PRN:		Course Code :	PPD201

First Year **M. Tech** End Semester Examination Winter 2024

Industrial Electrical Drives 60095(

Day and Date: Tue 3 DEC 2024 Max Marks: **100**

Time : 02:00PM To 05:00PM Duration: **03** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CLO
Q.1		**Attempt the following**			
	a)	Classify different types of braking in DC motors? Describe dynamic braking	08	L4	CLO1
	b)	Discuss power, torque and efficiency of electrical drives	08	L2	CLO1
		OR			
	b)	Interpret motor heating and thermal monitoring in electrical drives	08	L3	CLO1
Q.2		**Attempt the following**			
	a)	Illustrate four quadrant operation of drive considering hoist as an example	08	L3	CLO2
	b)	Draw and explain the mechanical characteristic of DC drive.	08	L2	CLO2
		OR			
	b)	Explain the chopper control method of speed control of DC motor.	08	L2	CLO2
Q.3		**Attempt any two from the following**			
	a)	Explain the operation of any one slip-power-recovery scheme induction motor drive.	08	L4	CLO2
	b)	Explain the concept of current source-inverter (CSI) fed induction motor drive.	08	L4	CLO2
	c)	Summarize starting, braking and transient analysis of induction motor	08	L2	CLO2
Q.4		**Attempt any two from the following**			
	a)	Experiment the operation of any one cycloconverter based drive system	08	L3	CLO3
	b)	Interpret starting, pull in and braking of synchronous	08	L3	CLO3
	c)	Experiment variable frequency speed control	08	L3	CLO3
Q.5		**Attempt any Two of the following**			
	a)	Demonstrate flux and torque control in case of direct vector controlled induction motor drive with space vector modulation?	09	L3	CLO3
	b)	Criticize field oriented vector control	09	L5	CLO3
	c)	Judge direct and indirect torque control	09	L5	CLO3
Q.6		**Attempt any Two of the following**			
	a)	Compile losses in electrical drive systems.	09	L6	CLO4
	b)	Relate measure for energy conservation in electrical drive	09	L3	CLO4
	c)	Plan the improvement of power factor and quality of supply	09	L6	CLO4

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