

2005 JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY

III B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS
POWER AND INDUSTRIAL ELECTRONICS
(COMMON TO ELECTRONICS & COMMUNICATION ENGINEERING AND ELECTRONICS
& INSTRUMENTATION ENGINEERING)

MAY 2005

TIME – 3 HOUR
MARK – 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Classify the power Amplifiers based mode of operation. Mention their uses.
(b) Describe the efficiency for collector efficiency for the class 'A' power amplifier.
2. (a) Draw and explain the operation of single tuned capacitance coupled amplifier.
(b) What are the advantages of tuned amplifiers?
3. (a) Draw and explain SCR Full-wave rectifier circuit.
(b) Draw and explain SCR V-I characteristics.
(c) Discuss in detail how di/dt and dV/dt influence the working of a SCR.
4. (a) What is a TRIAC?
(b) Explain V-I characteristics of TRIC.
(c) Draw an Induction motor speed speed control circuit using TRIC.
5. (a) What are the industrial applications of TIMER CKTS?
(b) What are the electronic welding controls used in resistance welding?
(c) What are advantages of Timer circuits?
6. (a) What are the Industrial applications of Induction heating? Mention their advantages.
(b) What are the Industrial applications of Dielectric heating? What are its disadvantages?
7. (a) Explain various Ultrasonic Oscillations generation?
(b) What are the Industrial applications of Ultrasonic Oscillations?
8. Write short notes on any THREE of the following:
 - (a) Thyristors
 - (b) Heat sink
 - (c) Static circuit Breaker
 - (d) Choppers.