

IV B.Tech I Semester Supplementary Examinations, April/May 2005
INDUSTRIAL ELECTRONICS
(Electronics & Control Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) What is the main trouble in DC amplifiers and give the main causes and remedies for it.
(b) What is the principle behind saturable core reactors with the help of voltage and current waveforms.
2. Explain in detail the various protection techniques with neat diagrams for regulated power supplies.
3. (a) Draw the circuit of monolithic regulator connected as a current regulator and explain it. Also obtain the expression for its load current.
(b) Differentiate between the monolithic and hybrid integrated circuits.
4. (a) List the major applications of thyristors ?
(b) Explain the theory and operation of SCR using suitable figures.
(c) Draw the load-voltage waveforms for thyristor circuit with dc input.
5. Explain the operation of three-phase , half-wave controlled converter with resistive load. Sketch the associated waveforms and derive expressions for the average voltage output.
6. (a) Explain the design aspects of series inverter.
(b) Explain how the output frequency is higher than the resonant frequency in the above circuit.
7. (a) Explain how the SCR control circuit measures the moisture level of the clothes in the application of automatic clothes-drier.
(b) List of the other industrial applications of SCR.
8. (a) Explain the theory and principle of dielectric heating.
(b) List various Industrial applications of dielectric heating.
