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

Question Paper Code: 31532

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

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. Give the classifications of ICs according to level of integration.
2. List out the applications of the metallization process.
3. Define common - mode rejection.
4. Define CMRR and slew rate.
5. How the gain of basic instrumentation amplifier is determined?
6. What are the advantages of voltage follower?
7. List out the features of IC555 timer.
8. How does a PLL track the incoming frequency?
9. Define fixed voltage series regulator.
10. What is meant by optocoupler?

PART - B (5 x 16 = 80 Marks)

11. (a) Explain the fabrication of MOSFET. (16)

Or

(b) Discuss the steps encompassed by the photolithographic process. Illustrate. (16)

12. (a) Draw a simplified version of the op - amp input circuitry and discuss its input bias currents. (16)

Or

(b) Explain about the DC characteristics of Op-Amp. (16)

13. (a) With a neat block diagram, explain the working of Successive approximation type analog to digital converter. (16)

Or

(b) Describe in detail and explain the operation of an inverting Schmitt trigger. (16)

14. (a) Explain with the circuit diagram and waveform of Monostable and Astable multivibrator using IC555 timer. (16)

Or

(b) With the help of a neat sketch, explain PLL demodulation of an FM signal. (16)

15. (a) Illustrate and explain a series regulator with parallel - connected pass transistors for higher-current operation. (16)

Or

(b) With functional block diagram explain about general purpose linear IC723 regulator. (16)

———————