

Reg.No:

--	--	--	--	--	--	--	--	--	--

**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)****B.Tech III Year I Semester Regular Examinations November/December 2018****LINEAR IC APPLICATIONS**

(ECE,EEE)

Time: 3 hours

Max Marks:60

(Answer all Five Units **5 x 12 = 60** Marks)**UNIT-I**

- 1 a Calculate the amplification factor for AC signal input in dual input balanced output differential amplifier? 7M
- b Explain how the constant current bias circuit is replaced by the current mirror circuit? 5M

OR

- 2 a Calculate the amplification factor for AC signal input in single input balanced Output differential amplifier? 7M
- b Discuss the DC characteristics of an OP-AMP in detail 5M

UNIT-II

- 3 a Explain in detail about external frequency compensation techniques with sketches. 7M
- b Explain the internal compensating technique. 5M

OR

- 4 a Calculate the input resistance and output resistance for a voltage shunt feedback amplifier. 7M
- b Explain the term "Slew Rate" and derive the expression for it. 5M

UNIT-III

- 5 a Explain and derive the expression for 3 input summing amplifiers with circuit diagram. 7M
- b Explain the frequency responses of ideal & practical integrator and differentiator circuits 5M

OR

- 6 a Draw the circuit diagram of the instrumentation amplifier and derive the gain. 7M
- b Design a second order low pass filter for a cutoff frequency of 100 Hz and draw the circuit diagram. 5M

UNIT-IV

- 7 a Draw the circuit diagram of RC phase shift oscillator and derive the expression for its frequency of oscillations. 7M
- b Explain the comparator and zero crossing detector. 5M

OR

- 8 a Explain in which the 555 timer can be used as Astable multivibrator. 7M
- b Configure a 555 timer as a Schmitt trigger and explain. 5M

UNIT-V

- 9 a** Draw and explain successive approximation type ADC. 7M
b Explain about the sample and hold circuits. 5M

OR

- 10 a** Draw the circuit diagram of Dual Slope ADC and explain its working with neat sketches 7M
b Explain about ladder type DAC. 5M

*** END ***