

B.TECH. DEGREE EXAMINATION, DECEMBER 2012**Fifth Semester****Branch : Electrical and Electronics Engineering****EE 010 505 – LINEAR INTEGRATED CIRCUITS (EE)****(Regular – New Scheme)****Time : Three Hours****Maximum : 100 Marks****Part A***Answer all questions briefly.**Each question carries 3 marks.*

1. Write any three properties of an ideal and practical op-amp along with values.
2. Draw the voltage transfer curve of a regenerative comparator using op-amp.
3. A 4 bit DAC produces output voltage of 0.1 V for a digital input of 0001. Find the value of V_O for maximum input?
4. Draw the internal functional block diagram of 565.
5. Compare the merits and demerits of switching voltage regulator with series regulator.

(5 × 3 = 15 marks)**Part B***Answer all questions.**Each question carries 5 marks.*

6. A square wave of peak-to-peak amplitude of 750 mV has to be amplified to a peak - to - peak amplitude of 4.0 V, with a rise time of 4.5μsec or less. Can IC 741 op-amp be used?
7. Draw the circuit of sample - and - hold and explain its working.
8. Draw the circuit of a 2-bit weighted resistor DAC and explain.
9. Draw the block circuit diagram of a frequency translator and show how the frequency change is obtained?
10. Draw a power amplifier circuit using LM 380, designed to provide a power gain of 200 using positive feedback.

(5 × 5 = 25 marks)**Turn over**