

QP Code: D 123107		Total Pages: 2	Name:
			Register No.
SECOND SEMESTER (CUFYUGP) DEGREE EXAMINATION, APRIL 2025			
ELECTRONICS			
ELE2MN101 – FUNDAMENTALS OF DIGITAL ELECTRONICS			
2024 Admission onwards			
Maximum Time :2 Hours			Maximum Marks :70
Section A			
All Questions can be answered. Each Question carries 3 marks (Ceiling : 24 Marks)			
1	Convert the hexadecimal number ABA2 to decimal number and binary number.		
2	Draw the symbol of (i) XNOR and (ii) OR. Give the truth tables also.		
3	Implement the XOR gate using NAND gates only.		
4	Explain DeMorgan's Theorems.		
5	Express the following Boolean expression into standard POS form. $F = (A + C)(B' + C)(A' + B)$		
6	What is a decoder? Explain.		
7	What is the difference between edge triggering and pulse triggering?		
8	Draw the logic diagram of Johnson's counter.		
9	Write a note on multiplexers.		
10	Differentiate volatile and non-volatile memory.		
Section B			
All Questions can be answered. Each Question carries 6 marks (Ceiling : 36 Marks)			
11	Simplify the given expression using Boolean Algebra. $F(A,B,C) = A'B'C + A'BC' + AB'C' + ABC$		
12	Design a full adder and realize using logics gates.		
13	Draw the logic circuit of a 1:4 demultiplexer. Explain its operation.		
14	Draw the logic circuit of serial in serial out shift register and explain its operation.		
15	Explain the logic circuit of 2-bit synchronous counter.		
16	Explain a single RAM cell with a logic diagram.		
17	Explain the write operation in a single bit memory.		
18	What are the different types of ROM? Explain.		

Section C	
Answer any ONE .Each Question carries 10 marks (1x10=10 Marks)	
19	Minimize the following function using Karnaugh map. $f(A, B, C, D) = \sum m(0, 1, 5, 7, 8, 9, 13, 15)$
20	What is a flip flop? Explain SR and D flip flops with the logic diagram and truth table.