

**6414****BOARD DIPLOMA EXAMINATION, (C-16)****MARCH / APRIL — 2021****DAEIE — FOURTH SEMESTER EXAMINATION****LINEAR IC APPLICATIONS AND COMMUNICATION SYSTEMS***Time : Three Hours]**[Maximum Marks : 80***PART-A**

3×10=30

- Instructions :**
- (i) Answer **all** questions.
  - (ii) Each question carries **three** marks.
  - (iii) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Draw the schematic symbol of an operational amplifier.
2. List any three specifications of an ideal operational amplifier.
3. List any three effects of negative feedback on an amplifier.
4. Draw the circuit diagram of an isolation amplifier.
5. Draw the ideal and practical frequency response plots for Band Pass Filter (BPF).
6. List any three applications of 555 IC timer.
7. List different types of analog modulation methods.
8. State the principle of Amplitude Modulation (AM) detector.
9. State the principle of pulse modulation.
10. List any three comparisons between CDMA and GSM.

- \* **Instructions :**
- (i) Answer any **five** questions.
  - (ii) Each question carries **ten** marks.
  - (iii) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Explain the operation of typical Integrated Circuit operational amplifier with block diagram.
12. Explain the operation of Summing amplifier and Integrator using operational amplifiers.
13. Explain the operation of Low Pass Filter (LPF) using operational amplifier with circuit diagram.
14. Explain the operation of mono-stable multi-vibrator using IC 555 timer with circuit diagram.
15. Explain Amplitude Modulation (AM) with waveforms and give their expressions.
16. Explain super heterodyne receiver with block diagram.
17. Explain time division multiplexing and frequency division multiplexing methods with diagrams.
18. Explain the principle of Radar with block diagram.

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