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

Question Paper Code : 80368

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

Third Semester

Electrical and Electronics Engineering

EE 6303 — LINEAR INTEGRATED CIRCUITS AND APPLICATIONS

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

(Regulations 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write the advantages of ICs over discrete circuits.
2. State the limitations of IC technology.
3. Write some applications of operational amplifier.
4. What is integrator?
5. Explain the sample and hold circuit.
6. Write the difference between active clipper and passive clipper circuit.
7. Draw the functional block of 555 timer IC.
8. Define PLL.
9. What is SMPS?
10. What are the applications of fixed voltage regulator?

PART B — (5 × 13 = 65 marks)

11. (a) (i) Describe about epitaxial growth process. (6)

(ii) Explain in detail about the Photolithography process with neat diagram. (7)

Or

(b) Write a note on masking and etching process in IC fabrication. (13)

12. (a) Discuss in detail about the DC and AC characteristics of op amp. (13)

Or

(b) Explain the differential amplifier using op amp. (13)

13. (a) Write a note on logarithmic and antilog amplifier using op amp. (13)

Or

(b) Explain the working of SAR type and Flash type A/D converter. (13)

14. (a) With the help of schematic diagram, explain the operation of IC 566 VCO and derive its output frequency. (13)

Or

(b) What is PLL? How frequency multiplication is done in PLL? (13)

15. (a) What do you mean by the fixed voltage and variable voltage regulator. List its various applications. (13)

Or

(b) Write short notes on:

(i) LM380 Power Audio Amplifier. (6)

(ii) ICL 8038 Function Generator. (7)

PART C — (1 × 15 = 15 marks)

16. (a) What are the new trends in Integrated circuit technologies and explain about its scope for future generation?

Or

(b) Write a note on recent fabrication methods of FET for industrial applications.

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