

BT-5/D09
LINEARIC APPLICATIONS

Paper : ECE-307(E)

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt five questions in all, selecting at least one question from each unit.

UNIT-I

1. (a) What is the meaning of CASCADE ? Explain cascade amplifier with suitable diagram. What is level translator circuit ? 7
(b) Explain :
(i) Balanced output differential amplifier.
(ii) Unbalanced output differential amplifier.
(iii) FET differential amplifier. 13
2. Explain ideal Op-amp with suitable diagram. What are its characteristics parameters ? Draw equivalent circuit of Op-amp and explain its circuit configurations. 20

UNIT-II

3. (a) Show block diagram representation of feedback amplifier and discuss. 10
(b) Discuss why Open loop Op-amp is unsuitable for linear IC applications. 10
4. (a) What is Slew rate ? List its causes. 5
(b) Explain Circuit stability. 5
(c) Draw closed loop frequency response and discuss. 5
(d) What is Non-compensating Op-amp ? 5

UNIT-III

5. Explain the following :
(a) Scaling amplifier.
(b) Peaking amplifier.
(c) Differential amplifier.
(d) Wave shaping circuit. 20
6. Describe voltage to current converter and current to voltage converter with suitable diagram. 20

UNIT-IV

7. What is PLL ? Explain basic building blocks of PLL. Discuss its applications. 20
8. Write short notes on the following :
(a) Power amplifier.
(b) Astable 555 timer.
(c) Universal active filter.
(d) 8038 IC. 20