NUMBER SYSTEM

Number	Numeral	Numeration
31	31	Thirty one

- **A numeral** is a symbol representing a given number **and numeration** represents that in words.
- **HINDU ARABIC SYSTEM OF NUMERATION: Ex: 98, 76, 54, 321**

10 Crore	Crore	10 Lakh	Lakh	10 Thousand	Thousand	Hundred	Tens	Ones

- **INTERNATIONAL SYSTEM OF NUMERATION : Ex: 987, 654, 321**

100 Million	10 Million	Million	100 Thousand	10 Thousand	Thousand	Hundred	Tens	Ones

Place Value is the value of the digit according to its position .
Ex: **Place value of 6 in 4603 is 600**

Phase Value of every digit used in the number is digit itself.
Ex: **Phase value of 6 in 4603 is 6.**

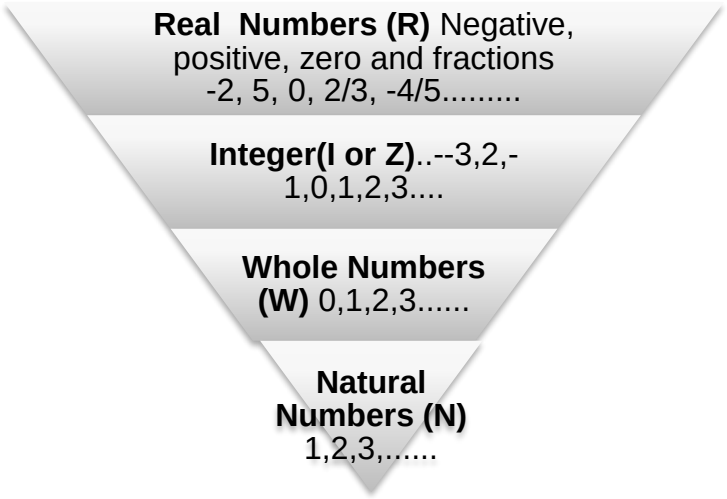
Approximation is the value or quantity that is nearly but not exactly same as the original one. If the value of the digit is greater than or equal 5 then round off to the next place value else round off to previous value

Ex: The table below shows approximation of 12345 to different place values

Approximation to 10000	Approximation to 1000	Approximation to 100	Approximation to 10	Approximation to 1
10000	12000	12300	12350	123456

NUMBER SYSTEM

(i)	• Including zero (0): To obtain the smallest digit from given digits put zero to extreme left and put digits in the increasing order from extreme left place value	Ex: Given 0,1,2,3,4,5,6 Number = 0123456
(ii)	• Excluding zero (0): To obtain the smallest digit from given digits put digits in the increasing order from extreme left place value	Ex: Given 1,2,3,4,5,6 Number = 123456
(iii)	• Including zero (0): To obtain the greatest digit from given digits put zero to extreme right and put digits in the decreasing order from extreme left place value	Ex: Given 0,1,2,3,4,5,6 Number = 6543210
(iv)	• Excluding zero (0): To obtain the greatest digit from given digits put digits in the decreasing order from extreme left place value	Ex: Given 1,2,3,4,5,6 Number = 654321



"TESTS OF DIVISIBILITY"

- **Division by 2:** The last digit should be divisible by 2. Ex 52
- **Division by 3:** The sum of its digit is divisible by 3.
  Ex 192 (1+9+2=12 is divisible by 3)
- **Division by 4:** The last two digits should be divisible by 4. Ex 172
- **Division by 5:** The last digit should be either 0 or 5.Ex 65,90
- **Division by 10:** The last digit should be 0. Ex 1120

Even Natural Numbers (E) : Natural numbers divisible by 2**. E = { 2,4,6,8,10,12,14.....}**

Odd Natural Numbers (O) : Natural numbers which are not divisible by 2 **0= { 1,3,5,7,9.....}**

Prime Natural Number (P) : A natural number that is greater than 1 and divisible only by itself and 1 is called prime number. **P= { 2,3,5,7,10.....}**