Roll No. .....

Printed Pages : 2

8508

BT-5 / D–15

LINEAR IC APPLICATIONS

Paper–ECE-307-E, Opt. (1)

Time allowed : 3 hours] *[Maximum marks : 100*

*Note : Attempt any **five** questions by selecting at least **one** from each unit.*

Unit–I

1. (a) What is the need of Differential amplifier ? Explain working of four different type's of Differential amplifier with suitable circuit diagrams.

   (b) Explain use of Level Translator in Op-Amp. 20

2. With suitable circuit diagram explain the DC and AC analysis of Dual input, balanced output differential amplifier to calculate the operating point of two transistors. 20

Unit–II

3. Derive the expression for closed loop voltage gain, internal resistance and output resistance of voltage series feedback differential amplifier. 20

4. Draw high frequency Op-amp equivalent circuit and derive the expression for open loop and closed loop voltage gain for non inverting congigration. 20

Unit–III

5. With suitable diagram and equations explain the working of OP Amp as

   (i) Integrator

   (ii) Differentiator

   (iii) Voltage to current convertor

   (iv) Current to voltage convertor. 20

6. With suitable diagram explain Square wave generator using 74I-IC. 20

Unit–IV

7. With suitable diagram explain monostable operation of 555 Timer. 20

8. (a) Write short note on Universal Active filter.

   (b) Explain 8038 IC. 20