Definations

Signal: A function that represents the variation of a physical quantity with respect to any parameter.

Signal is a variation of electrical quantity with respect to time

Analog signal: It is a continuous signal that varies smoothly over time.
sound waves, voltage signals etc.

Discrete signal: It is a signal whose values are defined at distinct points in time.
digital signals.

Digital signal: It is a discrete time signal where the values are represented using discrete digits or symbols.

Boolean Algebra: It is the set of rules used to simplyfy the given logic expression without changing its functionality.

Number System: It is a set of values defined to represent quantity.

Parity: It is a concept to detect errors in transmitted data.

Logic Gates: It is a physical device which performs logic operation on one or more logical inputs and produces a single output.

K Map: A Karnough Map is a graphical representation tool used in digital logic to simplyfy boolean ~~alg~~ algebra expressions and aid in the minimization of logic functions.

Implicant: An implicant is a product term that covers at least one minterm in a k-map or truth table. [Group of 1's]

Prime implicant: A prime implicant is an implicant that can't be further reduced or combined with other implicants to cover the same set of minterms.

Essential Prime implicant: An essential prime implicant is a prime implicant that covers at least one minterm that no other prime implicant covers.

1's complement: It is the process of negating a binary number by flipping all the bits.

Duality property: It refers to a mathematical relationship between two concepts or operations where certain properties or statements hold true when one concept is replaced by its dual counterpart

Don't care condition: It refers to situations where the output value is not crucial or irrelevant for certain input combinations.