Code: 9A10504

R9

B.Tech III Year I Semester (R09) Supplementary Examinations, May 2013
LINEAR AND DIGITAL IC APPLICATIONS
(Common to E.Con.E, EIE and ECC)

Time: 3 hours   Max Marks: 70

Answer any FIVE questions
All questions carry equal marks
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1 (a) Explain in detail all the DC and AC characteristics of an ideal OP-AMP with relevant expressions.
   (b) What are the features of IC 741?

2 (a) Derive the expression of the output voltage of an antilog amplifier using op-amp.
   (b) Describe the principle of operating of a precision half wave rectifier with waveforms.

3   Draw the circuit and explain the working of:
   (a) Voltage to current converter.
   (b) Current to voltage converter.

4 (a) Draw the circuit of Schmitt trigger using 555 timer and explain its operation.
   (b) Explain the operation of astable multivibrator using 555 timer.

5   Explain block schematic of PLL and list the applications of PLL.

6 (a) What is meant by Tristate logic? Draw the circuit of Tristate TTL logic and explain the functions.
   (b) List out the advantages of CMOS logic.

7 (a) Write the detail about HOL and VHDL.
   (b) Explain various operations in verilog HDL.

8 (a) Explain about SR latch with example.
   (b) Design a 4-bit bidirectional shift register with parallel load.

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