Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (ECE) (Sem.–4,5)

LINEAR INTEGRATED CIRCUITS

Subject Code : EC-305

M.Code : 57521

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Answer all the questions :

a. Draw the op-amp block diagram.

b. Explain SVRR.

c. Explain slew rate.

d. Explain (MRR in OP-AMP.

e. Draw the non- inverting op-amp circuit diagram.

f. Define the terms linearity and accuracy of A/D convertors.

g. List down the characteristics of ideal OP-AMP.

h. What is the main advantage of constant current bias over emitter bias in differential amplifiers'?

i. Define input-bias current in OP-AMP.

j. Define capture range and lock-in range of a PLL.

SECTION-B

2. Describe the Frequency Compensation techniques used in operational amplifier.

3. Explain the operation of ideal integrator using IC 741.

4. Draw the block diagram of averaging amplifiers and explain its operation in detail.

5. Explain the operation of 1st order low pass filter along with circuit diagram.

6. Explain the operation of a grounded load V to I converter using op-amp.

SECTION-C

7. Explain triangular wave generator.

8. Explain the working of Schmitt trigger.

9. Write short notes on following

   a. Wein bridge oscillator

   b. Summing and scaling amplifier

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.