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

Question Paper Code: 34304

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

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. Why SiO_2 is used in oxidation Process?
2. List out the different methods that are available for fabricating integrated resistors?
3. Define slew rate.
4. Define thermal drift..
5. List out the features of instrumentation amplifier.
6. Mention some applications of current to voltage converter.
7. Draw the functional diagram of a 555 timer.
8. Under what conditions will the Gilbert cell function as a multiplier?
9. What is an Opto-coupler?
10. Mention the limitations of IC 723 general purpose regulator.

PART - B (5 x 16 = 80 Marks)

11. (a) With necessary illustrations, explain the various steps involved in fabrication of a typical circuit. (16)

Or

(b) Explain in detail, the fabrication of resistance and capacitance. (16)

12. (a) Define the following DC characteristics of operational amplifier:
    (i) Input bias current
    (ii) Input offset current
    (iii) Input offset voltage
    Suggest a suitable compensation technique for each of the above. (16)

Or

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

13. (a) (i) Draw voltage to current converter circuit and explain its operation. (8)

    (ii) Explain the types of Clamper circuit with neat diagrams. (8)

Or

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

14. (a) (i) Explain the working and function of LM566 Voltage Controlled Oscillator circuit with a block diagram. (8)

    (ii) Describe the working of Analog Multiplier with a suitable diagram. (8)

Or

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

15. (a) (i) How is IC 723 configured as high voltage regulator circuit? Draw the schematic and explain. (8)

    (ii) Explain the monostable mode operation of IC 555 timer. (8)

Or

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

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