

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025****Fourth Semester****Electrical and Electronics Engineering****EE3402 - Linear Integrated Circuits****Regulations -2021****Duration : 3 Hrs****Maximum : 100 Marks****PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

Q.No	Questions	BLT	CO	Marks
1.	Give the classification of integrated circuits.	L1	1	2
2.	Compare masking and etching in integrated circuits fabrication.	L2	1	2
3.	Specify the characteristics of an ideal operational amplifier.	L2	2	2
4.	Differentiate inverting and non-inverting operational amplifier.	L2	2	2
5.	Write the significance of peak detector circuit.	L1	3	2
6.	Distinguish clipper and clamper circuits.	L2	3	2
7.	State the function of a voltage-controlled oscillator.	L2	4	2
8.	Mention the applications of analog multiplier.	L1	4	2
9.	Name the amplifier used in application of load cell weight measurement.	L1	5	2
10.	List the types of voltage regulators with examples.	L1	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11.	a Describe the fundamental steps in monolithic IC fabrication with their associated functions.	L2	1	16
	Or			
	b Describe the processes involved in fabrication of FET and PV cell in detail.	L2	1	16
12.	a Explain the working of an inverting amplifier and derive its voltage gain equation.	L2	2	16
	Or			
	b Explain the working of differentiator and integrator using operational amplifier in detail.	L2	2	16
13.	a Discuss the working of an instrumentation amplifier with their applications.	L3	3	16
	Or			
	b Discuss the principle of analog to digital conversion using operational	L3	3	16

amplifier.

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| 14. | a | Describe the working of 555 timer in monostable and astable modes with their characteristics. | L3 | 4 | 16 |
| | | Or | | | |
| | b | Describe the working of the phase locked loop IC 565 with their applications. | L3 | 4 | 16 |
| 15. | a | Discuss the working characteristics of LM78XX and LM79XX voltage regulators with their applications. | L2 | 5 | 16 |
| | | Or | | | |
| | b | Discuss the working principle of ICL 8038 function generator IC with their applications. | L2 | 5 | 16 |