A set is a collection of definite well defined objects.
A set is a collection of objects which are distinct from each other.

A set is usually denoted by capital letter, i.e, A, B, S, T, G etc.
A set elements are denoted by small letter, i.e, a, b, s, t etc.

CONSTRUCTION OF SET:

In construction of set, two methods are commonly used-

1) Roster Method (Enumeration): In this method we prepare a list of objects forming the set, writing the elements one after another between a pair of curly brackets.
For example:
A = {a, b, c, d}.

2) Description Method: In this method we describe the set in symbolic language.
For example:
A set of integer numbers which is divisible by 3 is written as,
A = {x : x is an integer divisible by 3}

TYPES OF SET:

1) Singleton set: If a set consisting only 1 element is known as singleton set.
For example:
A = {a}.

2) Finite set: If a set consisting finite number of elements is known as finite set.
For example:

A = {2, 4, 6, 8}.

3) Infinite set: If a set consisting infinite number of elements is known as infinite set.

For example-

The set of all natural numbers.

A = {1, 2, 3,……}

4) Equal sets: Two sets A and B consisting of the same elements is known as equal set.

For example:

A = {a, b, c, d} and

B = {a, b, c, d}

5) Empty set: If a set consisting no elements is known as empty set or null set or void set.

For example:

A = { ∅ }

6) Subset: Suppose A is a given set, and any set B exist exist whose elements are also an element of A,than B is called subset of A.

For example:

A = {1, 2, 3, 4, 5, 6, 7, 8} and B = {2, 4, 6, 8}

Than, B ⊆ A. (read as B is the subset of A)

Now take another example;

A = {1, 2, 3, 4, 5, 6, 7, 8} and B = {1, 2, 3, 4, 5, 6, 7, 8}

Than, B ⊆ A. (read as B is the subset of A)

7) Proper Subset: If B is the subset of A, and B≠A, then B is proper subset of A.

For example:

A = {1, 2, 3, 4, 5, 6, 7, 8} and B = {2, 4, 6, 8}

Than, B ⊂ A. (read as B is the proper subset of A)

8) Power set: The set of all subset of a set A, is known as power set of A.

For example:

A = {a, b, c}

Than

Power set,P(A) = {{∅ }, {a}, {b}, {c}, {d}, {ab}, {ac}, {ad}, {bc}, {bd}, {cd}, {abc}}

Related Posts:

1. Mathematical induction
2. Relation
3. Net 34
4. prove that- AX(B∩C) = (AXB) ∩ (AXC)
5. Prove that- A∩(B∪C) = (A∩B) ∪ (A∩C)
6. prove that – (A∩B)X(C∩D) = (AXC)∩(BXD)
7. Show that- (P∩Q)X(R∩S) = (PXR)∩(QXS)
8. Binary operations
9. Algebraic structure
10. Group
11. Show that (…, -4, -3, -2, -1, 0, 1, 2, 3, 4,…} is group
12. Show that a*b=b*a
13. if a*c = c*a and b*c = c*b, then (a*b)*c = c*(a*b)
14. Undirected Graph and Incident Matrix
15. Prove the following by using the principle of mathematical induction for all n ∈ N, $1^3 + 2^3 + 3^3 + … + n^3 = [n (n + 1)/2]^2$
16. Prove that G={−1,1,i,−i} is a group under multiplication.

17. Hasse diagram for the “less than or equal to” relation on the set S= { 0,1,2,3,4,5}