

BHAGWAN MAHAVIR COLLEGE OF ENGG. & TECH. SURAT

**ELECTRONICS DEPARTMENT
ACADEMIC YEAR 2015-16
B.E. 2nd SEMESTER**

**SUBJECT: BASIC ELECTRONICS
SUBJECT CODE: 2110016**

ASSIGNMENT: 1

1	The equivalent Decimal of the BCD (001110001001)BCD is_____. (a) (388)10, (b) (386)10, (c) (380)10, (d) (389)10
2	Which are the logic gates known as a Universal Gates? (a) XOR, AND, (b) AND, OR, (c) NAND, NOR, (d) XNOR,OR
3	For the switching function $F = A(A'+B)$, draw a corresponding set of logic blocks and write the truth table.
4	Reduce the given function using K-map. $F(A,B,C,D) = \sum m_i (1,3,5,7,8,9,13,14)$.
5	Write Short note on SR flip flop with circuit diagram and truth table.
6	The output of a logic gate is '1' when all its input are at logic 0. The gate is either (a) NAND or an EX OR gate (b) NOR or an EX-NOR gate (c) an OR or an EX NOR gate (d) an AND or an EX-OR gate
7	Reduce the given function using K-map, $F = \sum m_i (1,3,5,9,11,13)$
8	Write Short note on D flip flop with circuit diagram and truth table.
9	The logic gate which detects equality of two bits is (a) EX-OR (b) EX-NOR (c) NOR (d) NAND
10	The basic building block for a logical circuit is _____ (a) A flip flop (b) A logical gate (c) An Adder (d) None of the above
11	Obtain a minimum Boolean expression for $F(A,B,C,D) = \sum m_i ((1, 3, 4, 5, 6, 7, 10, 12)$
12	For the logic expression $Z = \overline{A}B + A\overline{B}$ (i) Obtain the truth table. (ii) Name the operation performed (iii) Realize this operation using AND, OR, NOT gates (iv) Realize Same operation using only NAND gates
13	Explain 3 bit synchronous up counter.

Date Of Completion :15/3/2017