Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 31398

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Fourth Semester

Electrical and Electronics Engineering

EE 2254/EE 45/EC 1260/10133 EE 405/080280028 – LINEAR INTEGRATED CIRCUITS AND APPLICATIONS

(Common to Instrumentation and Control Engineering and Electronics and Instrumentation Engineering)

(Regulation 2008/2010)

(Common to PTEE 2254 – Linear Integrated Circuits and Applications for B.E. (Part-Time) – Third Semester – Electronics and Instrumentation Engineering – Regulation 2009)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. What are the advantages of plasma etching?
2. List the three different IC package configurations.
3. What is the value of open loop gain and output impendence of an ideal op-amp?
4. Define CMRR.
5. Give any four important features of an instrumentation amplifier.
6. What are the application of sample and hold circuit.
7. Draw the pin diagram of IC 555 timer.
8. What are the essential parts of PLL?
9. Define load regulation.
10. How to define opto-coupler?

PART B — ($5 \times 16 = 80$ marks)

11. (a) Explain about the following :

    (i) Epitaxial growth and diffusion. (8)

    (ii) Photolithography masking and Photo etching. (8)

    Or

    (b) Discuss briefly about the fabrication methods for transistors and diodes. (16)

12. (a) Discuss briefly about the DC characteristics of an operational amplifier. (16)

Or

(b) Explain briefly about how an operational amplifier is used as Summer, Differentiator and Integrator. (16)

13. (a) Discuss the following applications of operational amplifier.

(i) V/I Converters. (8)

(ii) Astable Multivibrator. (8)

Or

(b) Discuss briefly about the following with neat diagram.

(i) R-2R Ladder type D/A converter. (8)

(ii) Successive approximation A/D Converter. (8)

14. (a) (i) Draw and explain the functional block diagram of IC 555 timer. (8)

(ii) Describe any two application of IC555 timer when it is working in monostable mode. (8)

Or

(b) (i) Draw the block diagram of 566 voltage control oscillator and explain it briefly. (8)

(ii) Explain any two applications of PLL. (8)

15. (a) Draw and explain the functional diagram of 723 general purpose regulator. (16)

Or

(b) Write short note on :

(i) LM 380 Power Amplifier. (8)

(ii) ICL 8038 Function generator. (8)
