Seat No.:	Enrolment No.
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GUJARAT TECHNOLOGICAL UNIVERSITY

Subject Code: 2162003

BE – SEMESTER – VI (NEW).EXAMINATION – WINTER 2016

Date:22/10/2016

T	ime: structi	t Name: Control of Electric Drives 10:30 AM to 01:00 PM Total Marks: 70 ions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks.	
Q.1	(a) (b)	Explain the Basic block diagram of Power electronics system in detail. Draw and explain the block diagram of lumped inertia drive.	07 07
Q.2	(a) (b)	Derive the mathematical model of separately excited DC machine. Explain the steady state characteristic of DC motor in case armature control method.	07 07
		OR	
	(b)	Explain the starting circuit of DC shunt motor in detail	07
Q.3	(a) (b)	Explain the Any one commutation method for SCR. Explain the Static V-I characteristics of SCR in detail. OR	07 07
Q.3	(a) (b)	Derive the Torque equation of DC series motor with suitable block diagram Explain the Single phase semi-converter for DCM mode with diagram and waveforms.	07 07
Q.4	(a)	Explain the Full bridge controlled rectifier with RL load. Support answers with circuit diagram and waveforms in case of freewheeling diode is used.	07
	(b)	Explain the type D chopper. OR	07
Q.4	(a) (b)	Explain the Regenerative braking in case of AC motor in detail. Describe the variable frequency variable voltage control method of Induction motor.	07 07
Q.5	(a) (b)	Explain the Difference between VSI and CSI inverter. Describe the control and construction of Linear induction motor OR	07 07
Q.5	(a) (b)	Explain the Chopper fed DC drive with necessary equations. Explain the control of AC servo motor.	07 07
