15298

Name: .....

Reg.No. .....



FOURTH SEMESTER B.TECH (ENGINEERING) DEGREE EXAMINATION
DECEMBER 2010

EE 2K 404/PTEE 2K 302 – ELECTRONICS - II

Time : Three Hours Maximum: 100 Marks

PART – A

I a) Show the advantages of negative feedback in a single time constant voltage to voltage amplifier with respect to Bandwidth and rise time.

b) What do you understand by pole migration of right of s-plane in feedback amplifiers? State the need.

c) Distinguish between internally compensated and externally compensated of Amps.

d) Draw and explain the circuit of V-I converter with grounded load and discuss any one of its application.

e) Draw the block diagram of IC ICL8038 function generator and state function of each block.

f) Explain the application of PLL as frequency demodulator.

g) Explain the circuit of an analog switch.

h) Compare weighted Resister DAC, R/2R ladder DAC, current switching DAC, multiplying DAC based on accuracy, linearity, monotonicity and area. $(8\times5=40)$

PART – B

II a) Discuss the characteristics of voltage shunt negative feedback amplifier with respect to gain, input and output resistances, Bandwidth, nonlinearity and stability

(OR)

b) i) Write a note on stability of feedback amplifiers.

ii) Draw the circuit of RC phase shift oscillator and obtain expression for frequency of oscillation and condition for sustained oscillation

III a) i) Explain the output stage of LM741 op Amp

ii) Why is an opAmp integrator called lossy? Explain how it can be overcome with relevant diagrams.

(OR)

b) Discuss the features of instrumentation amplifier with circuit.

IV a) With circuit schematic explain the following

i) Precision Full Wave Rectifier

ii) Op Amp based Astable Multivibrator

(OR)

b) Discuss the features of PLL and derive expressions for lock and capture range.

V a) i) Design a wide-band pass filter having $fl = 400\,Hz$, $f_h = 2KHz$ and pass-band gain of 4. Find the value of Q of the filter.

ii) Compare Butterworth and Sallen-key filters.

(OR)

b) Explain the architecture of dual slope ADC and compare with single slope ADC. $(4\times15=60)$

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