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C16-EC-401

**6435**

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

**JUNE/JULY—2022**

**DECE - FOURTH SEMESTER EXAMINATION**

**LINEAR ICS AND APPLICATIONS**

*Time : 3 hours ]*

*[ Total Marks : 80*

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**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.

1. List different IC packages.
2. State any three important operational characteristics of ideal amplifier.
3. Write any three advantages of IC regulators.
4. Define sweep voltage.
- \* 5. Give the conditions required for stable operation of Op-Amp Wien-bridge oscillator circuit.
6. Define capture range of PLL.
7. Draw the pin out diagram of 555 IC.
8. Define the terms accuracy and settling time.
9. State the need for A/D and D/A conversion.
10. List any three applications of current to voltage converter.

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## PART—B

- 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 the surface mount technology. 10
12. Explain the use of operational amplifier as integrator and scale changer with a neat diagram. 10
13. Draw and explain the working of Op-Amp Schmitt trigger circuit. 10
14. Draw and explain RC phase shift oscillator circuit using Op-Amp. 10
15. Explain the working of astable multivibrator using 555 IC with a neat diagram. 10
16. (a) Briefly explain the concept of phase locked loop. 5  
(b) Briefly explain working of FM demodulator using PLL. 5
17. Draw and explain the instrumentation amplifier using three Op-Amp. 10
18. Explain A/D conversion using successive approximate method. 10

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