Q. 1 GENERIC Type Multiple choice Points 1

How many different numbers can be represented with 30 bits?

- $(4294967295)_{10}$
- $(4294967296)_{10}$
- $(1073741824)_{10}$
- $(1073741823)_{10}$

Q. 2 GENERIC Type Multiple choice Points 1

What is the largest unsigned 30-bit binary number?

- $(4294967295)_{10}$
- $(4294967296)_{10}$
- $(1073741824)_{10}$
- $(1073741823)_{10}$

Q. 3 GENERIC Type Multiple choice Points 1

What is the largest 2's complement 30-bit binary number?

- $(536870912)_{10}$
- $(536870911)_{10}$
- $(2147483647)_{10}$
- $(2147483648)_{10}$

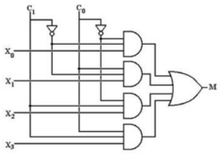
Q. 4 GENERIC Type Multiple choice Points 1

What is the complement of the Boolean expression AB(B'C + AC)?

- (A' + B') + (B + C') (A' + C')
- (A' + B') + ((B'C)' (AC)')
- (A + B)(B' + C)(A + C)
- (A' + B')(B + C') + (A + C')

Q. 5 GENERIC Type Multiple choice Points 1

In the following combinational circuit, what is the output at M with $C_1 = 1$ and $C_0 = 0$?



- X_0
- X_1
- X_2
- X_3

Q. 6 GENERIC Type Multiple choice Points 1

(A xor B) xor B = ?

- All ones
- All zeros
- A
- B

Q. 7 GENERIC Type Multiple choice Points 1

Half Adder combinational circuit requires _____

- two binary inputs.
- two binary outputs.
- both two binary inputs and two binary outputs.
- none of the above.

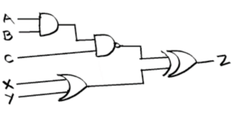
Q. 8 GENERIC Type Multiple choice Points 1

Combinational circuits do not have _____.

- gates
- memory elements
- power source
- none of the alternatives are correct

Q. 9 GENERIC Type Multiple choice Points 1

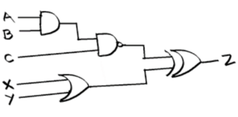
Each gate of the following circuit has a propagation delay of 100 picoseconds and a contamination delay of 50 picoseconds. What is the contamination delay of the circuit?



- 50 picoseconds
- 100 picoseconds
- 150 picoseconds
- 200 picoseconds

Q. 10 GENERIC Type Multiple choice Points 1

Each gate of the following circuit has a propagation delay of 100 picoseconds and a contamination delay of 50 picoseconds. What is the propagation delay of the circuit?



- 100 picoseconds
- 200 picoseconds
- 300 picoseconds
- 400 picoseconds