



	InSem Examination-II Summer2024		
	Exam Seat No.:		
	Academic Year:2023-2024	Semester:IV	
	Name of Programme: S.Y.B.Tech	Pattern:2022	
	Name of Course: VLSI Design and Technology	Course Code: ETC222013	
	Max. Marks:30	Duration:1Hr	

	<p>Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.</p> <ol style="list-style-type: none">1. This question paper contains 2 page(s).2. Answer to each new question is to be started on a new page.3. Assume suitable data wherever required, but justify it.4. Draw the neat labelled diagrams, wherever necessary.5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.	
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Question No. 1 Attempt following Question

- a) Compare PROM, PLA and PAL (7) CO1

OR

- b) Describe with neat diagram AND-OR structure of PLA and PAL (7) CO1

- c) Implement the following output functions using a suitable PLA. (8) CO1

$$F1(A,B,C,D) = m(3,7,8,9,11,15) \quad F2(A,B,C,D) = m(1,5,7,11,15)$$

OR

- d) Implement following function using PROM (8) CO1

$$F1(A, B, C) = m(0, 3, 4, 7) \quad F2(A, B, C) = m(1, 2, 5, 7)$$

Question No. 2 Attempt following Question

- a) Design and implement a one bit Full Adder in Structural modeling (7) CO2

OR

- b) Design and implement a 2:1 Multiplexer in Structural modeling (7) CO2

- c) Find the value of following expressions if the two unsigned variables $A=4'b1101$ and $B=4'b1001$ (8) CO2
i) $\{A \& B\}$ ii) $(A \parallel B)$ iii) $\{4\{A\}, 2\{B\}\}$ iv) $B \gg 2$

OR

d) What is Verilog HDL? What are the major capabilities of Verilog HDL

(8) CO2

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