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Question Paper Code:U2501

M.E. DEGREE EXAMINATION, APRIL 2024

Second Semester

Power Electronics and Drives

21PPE201–DC AND AC DRIVES

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) Explain the operation of a single phase fully controlled converter fed separately excited DC motor with neat waveforms and Analyze the speed torque characteristics. CO1-Ana (20)
Or
(b) Analyze the performance of multi quadrant operation of chopper fed DC series motor drives. CO1-Ana (20)
2. (a) Analyze the mechanical characteristics of a three phase induction motor with stator current control. CO2-Ana (20)
Or
(b) Compare the performance of CSI and VSI fed induction motor drives and explain the regenerative braking operation performed in these drives. CO2-Ana (20)
3. (a) Analyze the performance of Synchronous Motor based on power factor control and When Synchronous motor is called as Synchronous Condenser? CO3-Ana (20)
Or
(b) Analyze the performance of closed loop control scheme of load commutated Inverter fed synchronous motor drive CO3-Ana (20)
4. (a) Analyze the Scalar Control Techniques of Voltage Fed Inverter Drives. CO4- Ana (20)
Or

- (b) Demonstrate the principle of direct vector control method for a PWM voltage fed inverter drive. CO4- Ana (20)
5. (a) Compare and Analyze P,PI,PID controller characteristics CO5- Ana (20)
Or
(b) Analyze the performance of Simulation of chopper fed dc drives CO5- Ana (20)