

2008 AMITY UNIVERSITY
B.E/B.TECH FIFTH SEMESTER
ELECTRICAL AND ELECTRONICS ENGINEERING
LINEAR INTEGRATED CIRCUITS

TIME: 3 HOUR
 MARK: 100

Answer All Question

PART-A[10*5=50]

1. Define the term epitaxial growth
2. what is meant by dielectric isolation in IC fabrication?
3. draw the ckt diagram of an opamp integrator. mention its application
4. compare ideal and practical characteristics of an opamp
5. what is a zero crossing detector?
6. which is the fastest ADC? give reason
7. mention the application of analog multiplier
8. draw the block diagram of PLL as frequency multiplier
9. what is an optocoupler?
10. mention the advantage of an isolation amplifier

PART-B[5*10=50]

11. a) 1. write the sample diagram. explain the technique of monolithic ICS
2. how resistors are made in monolithic ICS?
Or
- b) 1. Explain different type of photolithographic process
2. how a pn junction diode is formed in IC fabrication
12. a) 1. Draw the schematic of an emitter coupled differential amplifier. Explain why the CMRR tends to infinity for a symmetric ckt with emitter resistance becomes infinity
2. calculate the output voltage v_0 of the ckt shown
Or
- b) 1. How is a log amplifier realized with an opamp?
2. Determine the output voltage for the following ckt
13. a) 1. with the ckt diagram explain the working of instrumentation amplifier
2. Explain the following applications of opamp
 - i. Peak detector
 - ii. V/I converter
- Or
- b) 1. Design a second order active high pass filter for a cutoff frequency of 5KHZ
2. Explain the function of flash A/D converter

14. a)1. Design an astable multivibrator having a duty cycle of 40% with a frequency of 1KHZ

2.write a note on analog multiplier

Or

b)1.Explain the functional block diagram of PLL IC565

15 a)1. Explain the working ICL8038 function generator

Or

b)1. Discuss the functional diagram of IC723 series regulator

2. write short notes on protective circuits in regulators

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