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BOARD DIPLOMA EXAMINATION, (C-16)

AUGUST/SEPTEMBER—2021

DECE - FOURTH SEMESTER EXAMINATION

LINEAR ICS AND APPLICATIONS

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. Define slew rate and CMRR.
3. Draw the pin out diagram of IC 741.
4. Distinguish between voltage and current time base generator.
5. State the use of analog computer.
6. List any three applications of PLL.
7. Define lock range of PLL.
8. List any three applications of voltage to current converter.
9. List any three advantages of instrumentation amplifier.
10. Define the terms accuracy and resolution.

PART—B

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

(2) Each question carries ten marks.

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

11. *(a)* Explain various levels of integration. 5

(b) List any five merits of SMT technology. 5

12. Explain the inverting amplifier configuration of Op-Amp and derive the equation for voltage gain. 10

13. Draw and explain OP-Amp Wien-bridge oscillator circuit with a neat diagram. 10

14. Explain the working of monostable multivibrator with waveforms using IC 741. 10

15. Draw and explain the block diagram of PLL-LM 565. 10

16. With a neat diagram, explain the working of astable multivibrator using 555 IC. 10

17. Explain D/A conversion using R-2R ladder network. 10

18. Explain the A/D conversion using counter method. 10

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