GUJARAT TECHNOLOGICAL UNIVERSITY ME – SEMESTER-1 (NEW) EXAMINATION – WINTER 2016

Subject Code: 2715403Date:06/01/2017Subject Name: ELECTRONIC SYSTEM DESIGNTime: 2:30 pm to 5:00 pmTime: 2:30 pm to 5:00 pmTotal Marks: 70Instructions:1. Attempt all questions.2. Make suitable assumptions wherever necessary.			01/2017	
			70	
		3. Figures to the right indicate full marks.		
Q.1	(a)	What is the difference between passive and active components? Choose any one active component and write any four technical specifications for this component which you will search in its data sheet.	07	
	(b)	Draw and explain Instrumentation Amplifier. List the features of instrumentation amplifier. List out some applications	07	
Q.2	(a)	Explain Multipoint & Hybrid Ground Systems.	07	
Q.2	(b)	Write and explain any three characteristics of ADC & DAC. OR	07	
Q.2	(b)	Explain successive approximation type A/D Converter.	07	
Q.3	(a)	Design 12 Volt Regulated power supply.	07	
	(b)	Explain benefits and issues on migration of 5V to 3.3V logic. OR	07	
Q.3	(a)	What is the purpose of having input and output capacitors in three terminal IC regulators and list out the advantages of IC voltage regulators? Draw pin out of IC 78XX & 79XX	07	
	(b)	Write comparison between CMOS and BiCMOS logic family.	07	
Q.4	(a)	Explain methods of noise coupling and methods of reducing interference in Electronic Systems.	07	
	(b)	Write short note on grounding & Shielding	07	
Q.4	(a)	OR Develop a proper explanation about the various factors to be considered for EMI & EMC design of PCB.	07	
	(b)	Explain Ground loops, Safety Grounds and Signal Grounds.	07	
Q.5	(a)	Explain Static Generation and Human Body Model.	07	
	(b)	Write short note on packaging's influence and its factors.	07	
Q.5	(a)	UK Define ESD. Explain ESD protection in equipment design.	07	
-	(b)	Discuss effects of environmental factors on Electronic Systems.	07	
