



C16-AEI-401

6414

BOARD DIPLOMA EXAMINATION, (C-16)  
OCT/NOV—2018  
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. Defineband width (BW) of an operational amplifier.
2. Draw the schematic symbol of operational amplifier.
3. Draw the circuit of non-inverting amplifier.
4. Mention the effects of negative feedback on an amplifier.
5. List any three limitations of passive filters.
6. Mention any three applications of 555 timers IC.
7. State the need for modulation in communication systems.

- \* 8. Define sensitivity.
9. List any three merits of PCM.
10. List the transmitters used in fiber optic communication.

**PART—B**

10×5=50

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

(2) Each question carries **ten** marks.

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

11. Explain the operation of a differential amplifier with a circuit diagram.
12. Draw and explain the operation of instrumentation amplifier.
13. Explain the operation of HPF circuit using operational amplifier.
14. Draw and explain the operation of astable multivibrator using 555 IC timer.
15. Explain the block diagram of an AM transmitter.
16. Draw and explain the block diagram of superheterodyne receiver.
17. Explain any one multiplexing methods with a diagram.
- \* 18. Explain the principle of fibre optic communication with a block diagram.

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