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C14–EC–**402**

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BOARD DIPLOMA EXAMINATION, (C–14)

OCT/NOV—2016

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 different IC packages.

2. Briefly explain oxidation process in IC fabrication.

3. List the characteristics of ideal operational amplifier.

4. Explain the concept of virtual ground.

5. Give the comparison between voltage and current time-base generators.

6. Define lock range of PLL.

7. List different types of IC regulators.

8. List any four applications of clampers.

9. Explain accuracy, settling time of DAC.

10. List the applications of instrumentation amplifier.

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 stages of diode on monolithic IC with a neat diagram. 10

12. *(a)* Give the pin configuration of IC 741 and explain the function of each pin. 6

(b) Give the power supply requirements of OPAMP. 4

13. Draw and explain the RC phase shift oscillator circuit using operational amplifier. 10

14. Draw and explain the working monostable multivibrator using operational amplifier. 10

15. Explain the operation of double-ended clipper with a neat wave forms. 10

16. Explain the working of PLL LM 565 with a neat diagram. 10

17. Explain the A/D conversion using counter method with a neat diagram. 10

18. Explain the working of D/A conversion using R-2R ladder network with circuit diagram. 10

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