Reg. No. : | | | | | | | | | | |

Question Paper Code: 31553

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

Fifth Semester

Electronics and Instrumentation Engineering

01UEI503 – INDUSTRIAL ELECTRONICS

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. List out the parameters are usually specified in the catalogue supplied by the diode manufactures.
2. Draw the two transistor model of SCR.
3. Define Phase Control.
4. List out the applications of AC voltage Controller.
5. Define duty cycle.
6. List the various configurations of choppers.
7. Mention some of the applications of electrical drives.
8. Recall dynamic breaking.
9. What is a digital timer?
10. Define voltage regulation.

PART - B (5 x 16 = 80 Marks)

11. (a) Discuss the construction and working principle of SCR. (16)

Or

(b) Describe the basic structure of MCT. Give its equivalent circuit and explain the turn on and turn off processes. (16)

12. (a) Discuss the operation of 3 phase full bridge rectifier with *R* Load. Compare its quadrant of operation with *R* and *RL* load. (16)

Or

(b) Explain the principle of operation of 1Φ cyclo converter with necessary circuit and waveforms. (16)

13. (a) Explain the operation of voltage, current, and load Commutation with aid of schematic diagram and waveforms. (16)

Or

(b) Summarize the types of chopper classification in detail. (16)

14. (a) Explain various operating modes for separately excited DC motor and series motor. (16)

Or

(b) With a neat diagram explain the operation of self-controlled synchronous motor. (16)

15. (a) Describe about switched mode power supply. (16)

Or

(b) Describe the operation of online UPS with the help of block diagram. (16)