



C16-EC-402

5649

BOARD DIPLOMA EXAMINATION, (C-16)
MARCH/APRIL—2018
DECE—FOURTH SEMESTER EXAMINATION
LINEAR INTEGRATED CIRCUITS

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.

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1. List the advantages of integrated circuits over discrete assembly.
2. Define CMRR and input offset voltage.
3. Draw the pin diagram of IC741.
4. Classify the IC regulators.
5. Define active and passive filters.
6. List the applications of PLL.
7. Differentiate between voltage and current time base generators.

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8. Draw the circuit diagram of op-amp bistable multivibrator.
9. Define the following terms of D/A converter :
- (a) Resolution
 - (b) Accuracy
 - (c) Settling time
10. List the applications of current to voltage converter.

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 fabrication of transistor on monolithic IC.
12. Draw the circuit diagram using operational amplifier for—
- (a) inverting amplifier;
 - (b) summer;
 - (c) buffer amplifier;
 - (d) differentiator.
13. Draw and explain the working of RC phase shift oscillator with the help of a circuit diagram using op-amp.
14. Explain the operation of transistor shunt voltage regulator and series voltage regulator.
15. Draw and explain the working of op-amp Schmitt trigger circuit.

16. Explain the working of astable multivibrator using IC555.
17. Draw and explain the instrumentation amplifier using three op-amps.
18. Explain the successive approximation method of A/D conversion with circuit diagram.

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