



B.E./B.Tech.(Full-Time) DEGREE EXAMINATION, APRIL/MAY 2011

ELECTRICAL AND ELECTRONICS ENGINEERING BRANCH

FIFTH SEMESTER

EE374 — LINEAR INTEGRATED CIRCUITS

(REGULATION 2004)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 Mark)

1. Why Aluminium is preferred in metallization of most IC's?
2. Write the basic chemical reaction used for the epitaxial growth.
3. Define input offset voltage.
4. What causes slew rate?
5. State important features of an instrumentation amplifier.
6. Which is the fastest ADC and why?
7. Define VCO.
8. Draw the pin diagram of IC555 timer.
9. Define load regulation.
10. What is an opto-coupler IC?

PART B — (5 × 16 = 80 Mark)

11. (i) Write briefly about photo-lithography process in iC fabrication. (8)
(ii) Write short notes on metallization in IC fabrication. (8)
12. (a) Derive an expression to determine the output of a Differentiator and integrator using ideal op-amp. (16)
(OR)
(b) Explain the effect of Input bias current and Input offset current in op-amp. (16)
13. (a) Discuss in detail about the working of successive approximation type ADC. (16)
(OR)
(b) Draw and explain the operation of triangular waveform generator. (16)

14. (a) Draw the block diagram of an Astable multivibrator using 555 timer and derive an expression for its frequency of oscillation. (16)

(OR)

- (b) Explain working of PLL using appropriate block diagram and explain any one application of the same. (16)

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

(OR)

- (b) Discuss with relevant diagram the working of Function generator IC's. (16)
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