C14–EC–**402**

4456

BOARD DIPLOMA EXAMINATION, (C–14)

MARCH/APRIL—2017

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 the advantages of integrated circuits over discrete assembly.

2. List the merits of SMT technology.

3. Define the terms *(a)* Open-loop gain and *(b)* CMRR.

4. List the ideal features of OPAMP.

5. List the different types of IC regulators.

6. Classify multivibrators.

7. List the applications of PLL.

8. List different types of clippers.

9. State the need for A/D to D/A conversion.

10. Explain the following terms :

(a) Resolution

(b) 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. Explain the stages of fabrication of BJT on monolithic IC with neat sketches.

12. Explain the non-inverting amplifier configuration of operational amplifier with neat diagram.

13. Draw and explain Miller's sweep circuit using operational amplifier.

14. Draw and explain the operation of Schmitt trigger circuit using operational amplifier.

15. Explain the working of IC 555 using its block diagram.

16. Explain the frequency multiplier using PLL with a neat diagram.

17. Explain the working of voltage to current converter with neat circuit.

18. Explain A/D conversion using successive approximate method with a neat diagram.

★ ★ ★