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Semester III (B.Tech.)

Er. No.....

Academic Year: 2021-22

Jaypee University of Engineering & Technology, Guna

T-2 (Odd Semester 2021)

18B11EC311 – DIGITAL SYSTEMS AND MICROPROCESSOR

14B11EC317 - DIGITAL ELECTRONICS

Maximum Duration: 1 Hour 30 Minutes | Maximum Marks: 25

Notes:

1. This question paper has five questions.
2. Write relevant answers only in proper order.
3. Do not write anything on question paper (Except your Er. No.).

		Marks
Q1.	Solve the following function using Quine McCluskey Method and find the Prime Implicants (PI) and Essential Prime Implicants (EPI). $f(a, b, c) = \sum m\,(1, 3, 4, 5, 7) + d\,(0, 2)$	**[05]**
Q2.	Design a 4-bit carry look ahead generator and draw its circuit diagram using gates.	**[05]**
Q3.	Implement full adder using 3x8 decoder and draw its circuit diagram using AND, OR and NOT gates only.	**[05]**
Q4. (a)	Explain Half adder and Full adder? State with the help of truth table and circuit diagram.	**[2.5]**
(b)	Give the model design of a 2 - bit magnitude comparator circuit using logic gates.	**[2.5]**
Q5. (a)	Convert $(3.625)_{10}$ to 8 - bit floating point number.	**[2.5]**
(b)	Convert $(F6)_{16}$ 8- bit floating point number to decimal number.	**[2.5]**

A 10
B 11
C 12 - 1100
D 1101
E
F - 1111