6435

BOARD DIPLOMA EXAMINATION
MARCH/APRIL - 2019
DIPLOMA IN ELECTRONICS AND COMMUNICATION ENGINEERING
LINEAR ICS AND APPLICATIONS
FOURTH SEMESTER EXAMINATION

Time: 3 Hours **Total Marks: 80**

PART - A (3m x 10 = 30m)

Note 1:Answer all questions and each question carries 3 marks

2:Answers should be brief and straight to the point and shall not exceed 5 simple sentences

1. What is SMT technology
2. Briefly give the details of power supply requirements of Op-amp
3. Draw the pin out diagram of adjustable voltage regulator -LM317
4. What is meant by UTP and LTP in Schmitt trigger circuit
5. Define Sweep Voltage and draw the its waveform
6. What is phase locked loop?
7. Define lock range of PLL
8. Give the function of following pins of serial ADC chip MAX1112
   a) AGND b) DGND
9. State the need for A/D and D/A conversion
10. **List the advantages of instrumentation amplifier.**

PART - B (10m x 5 = 50m)

Note 1:Answer any five questions and each carries 10 marks

2:The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer

11. a) List different IC packages and draw the shapes of different IC packages

    b) Define power rating and give power rating of different IC packages
12. Explain the Inverting amplifier configuration of Op-Amp and derive the equation for Voltage Gain
13. Explain the working of Wein-bridge Oscillator circuit using Op-amp
14. Explain the working of Bootstrap sweep circuit using op-amp

15. Explain the working of Astable multivibrator circuit using 555 IC

16. Design a PLL circuit using IC 565 to get free running frequency(f_o) =4.5 Khz.Given Lock range=1.8Khz, Capture range=100Hz. Assume supply voltage=+/- 10V and C_1=0. 01μF.Show the schematic diagram with all component values

17. Explain 4-bit D/A conversion using binary weighted resistors and mention its drawbacks

18. Draw the pin out diagram of MAX1112 serial ADC and explain each pin

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