



Reg. No. :

Name :

VI Semester B.Tech. Degree (Reg./Supple./Improv. – Including-Part Time)
Examination, May 2014
(2007 Admn. Onwards)
PT 2K6/2K6 EE 602 : POWER ELECTRONICS

Time : 3 Hours

Max. Marks : 100

Instruction : Answer all questions.

1. a) With a circuit explain the operation of a triggering circuit for thyristor.
b) Sketch and explain the UI characteristics of a MOSFET.
c) Describe the operation of a half controlled converter with constant current.
d) Draw and explain the circuit of a single phase bridge inverter.
e) Explain the working of a single phase ac regulator with RL load.
f) What are the different types of choppers ? Explain briefly.
g) Explain the continuous conduction mode of operation of a buck regulator.
h) What is an uninterruptible power supply ? Explain. (8×5=40)

2. a) Explain the structure and characteristics of an IGBT. 15

OR

b) Describe the structure and characteristics of a DIAC. 10
c) Explain the turn-on process of a thyristor. 5

3. a) With circuit diagram and wave forms . Explain the working of a fully controlled converter with continuous and constant current. 15

OR

b) With circuit and wave forms explain the operation of a DWM inverter. Compare it with a bridge inverter. 15



- 4. a) Explain the principle of operation of a chopper. Give the circuit and wave forms. **10**
- b) What is meant by sequence control of an ac regulator ? Explain. **5**

OR

- c) With circuit and waveforms describe working of a single phase cyclo-converter. **15**
- 5. a) Describe the various modes of operation of a Boost regulator. **15**

OR

- b) Explain the principle of operation of switched mode power supply. Compare it with linear power supply. **9**
- c) Draw and explain the operation of a Buck regulator. **6**