note on ZVS resonant inverter. **07**

**OR**

- Q.4** (a) Classify the DC-AC Converter (Inverter). **03**  
(b) Define any one External Control Techniques for Inverter. **04**  
(c) Write a short note on ZCS resonant inverter. **07**

- Q.5** (a) Write the Advantages & Disadvantages of Multilevel Inverter. **03**  
(b) Discuss quasi-square wave operation of inverter. **04**  
(c) Explain working of diode clamped multilevel inverter. **07**

**OR**

- Q.5** (a) Discuss high and low side Switch Drivers for Inverter. **03**  
(b) Discuss different methods of Inverter Control Techniques. **04**  
(c) Summarize various modulation techniques for internal control of Voltage Source Inverter. **07**

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