



C14-EC-402

4435

BOARD DIPLOMA EXAMINATION, (C-14)
MARCH/APRIL—2018
DECE—FOURTH SEMESTER EXAMINATION
LINEAR INTEGRATED CIRCUITS

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

- Instructions** : (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. List any three advantages of integrated circuits over discrete assembly.
2. Write any three characteristics of an ideal Op-Amp.
3. Draw pin configuration of IC 741 and mention the name of each pin.
4. Mention any three merits of active filters.
5. Classify IC regulators with one example for each.
6. Draw the circuit diagram of unbiased (+ve) clipper with input and output waveforms.
7. List any three applications of time based generators.
8. Classify multivibrators.

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9. Draw voltage to current converter circuit.
10. Define resolution and accuracy of D/A converter.

PART—B

10×5=50

Instructions : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. (a) Explain surface mount technology (SMT). 6
 (b) List any four merits of SMT. 4
12. (a) Draw and explain the circuit of Op-Amp as an integrator.
 (b) Draw and explain the circuit of Op-Amp as a differentiator.
13. (a) Draw and explain the working of Op-Amp Wein bridge oscillator circuit. 7
 (b) State the conditions required for stable operation of Wein bridge oscillator. 3
14. Explain the working of Op-Amp active high-pass filter with circuit of first-order and draw the frequency response of the circuit.
15. Draw and explain the circuit of double-ended clipper. Also draw the input and output waveforms.
16. (a) Draw and explain the block diagram of PLL-LM 565. 6
 (b) Explain frequency multiplier using PLL. 4
17. Draw and explain the working of three Op-Amp instrumentation amplifiers.
18. Explain A/D converter using successive approximation method with a neat block diagram.
