CIT292

In Boolean algebra, the OR operation is performed by _____ properties

All of the options

Which of the following represents DeMorgan’s theorem?

(AB)’ = A’ + B’

A Karnaugh map (K-map) is an abstract form of _____ diagram organized as a matrix of squares.

Venn

A product term containing all K variables of the function in either complemented or uncomplemented form is called a _____.

Minterm

Canonical form is a unique way of representing_____

Boolean expressions

A full adder logic circuit has _____.

Three inputs and two outputs

Exclusive-OR (XOR) logic gates can be constructed from which of the following logic gates?

AND gates, OR gates, and NOT gates

The _____ function can be used to enable.

AND

Boolean algebra is also called _____

Switching algebra

First operator precedence for evaluating Boolean expressions is ____

( )

In a ____ counter all the Flip-flops will change states simultaneously

parallel

Any Boolean function can be represented in a

Truth table

In D flip-flop, if clock input is LOW, the D input

Goes high

Which of the following expression depicts complement of the expression A’B + CD’ ?

(A + B’)(C’ + D)

The Octal to binary conversion of 248 = ?

1111002

A Boolean function is said to be in a _____ form if a sum-of-products expression or a product-of-sums expression has at least one term that is NOT a minterm or a maxterms respectively

standard

Odd parity of word can be conveniently tested by ___ gate.

XOR

The code where all successive numbers differ from their preceding number by single bit is ___.

Excess 3

_____ circuit is generated from D flip-flop due to the addition of an inverter by causing reduction in the number of inputs.

Gated D-latch

How many types of sequential circuits do we have?

2

In a NAND based S’-R’ latch, if S’=1 and R’=1 then the state of the latch is:

No change

Boolean algebra is an algebraic structure with _____ arithmetic operations

Two

____ is an odd function

Exclusive-OR

X+0=0+x =x is an example of ___ property

Commutative

Which of the following is not one of the arithmetic operations of Boolean algebra?

subtraction

Which of the following logic families has the shortest propagation delay?

AS-TTL

A Boolean function can be converted from algebraic expressions to a product of maxterms by using ____

Canonical Conversion Method

LED seven-segment display uses seven individual ----------

Light emitting diodes

Which of the following combinational circuits is renowned for selecting a single input from multiple inputs and directing the binary information to output line?

Data Selector

Minterms are also referred to as Standard _____

product

The gates required to build a half adder are ____.

EX-OR gate and AND gate

A universal logic gate is one which can be used to generate any logic function. Which of the following is a universal logic gate?

NAND

The difference between half adder and full adder is that

Half adder has two inputs while full adder has three inputs

_____ is the process involved in recording music or any audio in a recorder.

Encoding

A variable on its own or in its complemented form is known as a _____

Literal

Using the transformation method you can realize any POS realization of OR-AND with only ____

NOR
Code is a symbolic representation of _____ information.

Discrete
A three-digit decimal number requires ____ number of bits for representation in the conventional BCD format.

12
An encoder can be a transducer. TRUE or FALSE?

TRUE
The process of representing numbers, letters or words by a special group of symbols is called _____

Encoding
The bistable element has ____ symmetrical nodes

two
The action of clearing a Flip-Flop is also called ____.

resetting
To perform product of maxterms, Boolean function must be brought into ____ terms.

OR
A Boolean function may be transformed into _____ diagram

logical
Boolean algebra is defined as a set of Two _____

values
A helpful illustration used to visualize relationships among variables of Boolean expression is _____ diagram

Venn
NAND is a complement of _____

AND
Inverter circuit inverts logic sense of _____ variable

Boolean
+ symbol represents ____ operation

OR
Truth table is way of expressing _____ function

Boolean
Symbol representing AND operation is _____

.
In the equation a*b=c, * is the binary _____

operator
Complement of function F is written as _____

F'
The D flip-flop has _____ input.

1
The truth table for an S-R flip-flop has how many VALID entries?

3
(X')' is a _____ complement

dual
In D flip-flop, D stands for _____

Delay
The D flip-flop has how many output?.

2
In ____ systems, the outputs of logic circuits can change state any time that one or more of the inputs change.

asynchronous
At every active edge of the clock, the ___ flip-flop will load in a new value.

D
The characteristic of J-K flip-flop is similar to _____ flip-flop

S-R
NOR is a complement of

OR
It is not possible to find two algebraic expressions that specify same function? TRUE or FALSE?

FALSE
An encoder can be referred to as multiplexer. TRUE or FALSE?

TRUE
A J-K flip-flop is said to have _____, if J=1, K=1.

toggle
Boolean algebra is collection of objects having _____ properties.

Common
According to Boolean algebra Involution law, (Y')' = ____

Y

In parts of the processor, _____are used to calculate Addresses, Table indices, and increment or decrement operators

adders

_____ subtractor is used to perform subtraction of 3 bits

Full

A single _____ can be used to build the ‘NOT’ digital logic gates

transistor