Course Code: 1940417 **Roll No:** **MLRS- R19**

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

II B. Tech II Sem Regular End Examination, August 2021

LINEAR IC APPLICATIONS

(ECE)

Time: 3 Hours. **Max. Marks: 70**

Note: 1. Answer any FIVEquestions.
2. Each question carries 14 marks and may have a, b as sub questions.

1	a)	List DC and AC Characteristics of an Op-Amp.	7M	CO1	L1
	b)	Draw the equivalent circuit of an ideal Op-Amp and explain.	7M	CO1	L3
2	a)	Explain about input offset voltage with neat diagram.	7M	CO1	L2
	b)	Define slew rate and how it effects Op-Amp performance and explain.	7M	CO1	L1
3	a)	How Op-amp acts as an Integrator and Differentiator?	7M	CO2	L1
	b)	Explain Schmitt Trigger in detail using 741 Op-amp.	7M	CO2	L1
4	a)	Explain about the Instrumentation Amplifier.	7M	CO2	L1
	b)	With a neat diagram explain low pass filter and derive the expression for output voltage.	7M	CO3	L3
5	a)	Design a first order band pass filter with lower cutoff frequency of 100Hz and a higher cutoff frequency of 1KHz. The pass band gain should be 4. Calculate the 'Q' of the filter	7M	CO3	L4
	b)	Draw the wide band reject filter circuit and also the frequency response of it.	7M	CO3	L4
6	a)	Explain block diagram of PLL emphasizing the capture range and lock in range	7M	CO4	L1
	b)	Design Monostable Multivibrator using 555 timer to produce pulse width of 100 m sec	7M	CO4	L3
7	a)	Draw the block diagram of 555 timer and explain function of each pin of 555 timer	7M	CO4	L4
	b)	With neat sketch explain the operation of Dual slope ADC.	7M	CO5	L3
8	a)	In Detail how the digital information converted to analog by using 4 bit binary weighted resistor method	7M	CO5	L3
	b)	Draw and Explain the circuit operation of successive approximation of ADC	7M	CO5	L3

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