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Question Paper Code: 20522

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2022.

Sixth Semester

Electrical and Electronics Engineering

EE 8601 - SOLID STATE DRIVES

(Regulations 2017)

Time: Three hours

Maximum: 100 marks

Answer ALL questions.

PART A — $(10 \times 2 = 20 \text{ marks})$

- 1. Draw the block diagram of electric drive.
- 2. Mention the different factors for the selection of electric drives?
- 3. What are the advantages in operating choppers at high frequency?
- 4. A DC motor has an armature current of 110 A at 480 V. The armature resistance is 0.2 ohms. The motor has 6 poles and armature has a lap winding with 864 conductors. The flux per pole is 0.05 Wb. Find speed and torque.
- 5. Draw the complete speed-torque curve of an induction machine.
- Compare static kramer and static scherbius drive system.
- 7. In variable frequency control of synchronous motor, V/F ratio is maintained constant up to base speed, why?
- 8. What are the modes of speed control of a synchronous motor?
- 9. What are the advantages of using PI controller in closed loop control of DC drive?
- 10. What is field weakening mode control?

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