

Total No. of Questions :6]

SEAT No. :

[Total No. of Pages :2

P30

Oct./TE/ Insem. - 144

T.E. (Electrical)

POWER ELECTRONICS

(2015 Course) (Semester - I)

Time : 1 Hour]

[Max. Marks :30

Instructions to the candidates:

- 1) *Attempt any one question from Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Assume suitable data, if necessary.*

- Q1)** a) Draw neat diagram explain class C Commutation of thyristor. [5]
- b) Explain with neat circuit diagram operation of R-C triggering circuit of Thyristor. [5]

OR

- Q2)** a) Describe the different modes of operation of SCR with the help of V - I characteristic. [5]
- b) With construction diagram explain working of GTO. [5]

- Q3)** a) List different voltage control techniques of Chopper. Elaborate Time Ratio Control (TRC) method. [5]
- b) Write short note on class E Chopper. [5]

OR

- Q4)** a) Draw and explain output and transfer characteristics of MOSFET. [5]
- b) Write a short note on necessity of input filter. [5]

P.T.O.

Q5) a) With neat output voltage waveforms explain rectification and inversion mode of operation of single phase fully controlled converter with RL load. [5]

b) Describe working of single phase semi converter with RL load. Draw waveforms of load voltage, load current. [5]

OR

Q6) a) Describe working of single phase circulating type of dual converter with output voltage waveform. [5]

b) Derive expression for average output voltage and rms output voltage of a single phase fully controlled converter with RL load (Assume continuous conduction) [5]

