Total No. of Questions :8] *[Total No. of Printed Pages :2*

Roll No .....

EX-405 (New)

B.E. IV Semester

Examination, December 2016

Linear Integrated Circuits and its Application

Time : Three Hours

Maximum Marks : 70

Note: i) Answer any five questions.
ii) All questions carry equal marks.

1. a) Draw and explain the basic block diagram of OP-AMP. Give its characteristics. Explain the equivalent circuit of ideal OP-AMP.
   b) Give a brief classification of OP-AMP and explain any one of them.

2. a) Derive a different relations explaining power supply configurations of OP-AMP.
   b) Write any five differences between inverting and non-inverting amplifiers.

3. a) Write short note on input offset voltage and offset current. Explain the effects of variations in power supply voltage.
   b) Derive relations for CMRR and slew rate of practical OP-AMP.

4. a) Explain summing amplifier. Derive its various relations with respect to practical OP-AMP.

   b) Explain the Wein bridge oscillator circuit. How does it different from phase shift oscillator?

5. a) Write different characteristics of filters. Give classification of filters used in OP-AMP. Explain any one of them.
   b) Derive a relation for magnitude and frequency response of butter worth 1st order low pass filter.

6. a) Explain Chebyshev filters. Write any five differences between Chebyshev and band reject filters.
   b) Explain zero crossing detectors. Write an introductory note on Schmitt trigger circuit.

7. a) Explain the circuit which gives amplitude modulation using analog multiplier. Derive its relations to support your answer.
   b) Discuss the principle of fixed and adjustable voltage. Explain with the help of suitable examples.

8. Write short notes on (any four)
   a) Analog multiplier - MPY634
   b) TL082 datasheet
   c) Log/Anti log amplifier
   d) Current to voltage converter
   e) Notch filter
   f) Triangular/ Rectangular wave Generator

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