



Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : X60500

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2020

Fourth Semester

Electrical and Electronics Engineering

EE 2254/EE 45/EC 1260/080280028/10133 EE 405 – LINEAR INTEGRATED CIRCUITS AND APPLICATIONS

(Regulations 2008/2010)

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

(Also Common to PTEE 2254/10133EE405 – Linear Integrated Circuits and Applications for B.E. (Part-Time) – Third/Sixth Semester – Electronics and Instrumentation Engineering and Electrical and Electronics Engineering – Regulations 2009/2010)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. List out the reaction compounds and doping hydrides used in Chemical Vapour Deposition ?
2. What is Ion Implantation ? Why it is preferred over diffusion process ?
3. Define thermal drift.
4. What are the ideal characteristics of an Op-Amp ?
5. List the applications of analog multipliers.
6. Write the significance of lock range of a PLL.
7. Enlist the features of IC566 VCO.
8. What is a monostable multivibrator ? Give few applications of monostable multivibrator.
9. Define load regulation.
10. How to define opto-coupler ?



11. a) Describe the Epitaxial growth process and photolithography process with neat diagram.

(OR)

b) Give the various ways for making integrated resistor.

12. a) i) Derive for CMRR of differential amplifier with equivalent circuit. (10)

ii) Explain any one method to improve CMRR. (6)

(OR)

b) Briefly explain the stability criteria and different types of frequency compensation techniques applied to opamp circuits. (6+10)

13. a) i) Explain the operation of peak detector and S/H circuit. (6)

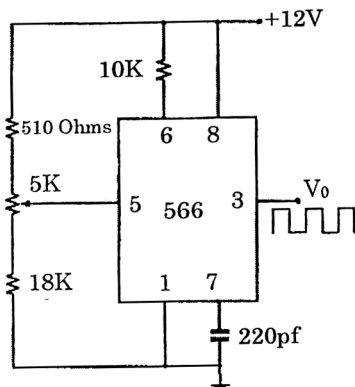
ii) What is the use of an A/D convertor. Explain the Dual slope type of A/D convertor. (10)

(OR)

b) i) Differentiate a clipper and a clamper with neat sketches. (6)

ii) Explain the operation of a regenerative comparator. (10)

14. a) Explain with functional block diagram the operation of 566 voltage controlled oscillator. Also determine the maximum and minimum output frequencies in the circuit shown below. (10+6)



(OR)

b) Explain the operation of an astable multi-vibrator configured around 555 Timer IC and derive an expression for output frequency with neat illustration.

15. a) Draw and explain the functional diagram of 723 general purpose regulator. (16)

(OR)

b) Write short note on :

i) LM 380 Power Amplifier. (8)

ii) ICL 8038 Function generator. (8)