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Question Paper Code: 35503

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2021

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. Write the expression for average output voltage of full converter fed DC drives.
9. What is a digital timer?
10. Define voltage regulation.

PART - B (5 x 16 = 80 Marks)

11. (a) Describe about the characteristics of power devices in detail.
(i) SCR (ii) IGBT (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) Analyze the three phase fully controlled converter with necessary circuit diagram and waveforms. (16)

Or

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

13. (a) Discuss the series and parallel inverter in detail. (16)

Or

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

14. (a) Illustrate regenerative and dynamic braking of DC motor. (16)

Or

- (b) Design a stator voltage controller for induction motor application (16)

15. (a) Discuss the operation of UPS with neat block diagram. (16)

Or

- (b) Describe about switched mode power supply. (16)
