

(3 Hours)

Total Marks: 80

- N. B. 1) Question No. 1 is **compulsory**.
2) Answer any 3 questions from the remaining 5 questions.
3) Assume suitable data wherever necessary.

- Q1 Attempt the following 20
(a) Explain the characteristics of TRIAC.
(b) What is half waving effect?
(c) Explain step down chopper.
(d) Explain necessity of freewheeling diode.
- Q2 (a) Explain class C type of commutation with neat waveform. 20
(b) Explain sinusoidal pulse width modulation used in PWM inverter.
- Q3 (a) Explain the role of Snubber circuit to protect SCR against high dv/dt and di/dt . 20
(b) Explain V/F control for three phase squirrel cage induction motor.
- Q4 (a) Explain single phase full converter with RL load. 20
(b) Explain with neat diagram the operation of rotor resistance control using chopper.
- Q5 (a) Draw and explain the operation of single phase semi converter fed separately excited dc motor. 20
(b) Explain working principle of single phase cycloconverter.
- Q6 Write short note on 20
(a) Boost converter.
(b) Comparison of power MOSFET & IGBT.
(c) Regenerative braking for dc motor.