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Total No. of Questions : 09] [Total No. of Pages : 02

Paper ID [EC305]

MAY 2008

(Please fill this Paper ID in OMR Sheet)

B.Tech. (Sem. - 5th)

LINEAR INTEGRATED CIRCUITS (EC - 305)

Time : 03 Hours Maximum Marks : 60

Instruction to Candidates:

1) Section - A is **Compulsory**.
2) Attempt any **Four** questions from Section - B.
3) Attempt any **Two** questions from Section - C.

Section - A

Q1) *(10 x 2 = 20)*

a) What is another name for voltage to current converter?

b) What is scaling amplifier?

c) What type of voltage gain is provided by CE-CB configuration at higher frequencies?

d) What is the affect on input resistance if three Op-amps are used as differential amplifier?

e) What is effect of negative feedback in a non-inverting amplifier on input impedence and bandwidth?

f) List one advantage of using compensated networks in Op-amps?

g) How the input impedance of an ac voltage follower can be increased significantly?

h) Define second order low pass filter? What does order of a filter signifies?

i) Give any limitation of using Op-amp as a Comparator?

j) Write an application of monostable multivibrator?

Section - B

(4 x 5 = 20)

Q2) What is cascode amplifier? List it's characteristics?

Q3) Draw equivalent circuit of an Op-amp and discuss ideal voltage transfer curve?

Q4) What is effect of variation in power supply voltages on offset voltage?

Q5) Discuss voltage shunt feedback amplifier with a circuit diagram?

Q6) Explain why open loop configurations are not used in linear applications?

Section - C

(2 x 10 = 20)

Q7) Briefly explain the need for compensating networks in Op-amp circuits? Explain the difference between frequency response of internally compensated and non-compensated Op-amps?

Q8) Discuss with circuit diagram operation of square and triangular wave generators?

Q9) Describe PLL with block diagram. Also discuss applications of PLL in phase detector and voltage controlled oscillators?