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	Reg. No.:						

Question Paper Code: 91482

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019
Third Semester

Electrical and Electronics Engineering
EE 6303 – LINEAR INTEGRATED CIRCUITS AND APPLICATIONS
(Common to Electronics and Instrumentation Engineering and Instrumentation and Control Engineering)

(Regulations 2013)

Time: Three Hours Maximum: 100 Marks

Answer ALL questions

PART - A

(10×2=20 Marks)

- 1. Classify ICs on the basis of application, device used and chip complexity.
- 2. Mention different available IC package configurations.
- 3. What is meant by input offset current and offset voltage?
- 4. Define CMRR.
- 5. What is sample and hold circuit? Where it is used?
- 6. What is the advantage of using active clipper over passive clipper?
- 7. What is an analog multiplier? Name its applications.
- 8. Draw the circuit diagram of a PLL circuit used as an AM modulator.
- 9. What is SMPS?
- 10. What are the applications of fixed voltage regulator?

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91482 -2-PART - B (5×13=65 Marks) 11. a) i) Describe the Epitaxial growth process. (7) Explain the different types of IC packages. (6)(OR) b) Briefly explain the various process involved in fabrication monolithic IC which integrates diode, capacitance and FET. 12. a) Discuss the frequency response characteristics and compensation of an operational amplifier. b) i) Explain the application of Op-Amp as differentiator. (7) Find V₀ for the given circuit shown in Figure (1). (6) 20 k ₹30 k Figure (1) 13. a) i) Design a second order Butterworth Low pass filter having upper cut-off frequency of 1 KHz. (7) ii) Explain how to measure the phase difference between two signals. (6) (OR) b) i) Draw a sample and hold circuit and explain its operation. (6) ii) Design a circuit of a clipper which will clip the input signal below a reference voltage. (7) 14. a) Briefly explain the functional block diagram of NE 565 PLL-IC to operate as a frequency divider. (OR) b) i) Explain the functional block diagram of 555 timer IC. (6)ii) Design a monostable multivibrator with pulse duration of 1m sec using 555 timer IC. (7)

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18	5. a)	What do you mea its various applica	n by the fixe	ed voltage an	id variable voltag	ge regulator ? List	
			(OR)				
	b)	Write short notes	on:				
		i) LM380 Power	Audio Amp	lifier.			(7)
		ii) ICL 8038 Fun	ction Genera	ator.			(6)
				PART – C		(1×15=15 Mar	ks)
1	6. a)	Develop an op-an	np based circ	cuits to perfo	rm following mat	thematical operatio	ns:
		i) Integration					(5)
		ii) Logarithmic					(5)
		iii) Multiplication	1.				(5)
			(OR)			۳	
	b)	Develop an op-ar	np based ins	strumentatio	n amplifier for in	dustrial application	is.
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