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R-17

Code: 7G353

III B.Tech. I Semester Supplementary Examinations March/April 2023

Analog & Digital Integrated Circuits Applications

(Electronics and Communication Engineering)

Max. Marks: 70

Time: 3 Hours

Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)

		Marks	CO	BL
UNIT-I				
1.	Discuss about Inverting & Non- Inverting Op-Amp circuits and derive the expression for the gain.	14M	CO1	L2
OR				
2.	Discuss the characteristics of instrumentation amplifier with the circuit and derive the expression of voltage gain.	14M	CO1	L2
UNIT-II				
3.	Explain the operation of mono stable multi vibrator using 555 timers and derive the expression of time delay	14M	CO1	L2
OR				
4. a)	Discuss about advantages and disadvantages of Flash ADC over successive approximation type ADC	6M	CO1	L2
b)	Summarize the working principle of R-2R ladder DAC	8M	CO1	L2
UNIT-III				
5.	Analyze the working of CMOS Inverter and its characteristics.	14M	CO2	L4
OR				
6.	Discuss about the CMOS Dynamic Electrical Behavior.	14M	CO2	L3
UNIT-IV				
7.	Explain with neat structure of 8X3 encoder with the VHDL program for standard IC 74x148.	14M	CO3	L2
OR				
8. a)	List out the advantages of Combinational Circuits	6M	CO2	L1
b)	Design Full adder using half adders.	8M	CO2	L6
UNIT-V				
9.	Apply VHDL methodology to D flip-flop and SR flip-flop.	14M	CO3	L3
OR				
10. a)	Evaluate the Characteristic equations of SR and JK Flip-Flops.	7M	CO3	L5
b)	Solve JK flip-flop into D Flip-Flop.	8M	CO3	L3
