

ROLL No:

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Total number of pages: [1]

Total number of questions: 06

B.Tech. || ECE|| 5<sup>th</sup> Sem

## Linear Integrated Circuits

Subject Code: BTEC-503

Paper ID:

Time allowed: 3 Hrs

Max Marks: 60

### Important Instructions:

- All questions are compulsory.
- Assume any missing data

### PART A (2×10)

Q. 1. Short-Answer Questions:

- Write a short note on All Pass Filter.
- Explain the V-I characteristics of Zener Diode.
- Compare Fixed and Adjustable Voltage Regulators.
- Draw the block diagram of Ideal and Practical OP-amp.
- What is Barkhausen's Criteria?
- Draw the pin diagram of IC 555 Timer.
- What is the function of Voltage Regulator?
- Define CMRR ratio.
- What do you mean by Schmitt Triggering?
- Explain Cascaded amplifier.

### PART B (8×5)

- Q. 2. Evaluate voltage gain for Dual Input Balanced Output differential amplifier. CO1  
OR  
Evaluate Output resistance for SIBO differential amplifier. CO1
- Q. 3. Explain Differential, Inverting and Non-inverting Op-amp in open loop mode. CO2  
OR  
Explain the different techniques to minimize output offset voltage. CO2
- Q. 4. Explain in detail the working and applications of instrumentation amplifier. CO3  
OR  
Explain in detail the working and applications of Wein Bridge Oscillator. CO3
- Q. 5. Utilize the IC 555 timer as Mono-stable Multi-vibrator, Discuss in detail. CO4  
OR  
Design a power supply using Zener diode as a voltage regulator. CO4
- Q. 6. How the Peak Detector used to generate Square wave. CO3  
OR  
Design a Second Order Butterworth High Pass Filter. CO3