(DEE 321)

B.Tech. DEGREE EXAMINATION, MAY - 2015

(Examination at the end of Third Year)

ELECTRICALS AND ELECTRONICS

Paper - I : Linear IC'S & Applications

Time : 3 Hours **Maximum Marks : 75**

Answer question No. 1 compulsory ***(15)***

Answer one question from each unit ***(4 × 15 = 60)***

1) a) Define slew rate.

b) Define CMRR.

c) Explain thermal drift.

d) Explain PSRR.

e) Define clamper.

f) What is Band stop filter?

g) Define voltage regulator.

h) What is A/D converter?

i) Define clipper?

j) Explain principle of oscillator.

k) What is negative feed back?

l) What is wide band filter?

m) Draw 555 timer IC.

n) Define peak detector.

o) Define precision rectifier?

UNIT – I

2) a) Design a differentiator an input signal that varies in frequency from 10Hz to about 1kHz. If a sine wave of 1v peak at 1000Hz is applied to this differentiator. Draw output wave forms.

b) Explain how op-amp can be used as summing amplifier.

OR

3) Explain

a) Block diagram of operational amplifier.

b) Current to voltage converter.

UNIT - II

4) a) Draw the square wave generator using op-amp and derive the expression for frequency of oscillations.

b) Explain Schmit trigger.

OR

5) a) Explain triangular wave generator.

b) List the conditions in all the three types of oscillators namely, RC phase shift, Wien bridge and quadrature oscillators.

UNIT - III

6) a) Describe weighted resistor DAC and what are the draw back of it?

b) Calculate the no. of bits required to represent a full scale voltage of 10v with resolution of 5mv.

OR

7) a) Discuss about R-2R DAC.

b) Explain about dual slope DAC.

UNIT - IV

8) a) Draw the wide band reject filter circuit and also the frequency response of it.

b) Draw the schematic diagram of an all pass filter and determine phase shift between the i/p and o/p at f = 2kHz.

OR

9) a) What are the applications of 565 PLL.

b) Design second order low pass filter at a high cut off frequency of 1kHz

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