QP

Total No. of Questions – [2] Total No. of Printed Pages: 1

G.R. No.	

PAPER CODE	V124-395

March 2024 (INSEM) EXAM

F.Y.B. TECH. (E&TC) (SEMESTER - II)

COURSE NAME: Digital Electronics

COURSE CODE: ET12235

(PATTERN 2023)

Time: [40 min] [Max. Marks: 20]

(*) Instructions to candidates:

1) **Figures to the right indicate full marks.**
2) **Use of scientific calculator is allowed**
3) **Use suitable data wherever required**
4) **Solve any two sub questions from Question 1 and 2**

Question No.	Question Description	Marks	CO mapped	Blooms Taxonomy Level
Q.1	**a)** Convert following numbers in decimal i) 54_{16} ii) 145_8 iii) $(10011001)_2$	[5]	1	Understand
	Perform Subtraction of following using 2's complement method 56 and 27		1	Apply
	b) Simplify the following Boolean expressions using the Boolean algebra rules and theorems. $i)[A\overline{B}(C+BD+\overline{A}\overline{B})]C$	[5]	1	
	c) Realize 1-bit full subtractor circuits using K-map. (use Logic gates only)	[5]		Apply
Q2	**a)** Design a 5-bit comparator using a single 7485 IC and one gate	[5]	2	Design
	b) Design a 16:1 mux using two 8:1 Mux Implement following using 8:1 Mux $f(A, B, C) = \sum m(0,2,3,5,6)$	[5]	2	Design
	c) Design a logic circuit for **4-bit** Gray code to binary code conversion.	[5]	2	Design