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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)**B. Tech III Year I Semester Supplementary Examinations August-2022****LINEAR IC APPLICATIONS**

(Common to EEE & ECE)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 a Compare different configurations of differential amplifier. **L2 6M**
 b Explain the dual input balanced output differential amplifier with a neat circuit diagram. **L2 6M**

OR

- 2 a Draw and explain the various functional blocks of an operational amplifier IC . **L2 6M**
 b Discuss the DC characteristics of an OP-AMP in detail? **L2 6M**

UNIT-II

- 3 a Define input bias current, input offset current and input offset voltage. **L2 6M**
 b Explain about the pole zero frequency compensation network. **L2 6M**

OR

- 4 a Draw and Explain the high frequency equivalent model of the op-amp. **L2 6M**
 b Explain about the unity gain bandwidth product that how influences the frequency response. **L2 6M**

UNIT-III

- 5 a What is voltage follower? What are its features and applications? **L1 6M**
 b Explain & Derive the expression for 2 input subtractor amplifier with circuit diagram. **L2 6M**

OR

- 6 a Write short notes on V-I and I-V converters using op-amps. **L1 6M**
 b Derive the expression of Current to Voltage Converter. **L1 6M**

UNIT-IV

- 7 a Draw and explain the operation of Wein bridge oscillator and derive its frequency expression. **L2 6M**
 b Generate a triangular wave from the square wave with a neat expressions. **L1 6M**

OR

- 8 a Discuss the applications of Astable multivibrator. **L1 6M**
 b Draw the block diagram of PLL and explain its operation. **L1 6M**

UNIT-V

- 9 a Draw and explain the weighted resistor DAC. **L1 6M**
 b Explain about ladder type DAC. **L1 6M**

OR

- 10 Explain about counter type ADC with neat block diagram. **L2 12M**

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