

(DEC 321)

B.Tech. DEGREE EXAMINATION, MAY - 2015

(Examination at the end of Third Year)

ELECTRONICS & COMMUNICATIONS

Paper - I : Linear Integrated Circuits & 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 Ideal voltage amplifiers.
- b) What are Band width limitations?
- c) State oscillator principles.
- d) Define clippers.
- e) Define slew rate.
- f) State all pass filters.
- g) Explain voltage regulator.
- h) Define peak detector.
- i) Define A to D converter.
- j) Explain Band stop filter.
- k) Explain positive feed back.

UNIT - I

- 2) a) Explain the effect of slew rate in op-amp applications.
- b) Discuss frequency compensation technique of op-amp.

OR

- 3) a) Explain the operation of precision rectifier.
b) Design and explain the operation of instrumentation amplifiers.

UNIT - II

- 4) a) Explain the operation of triangular wave generator.
b) Explain voltage controlled oscillator.

OR

- 5) a) Explain high speed and precision type comparators.
b) Explain frequency stability.

UNIT - III

- 6) a) Explain the Sample and Hold circuit.
b) Explain dual slope A/D converter and explain its operation.

OR

- 7) a) Compare R-2R and weight resistor types of DACs.
b) Write short notes on A/D converters.
c) Define the following terms as related to DAC
i) Linearity
ii) Resolution

UNIT - IV

- 8) a) What is band pass filter and what are the two types of band pass filters.
b) Design a wide band reject filter having $f_1 = 200$ Hz and $f_2 = 1$ kHz

OR

- 9) a) Draw the functional block diagram of 555 timer IC. Explain the function of each block.
b) What are the important blocks of PLL? What is the role of each block? Explain in detail.

φφφ