ANNA UNIVERSITY COIMBATORE

B.E/B.TECH.DEGREE EXAMINATIONS: MAY/JUNE 2010

REGULATIONS: 2008

FOURTH SEMESTER: EEE

080280028-LINEAR INTEGRATED CIRCUITS AND APPLICATIONS

TIME: 3 Hours **Max.Marks: 100**

PART-A

(20*2=40MARKS)

ANSWER ALL QUESTIONS

1. Mention the different classification of ICs.
2. What is photolithography?
3. Why is dry etching needed in IC fabrication?
4. What is a voltage follower? Where do we use voltage followers?
5. Mention some applications of I to V converter.
6. How is sample/hold operation performed using OPAMP.
7. Define slew rate
8. Draw the equivalent circuit of op-amp.
9. What is input offset voltage explain
10. List out the frequency compensation techniques used in op-amp.
11. Mention some applications of IC 555.
12. What is positive clamper?
13. What are active filters? Give some examples.
14. List the advantages and drawbacks of flash type A/D converter.
15. What are the main components in IC 723?
16. Mention some applications of isolation amplifier.
17. Define capture range of PLL.
18. What is pull-in time in PLL?
19. Mention the uses of LM 380?

20. What is an opto-isolator?

PART-B

(5*12=60 MARKS)

ANSWER ANY FIVE QUESTIONS

21. Describe the different processes and steps in an IC fabrication technology. Draw relevant diagrams. (12)

22 (a). Explain briefly about the frequency compensation techniques in op-amp. (8)

(b). Describe an ideal operational amplifier with its characteristics. (4)

23. Describe the operation of Op-amp as (12)

1) Inverting amplifier 2) Non-inverting amplifier

3) Summer 4) Difference amplifier

5) Differentiator 6) Integrator.

24 (a). Discuss in detail about Comparator and its applications. (6)

(b). Explain the operation of an Instrumentation amplifier with neat sketches (6)

25. Describe in detail about A/D conversion by

1) Dual slope method. (6)

2) Successive approximation method. (6)

26 (a). With a neat sketch explain about the internal block schematic diagram of IC 555 and give its pin details. (6)

(b). Explain how IC 555 can be used as a monostable multivibrator. (6)

27. With relevant diagrams explain about 565 PLL in detail and discuss any one application of the PLL. (6)

28 (a). Explain briefly about IC 723 and show how it is used as low and high voltage regulator. (6)

(b). Discuss in detail about switching regulators as buck, boost and buck-boost regulators. (6)

**********THE END**********