TE/Insem/APR - 28
T.E. (Electronics)
POWER ELECTRONICS AND APPLICATIONS
(2012 Pattern) (Semester - II)

Time : 1 Hour]   *[Max. Marks : 30*

Instructions to the candidates :

1) Attempt Q1 or Q2, Q3 or Q4 and Q5 or Q6.

2) Neat diagrams must be drawn wherever necessary.

3) Figures to the right indicate full marks.

Q1) a) Explain circuit diagram & working of 1 ϕ half controlled converter with RL load. Derive expressions for Average dc voltage and RMS output voltage. **[6]**

b) Explain the concept of line and forced commutation. **[4]**

OR

Q2) a) Explain effect of source impedance on the performance of 1 ϕ full converter. **[6]**

b) What are the functions of freewheeling diode. **[4]**

Q3) a) Write short note on voltage control & harmonic reduction in voltage source inverter. **[4]**

b) Explain with neat diagram and waveforms, three phase voltage source inverter for 120° conduction. **[6]**

OR

Q4) a) What are the performance parameters of inverters. Explain. **[5]**

b) Explain Cross Conduction in Inverter. **[5]**

P.T.O.

Q5) a) What is resonant converter? Compare linear, switch mode & resonant converter power supplies. **[6]**

b) Compare ZVS and ZCS. **[4]**

OR

Q6) a) With the help of circuit diagram and waveforms, explain the operation of SLR half bridge DC to DC converter in low frequency (discontinuous conduction) mode. **[6]**

b) With the help of circuit diagram & waveforms, explain the operation of 'type c' two quadrant chopper. **[4]**

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