

Tilak Maharashtra University  
Diploma in Engineering  
SUB: Linear Integrated Circuits (LIC)

Year –SY                  Branch- E&TC                  Semester -4th

Assignment No: 1

**Answer any Five**

- Q1) State & Prove Superposition Theorem
- Q2) What are the basic components of electronics. Explain each with its unit & different type of combination.
- Q3) Write a Short Note ON
1. Application of IC's
  2. Switching regulator
  3. 1C-SG-1524
- Q4) What is 1C? Explain the different classification of IC's Q5) Draw & Explain the Functional Block diagram of 1C 723.
- Q6) What are different types of current limiting techniques. Explain in detail.
- Q7) Describe Audio Power Amplifiers.
- Q8) Draw Explain the block diagram of Audio Power amplifier 1C 810

Assignment No: 2

**Answer any Five**

Q1) Draw & Explain the functional block diagram of 1C 555?

Q2) WRITE A Short Note ON>

- a) 555 timer as a Schmitt Trigger
- b) IDEAL OP-AMP
- c) Passive filter Circuit
- d) Notch filter

Q3) What are the AC & DC characteristics of OP - AMP? Explain each characteristic in detail?

Q4) What are the various application of Passive filter?

Q5) Explain the first & second order of Butterworth Low pass filter.

Q6) What are the difference between Active & Passive filter.

Q7) State the advantage & disadvantage of Active filter.

Assignment No: 3

**Answer any Five**

- Q1) What is Precision Rectifier? Explain in detail its different types.
- Q2) Derive the equation for output voltage of closed loop Non-converting Amplifier
- Q3) Write a Note on:-
- a) Voltage follower
  - b) VIC
  - c) Logarithmic Amplifier
  - d) Schmitt Trigger
  - e) 1C 8038
- Q4) What is Peak detector? What are the different types of Peak detector? How can OP - AMP be used as zero crossing detector
- Q5) Draw the block diagram of PLL & Explain its working ?
- Q6) How the square & Triangular waveforms can be obtain from OP-AMP?