

B.E. / B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL/MAY 2011
ELECTRONICS AND COMMUNICATION ENGINEERING BRANCH

Fourth Semester

(Regulations : 2004)

EC283- LINEAR INTEGRATED CIRCUITS

Duration: 3 Hrs.

Maximum Marks 100

Answer All Questions

Part A

10x2=20 Marks

1. Give the internal block of operational amplifier.
2. Draw the schematic of a unity follower.
3. Give the schematic of op-amp based sine wave to square wave converter.
4. What is a window detector?
5. What is advantage of precision rectifier compared to a normal rectifier?
6. Give the application of Gilbert multiplier cell.
7. Define resolution.
8. What is an analog switch?
9. Define voltage regulator.
10. What is a Low noise op-amp?

Part B

5x16 =80 Marks

- 11(i). With a neat diagram explain the internals of monolithic IC operational amplifier. (8)
- (ii). Define slew rate. Enumerate the methods of improving the slew rate. (8)

P.T.O

12(a). What is an Instrumentation Amplifier? With a neat diagram explain the working of an instrumentation amplifier whose gain can be set by a gain setting resistor. (16)

(OR)

12(b)(i). With a neat diagram explain the working of integrator, derive the expression for the same. (8)

(ii). Briefly explain the working of logarithmic amplifier, derive the expression for the same. (8)

13(a). With a neat block diagram explain the working of phase Locked Loop. (16)

(OR)

13(b)(i). Explain the working of Voltage controlled oscillator. (8)

(ii). Write short notes on compander ICs. (8)

14(a)(i). With a neat diagram explain the construction of monolithic sample and hold ICs. (8)

(ii). Briefly explain the construction and working of flash ADC. (8)

(OR)

14(b)(i). Explain the working of Single slope ADC. (8)

(ii). Explain the working of Dual slope ADC. (8)

15(a)(i). Write short notes SMPS. (8)

(ii). Briefly explain the sources of noise available in operational amplifier. (8)

(OR)

15(b). With a neat diagram explain the working of 555 timer IC in Astable mode. (16)
