



C09-AEI-605

3718

BOARD DIPLOMA EXAMINATION, (C-09)

OCT/NOV—2014

DAEI—SIXTH SEMESTER EXAMINATION

**PRINCIPLES OF COMMUNICATIONS AND
LINEAR IC 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. Define amplitude modulation.
2. Compare FM and PM.
3. Draw the single-diode detector circuit.
4. List different types of pulse-modulation method.
5. Draw the circuit of differential amplifier.
6. Define input bias current and slew rate.
7. Draw the integrator circuit.

- * 8. Draw the circuit of triangular-wave generator with wavefrom.
- 9. Draw the pin diagram of 555 IC timer.
- 10. Draw the circuit diagram of astable multivibrator.

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 FM generation using varactor diode method. 10
- 12. Draw the diagram of Foster-Seely demodulator and explain its working. 10
- 13. Explain the frequency-division multiplexing with a neat circuit. 10
- 14. (a) State the requirements of an operational amplifier. 4
(b) List the limitations of differential amplifier using discrete components. 6
- 15. Explain the operation of voltage to current converter. 10
- 16. Draw the circuits of non-inverting and inverting amplifiers and explain these. 5+5
- * 17. Explain the operation of square-wave generator using 555 IC timer with diagrams. 10
- 18. Draw the circuit of triangular wave generator using operational amplifier and explain its operation. 10
