

4456

BOARD DIPLOMA EXAMINATION, (C-14)

JUNE-2019

DECE - FOURTH SEMESTER EXAMINATION

LINEAR INTEGRATED CIRCUITS

Time: 3 Hours]

[Max. Marks: 80

PART - A

3x10=30M

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

- 1) Mention the power ratings of IC packages.
- 2) List SIX merits of Surface Mount Technology.
- 3) State the important characteristics of ideal operational amplifier.
- 4) Define the terms: Input impedance and Open loop gain of Op-amp.
- 5) State the fundamental consideration of sweep wave form.
- 6) List the advantages of IC regulators.
- 7) List different types of clippers.
- 8) Draw the block diagram of PLL.
- 9) State the need for A/D and D/A conversion.
- 10) Define the terms: monotonicity and settling time of D/A converter.

PART - B

5x10=50M

Instructions: 1) Answer any **five** questions Each question carries **ten** marks

2) Answer should be comprehensive and the criterion for valuation is the content but not the length of the Answer.

- 11) Explain the manufacturing process of monolithic ICs.
- 12) Explain the Inverting amplifier configuration of Op Amp and derive the formula for voltage gain. Draw input and output waveforms.
- 13) Draw and explain the working of OP-amp astable multivibrator with waveforms.
- 14) Explain the use of operational amplifier as
i) Buffer ii) Differentiator. (5+5)
- 15) Draw and explain the working of Monostable multivibrator using 555 IC with waveforms.
- 16) a) Explain the operation of VCO (LM566). (7M)
b) List the applications of PLL. (3M)
- 17) a) Explain the circuit of current to Voltage converter. (7M)
b) List three applications of voltage to current converter. (3M)
- 18) Explain A/D converter using successive approximate method with block diagram.

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