	Enrollme	ent No: Exam Seat No:	_		
		C.U.SHAH UNIVERSITY			
	Summer Examination-2016				
	Subject Name: Linear Integrated Circuits				
	Subject (Code: 4TE04LIC1 Branch: B.Tech (EC)			
	Semester	:: 4 Date: 18/05/2016 Time: 2:30 To 5:30 Marks :70			
	(2) I (3) I	Use of Programmable calculator & any other electronic instrument is prohibited. Instructions written on main answer book are strictly to be obeyed. Draw neat diagrams and figures (if necessary) at right places. Assume suitable data if needed.			
Q-1	a) b) c) d) e) f) g) h) i) j) k) l) m) n)	Define the following terms: Input Bias Current. Output Offset Voltage. Slew Rate. Supply Voltage Rejection Ratio. Input Offset Voltage. Common Mode Rejection Ratio. Unity Gain Bandwidth. Input Offset Current. Thermal Drift. Linear ICs. Digital ICs. Window Detector. Zero Crossing Detector. Open Loop Comparator.	(14)		
Atte	mpt any f	our questions from Q-2 to Q-8			
Q-2	(a) (b)	Attempt all questions Draw the block schematic of an op-amp and explain the function of each stage. Explain AC analysis of the Dual Input Balanced Output Differential Amplifier in detail.	(14)		
Q-3	(a) (b)	Attempt all questions Explain in detail the Differential Amplifier with Constant Current Bias circuit. Write a note on Current Mirror circuit used in differential amplifier.	(14)		
Q-4	(a)	Attempt all questions Draw schematic of AC inverting amplifier single supply based op-amp. Explain Page 1 2	(14)		



Λ 0		Attempt all greations	(14)
	(b)	Write a note on Sample and Hold circuit using op-amp.	
	(a)	Explain the application of op-amp as a positive and negative clipper circuit.	
Q-7		Attempt all questions	(14)
		the limitations of this circuit? How it can be corrected?	
	(b)	Draw and explain working of basic Differentiator circuit using op-amp. What are	
	()	and input/output waveforms.	
Q-6	(a)	Attempt all questions Explain working of op-amp based Schmitt trigger circuit along with schematic	(14)
0.6		Attempt all greations	(14)
	(D)	configuration in detail.	
	(a) (b)	Explain Summing, Scaling and Averaging amplifier using inverting op-amp	
Q-5	(a)	Attempt all questions Derive expression for voltage gain of a Differential Amplifier with two Op-Amp.	(14)
		amplifier using op-amp.	
	(b)	Derive the formula for voltage gain and input resistance for Non inverting	
		its working along with necessary input and output waveforms.	

Q-8 Attempt all questions

(14)

- (a) Explain the operation of 555 IC based Astable Multivibrator with necessary circuit diagram and waveforms.
- (b) Describe operation of each block of Phase Locked Loop. List out PLL applications.

