Class test II
Sub: ETU 503 Power electronics
Note: Que.no 1 is compulsory. Solve any one from question no.2 and 3.

Marks: 15
Date: 22nd sept, 2015

Q1. A 1-phase semiconverter is operated from 110 V,50Hz ac supply and load is of 10 Ω. If the average output voltage is 30% of the max. possible average output voltage then determine a) Firing angle b)Rms & average output current c)Rms &average thyristor current 6M

Q2. a) With the help of circuit diagram, explain the working of step up/step down chopper.

b) Explain the different control strategies used for operating the switches in dc chopper. 6M

Q3. Explain the operation of single phase, half controlled bridge converter with resistive load and inductive load with the associated waveforms. 6M

Q4. Explain the basic principle of operation of cycloconverter. 3M

OR

Q5. Explain the basic principle of operation of dual converter. 3M

Department of Electronics Engineering

Course Code: ETU503 Date: 26/09/2019 Time: 12.00 to 1.00 p.m.

Course: Power Electronics Duration: 1Hr Max. Marks: 15

Attempt the following

1.	Discuss the control techniques used in Controlled Rectifiers.	3	Understanding
2.	A single phase semiconverter is operated from 120V, 50Hz ac supply. The load resistance is 10Ω. If the average output voltage is 25% of the maximum possible average output voltage, determine: a) firing angle, b) rms and average output current, c) rms and average thyristor current	4	Applying
3.	Explain the Inverter operation in Three phase Controlled Rectifiers.	4	Understanding
4.	A single phase to single phase cycloconverter is delivering power to a resistive load. The frequency ratio is $f_o/f_s = 3$. Design the firing scheme for the same. Also sketch the supply voltage, supply current and output current waveforms.	4	Creating