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**Question Paper Code: 31344**

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

Fourth Semester

Electrical and Electronics Engineering

01UEE404 – ANALOG INTEGRATED CIRCUITS

(Common to Instrumentation and Control Engineering)

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. What is ion implantation? Give its advantages.
2. Mention the advantages of Integrated circuits over discrete circuits.
3. Define CMRR.
4. What is the concept of virtual ground in op-amp circuits?
5. Calculate the number of comparators required for realizing an 8-bit flash A/D converter.
6. Explain the sample and hold circuit.
7. Draw the functional block of 555 timer IC.
8. List the applications of PLL.
9. How current boosting is achieved in a 723 IC?
10. What are the limitations of three terminal regulator?

PART - B (5 x 16 = 80 Marks)

11. (a) Explain briefly about Epitaxial growth process. (16)

Or

- (b) Explain the various process involved in IC fabrication. (16)

12. (a) Write a note on DC and AC characteristics of op amp. (16)

Or

(b) Discuss in detail about differential amplifier using op amp. (16)

13. (a) Derive the expression for the antilog amplifier with necessary diagrams. (16)

Or

(b) With neat diagram, explain the working of SAR type and Flash type A/D converters. (16)

14. (a) With the help of schematic diagram, explain the operation of IC 566 VCO and derive its output frequency. (16)

Or

(b) Explain how frequency multiplication is done using PLL. (16)

15. (a) Explain the block diagram of a switched mode power supply in detail. (16)

Or

(b) Explain the operation of LM 380 power amplifier. (16)

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