

Reg. No.:
4. a) Explain the principle of operation of a chopper. Give the circuit and wave former.

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.

 $(8 \times 5 = 40)$

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.

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.

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4. a)	Explain the principle of operation of a chopper. Give the circuit and wave for	rms.1	0
b)) What is meant by sequence control of an ac regulator? Explain.		5
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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 SHUGH		
b)	Explain the principle of operation of switched mode power supply. Compare	e it	
	with linear power supply.		9
c)	Draw and explain the operation of a Buck regulator.		6
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	Draw and explain the circuit of a single phase bridge inverter.		
	What are the different types of chappers ? Expisin briefly.		

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

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