



C16-AEI-401

**6414**

**BOARD DIPLOMA EXAMINATION, (C-16)**

**AUGUST/SEPTEMBER—2021**

**DAEI - FOURTH SEMESTER EXAMINATION**

**LINEAR IC APPLICATIONS AND COMMUNICATION SYSTEMS**

*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. Draw the schematic symbol of Op-Amp.
2. List the limitations of differential amplifier using discrete components.
3. State the principle of Phase Locked Loop (PLL).
4. Draw the diagram of voltage to current converter.
5. Define filter.
6. Draw the pin diagram of 555 IC.
7. State the merits and demerits of FM.
- \* 8. State the need for heterodyning in radio receiver.
9. List different types of multiplexing methods.
10. State the features of CDMA technology.

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## PART—B

10×5=50

- 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. Explain voltage gain, output impedance, input impedance, bandwidth and input-offset voltage of an Op-Amp.
12. Explain the operation of instrumentation amplifier with diagram.
13. Explain the operation of Low Pass Filter (LPF) using Op-Amp.
14. Explain the operation of astable multivibrator using IC 555 timer.
15. Explain Amplitude Modulation (AM) transmitter with block diagram.
16. Explain Foster-Seeley demodulator circuit.
17. Explain Pulse Code Modulation (PCM) with block diagram.
18. Explain the principle of satellite communication system.

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