Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VIII • EXAMINATION – SUMMER • 2015

Subject Code:181702 **Date:11/05/2015**
Subject Name:Motion Control
Time:10.30AM-01.00PM **Total Marks: 70**
Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Draw and explain schematic diagram of a four winding resolver.	**07**
	(b)	Write short note on incremental motion control with feedback	**07**
Q.2	**(a)**	Explain torsional resonance in two body structures.	**07**
	(b)	Give the selection criterion for incremental motion applications	**07**
		OR	
	(b)	Write short note on dc motor position control system with potentiometer as an error sensor.	**07**
Q.3	**(a)**	Write short note on bidirectional servo amplifiers.	**07**
	(b)	Draw and explain block diagram off velocity control system.	**07**
		OR	
Q.3	**(a)**	Write short note on bipolar pwm amplifiers.	**07**
	(b)	Explain cross over distortion in power amplifiers.	**07**
Q.4	**(a)**	Explain position control systems without tachometer feedback	**07**
	(b)	Explain phase locked servo systems with a continuous phase detector	**07**
		OR	
Q.4	**(a)**	Write short note on solenoid ratchet type of stepper motors	**07**
	(b)	Explain closed loop control of stepper motor with current sensing.	**07**
Q.5	**(a)**	Write short note on permanent magnet stator step motor.	**07**
	(b)	Write short note on active suppression controller.	**07**
		OR	
Q.5	**(a)**	Write short note on closed loop control of stepper motor.	**07**
	(b)	Why over drive circuits are required for step motors? Explain dual voltage control circuit.	**07**

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