Seat No.:	Enrolment No

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER- I (New course) • REMEDIAL EXAMINATION – SUMMER 2015

Subject Code: 2710313 Date: 15/05/		2015	
Tin	•	Jame: Advance Industrial Drives & Control 0:30 am to 1:00 pm Total Marks: 'as:	70
		Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	With the use of neat diagram explain construction & working of Hybrid stepper motor.	07
	(b)	Discuss in brief: Dynamic model of DC Machine.	07
Q.2	(a)	Explain the converter operation, required to operate BLDC machine with AC input supply.	07
	(b)	õIt is dangerous to operate DC series motor without connecting loadö, Justify the statement.	07
	(b)	OR Describe principal of Position control year for speed control of DC machine	07
	(b)	Describe principal of Position control used for speed control of DC machine.	07
Q.3	(a) (b)	Draw block diagram of Electric drive system. Explain each block in brief. Enlist various methods for speed control of induction machine. Discuss V/f control method for speed control of IM with necessary diagrams. OR	07 07
Q.3	(a) (b)	Enlist & explain performance parameters for selection of AC motor drive. Explain principle of vector control with necessary diagrams.	07 07
Q.4	(a) (b)	Discuss in brief: Direct Torque Control of induction machine. õStator voltage control method is not suitable for constant load torque driveö, Justify the statement.	07 07
0.4		OR	o -
Q.4	(a)	Enlist various advantages of multilevel converters used for induction motor drive.	07
	(b)	Discuss control strategy for synchronous reluctance motor drive.	07
Q.5	(a)	Discuss Self-controlled synchronous motor drive employing load commutated inverter with neat circuit diagram.	07
	(b)	Write a short note on: Permanent Magnet Synchronous Motor. OR	07
Q.5	(a)	Describe Cycloconverter fed synchronous motor drive with neat circuit diagram.	07
	(b)	Discuss Switched Reluctance Motor with necessary diagram.	07
