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Question Paper Code: 31532

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

Third Semester

Electronics and Instrumentation Engineering

01UEI302 - LINEAR INTEGRATED CIRCUITS AND APPLICATIONS

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. List the four basic building blocks of an op-amp.
2. Classify the integrated circuits according to the number of components.
3. Define CMRR.
4. Summarize the characteristics of an ideal op-amp .
5. What are the two requirements for oscillation?
6. List the most commonly used filters.
7. Give the application of PLL.
8. Differentiate the two operating modes of the 555 timer.
9. What is power booster?
10. Classify the modes of adjustable voltage regulator.

PART - B (5 x 16 = 80 Marks)

11. (a) Discuss the steps involved in the fabrication of bipolar junction transistor. (16)

Or

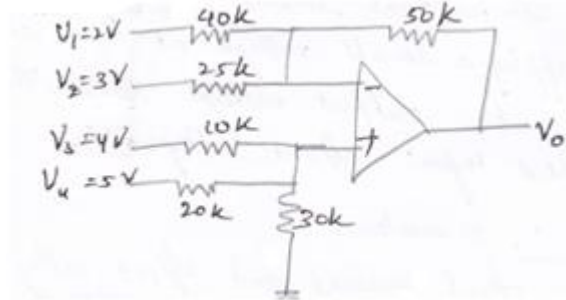
(b) Explain the IC fabrication process of silicon wafer preparation, epitaxial growth and oxidation. (16)

12. (a) Describe the DC characteristics of op-amp. (16)

Or

(b) (i) Design a adder-subtractor of generalized form with the help of op-amp. (8)

(ii) Find V_o for the circuit shown below: (8)



13. (a) Experiment the op-amp as an instrumentation amplifier in detail. (16)

Or

(b) Write short notes on (i) weighted resistor and (ii) successive approximation A/D converter. (16)

14. (a) Describe the block diagram and connection diagram of voltage controlled oscillator. (16)

Or

(b) Analyze the 555 timer functional mode of operation in astable. (16)

15. (a) Discuss the 723 general purpose regulators. (16)

Or

(b) Demonstrate the internal structure, operating and electrical characteristics of the ICL8038 of audio function generator. (16)