

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
Diploma Engineering, Mid semester Examination

Semester:
Subject Code: 03608353
Subject Name: VLSI

Date: 19/01/2023
Time: (1hr: 30min)
Total Marks: 40

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version is considered to be Authentic.

Q.1	Answer any six out of Ten. (2 Marks Each)	(12)	Co/Po Name	Blooms Taxonomy Words
	1. Define: Modularity		CO1	knowledge
	2. Define: Locality		CO1	knowledge
	3. Define: Regularity		CO1	knowledge
	4. Define: MOSFET Scaling		CO1	knowledge
	5. Define: Inverse region		CO1	knowledge
	6. Define: Accumulation region		CO1	knowledge
	7. Define: Depletion region		CO1	knowledge
	8. Write Advantage of Integration Circuits.		CO2	Understand
	9. Write Full form of MOSFET and IGFET?		CO2	Understand
	10. Write Four Generations of Integration Circuits?		CO2	Understand
Q.2	A) Explain P Channel Depletion MOSFET.	(03)	CO2	Understand
	OR			
	A) Explain N Channel Depletion MOSFET.	(03)	CO2	Understand
	B) Write short note on VLSI Design style for FPGA.	(03)	CO3	Apply
	OR			
	B Write short note on VLSI Design style for Gate Array.	(03)	CO3	Apply
	C) Write short note on Constant Field Scaling	(04)	CO3	Apply
	OR			
	C) Write short note on Constant Voltage Scaling.	(04)	CO3	Apply
	D) Write short note on MOSFET Capacitance.	(04)	CO3	Apply
Q.3	A) Explain P Channel Enhancement MOSFET.	(03)	CO3	Apply
	OR			
	A) Explain N Channel Enhancement MOSFET.	(03)	CO2	Understand
	B) Explain VLSI design flow using Y- chart.	(03)	CO2	Understand
	OR			
	B) Explain VLSI design flow using Flow chart.	(03)	CO2	Understand
	C) Write short note on VLSI Design style for Standard-cell based.	(04)	CO4	Analyze
	OR			
	C) Write short note on Design quality	(04)	CO4	Analyze
	D) Difference between Full custom and semicustom.	(04)	CO4	Analyze

