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C14–EC–**402**

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BOARD DIPLOMA EXAMINATION, (C–14)

SEPTEMBER/OCTOBER - 2020

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 various levels of integration.

2. List the merits of SMT technology.

3. Draw the symbol and terminals of an operational amplifier.

4. Explain the concept of virtual ground.

5. Classify multivibrators.

6. Draw the circuit diagram of unbiased clipper with waveforms.

7. Mention the applications of clampers.

8. Define capture range of PLL.

9. List the applications of voltage to current converter.

10. Explain the term 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. Describe the fabrication of capacitor on monolithic IC.

12. Explain the effects of feedback on input impedance and bandwidth for inverting amplifier configuration.

13. Draw and explain the working of Op-Amp monostable multivibrator with waveforms.

14. Explain the operation of fixed positive and negative voltage regulators (using 7800 series and 7900 series).

15. Explain the working of astable multivibrator using 555 IC.

16. Draw and explain the block diagram of PLL-LM 565.

17. Draw and explain the current to voltage converter circuit.

18. Explain A/D conversion using successive approximate method.

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