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Question Paper Code : 60504

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Fourth Semester

Electrical and Electronics Engineering

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

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

(Regulations 2008/2010)

(Also common to PTEE 2254/10133 EE 405 — Linear Integrated Circuits and
Applications for B.E. (Part-Time) Third/Sixth Semester — EEE —
Regulations 2009/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write about the classifications of ICs.
2. What do you mean by diffusion of impurities?
3. What are the characteristics of an ideal Op-Amp?
4. Define Input Offset Voltage.
5. Mention the significance of instrumentation amplifiers.
6. Draw a sample and hold circuits with input and output wave forms.
7. Define capture range.
8. Draw the block diagram of 555 timer IC.
9. Enumerate the applications of opto couplers.
10. Write briefly about isolation amplifiers.

PART B — (5 × 16 = 80 marks)

11. (a) Discuss in detail about the fabrication of FET using suitable diagrams. (16)

Or

- (b) (i) Explain about various packaging techniques with neat sketches. (10)
(ii) Write short notes on etching process. (6)
12. (a) (i) Discuss in detail about voltage shunt feedback amplifiers. (8)
(ii) Define the dc and ac parameters of Op-Amp. (8)

Or

- (b) Enumerate some of the basic applications of Op-Amp. Explain the application of Op-Amp as summer integrator, differential amplifier and differentiator. (16)
13. (a) State the types of multivibrator circuits. Explain Monostable multivibrator with circuit diagram and wave forms. Derive for its ON time. (16)

Or

- (b) (i) Discuss in detail about the successive approximation ADC with suitable diagrams. (10)
(ii) Explain Peak detector. (6)
14. (a) Draw the block schematic of 565 PLL IC and explain the same. (16)

Or

- (b) Enumerate four quadrant analog multiplier ICs with circuit diagram. Derive for its output. (16)
15. (a) Explain Line and Load regulation using switching regulator with circuit. (16)

Or

- (b) Explain LM 723 voltage regulator using circuit. (16)