GUJARAT TECHNOLOGICAL UNIVERSITY				
	1E - S	EMESTER- I (New course)• REMEDIAL EXAMINATION – SUMMER 201	.5 1 <i>5</i>	
Su	oject	U0de: 2/15405 Date:15/05/20	12	
Time: 10:30 am to 1:00 pm Total Mar			ks: 70	
11150	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.		
Q.1	(a)	Name any three Op-Amp characteristics that add dc error components to the output voltage and explain each one.	07	
	(b)	 Define Slew Rate for an Op-Amp. An instantaneous input change of 10V is applied to a unity-gain inverting amplifier. If the op amp is a 741, how long will it take for the output voltage to change by 10V? The slow rate for a 741 is 0.5 V/us. At what frequency can you get an 	02 02 02	
		undistorted sine-wave output voltage of (a) 10-V peak; (b) 1-V peak?	03	
Q.2	(a)	Draw and explain Narrowband Bandpass Filter circuit using Op-Amp with necessary equations.	07	
	(b)	Draw and explain Instrumentation Amplifier using an Op-Amp with necessary output equations.	07	
		OR		
	(b)	Write and explain advantages and disadvantages of BiCMOS family logic.	07	
Q.3	(a)	Write and explain any three characteristics of DAC.	07	
	(b)	Draw and explain 4-bit R-2R Ladder type DAC using Op-Amp. OR	07	
Q.3	(a)	Write and explain any three characteristics of ADC.	07	
	(b)	Explain successive approximation type A/D Converter.	07	
Q.4	(a)	Design a Full Wave Bridge rectifier to furnish 12V at 1A with less than 10% ripple. The design procedures use the principle of superposition. (a) Do the dc design. (b) Do the ac design.	07	
	(b)	Write a short note on PCB design guidelines for reduced EMI. OR	07	
Q.4	(a) (b)	Discuss effects of environmental factors on Electronic Systems. Explain Static Generation and Human Body Model.	07 07	
Q.5	(a)	Write short note on Software and ESD Protection	07	
	(b)	Explain Single Point and Multi Point Ground System. OR	07	
Q.5	(a)	Explain methods of noise coupling and methods of reducing interference in Electronic Systems.	07	
	(b)	Explain power supply decoupling and decoupling filters.	07	
