NUMBER SYSTEM

Digits

The symbols 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 are known as **digits** in hindu Arabic system.

Numbers or numerical

Mathematical symbols which represent the digits are known as **numbers or numerical.**
Ex: 11, 945, 385, 1,255………

Types of numbers

- Natural numbers   *   Whole numbers

- Integers   *   Rational numbers

- Even numbers   *   Odd numbers

- Prime numbers   *   Composite numbers

- Rational numbers   *   Irrational numbers

Natural numbers

The counting numbers are called natural numbers

N = {1, 2, 3, 4, 5…….}

Whole numbers

Natural numbers along with 0(zero) are called whole numbers.

W = {0,1, 2, 3, 4, 5…….}

Integers

All whole numbers and their negative numbers are called integers.

Z or I = {.......−2, −1, 0,1, 2,..........}

Rational numbers

Numbers in the form of   , where p, q are integers and q $\neq$ 0 are called rational numbers

Ex: ½, ¼ , …. etc

Even numbers

Numbers which are divisible by 2 are called even numbers.

(OR)

The numbers which are having 0, 2, 4, 6, and 8 in the unit place are called even numbers.

{2, 4, 6, 8, 10, 12, ………}

Ex: 24, 1352. 45116. 17990…etc

Odd numbers

Numbers which are not divisible by 2 are called Odd numbers.

(OR)

The numbers which are having 1, 3, 5, 7, and 9 in the unit place are called Odd numbers.

{1, 3, 5, 7, 9, 11, 13, ……}

Ex: 49, 245, 9543, 84021…etc

Prime numbers

The numbers which are divisible by one and itself are called prime numbers.
{2, 3, 5, 7, 11, 13, 17, 19……..}

Composite numbers

The numbers which are divisible by more than two numbers are called composite numbers.

Except prime numbers all remaining numbers are composite numbers.

{4, 6, 8, 9, 10, 12, 14, 15, 16, ...}

NOTE:

- 1 is the first and smallest natural number.
- 0 is neither positive nor negative.
- 0 is neither even nor odd.
- 2 is the smallest even number.
- 1 is the smallest odd number.
- 2 is the only even prime number.
- 4 is the smallest composite number.
- 1 is neither prime nor composite number.