Probability

**History:**

The foundation of probability were laid by two French mathematicians of the seventeenth century –Blaise Pascal (1623-1662) and Pierre De Fermat (1601-1665).

**Probability:**

A numerical measure of the chance that an uncertain event will happen is called probability.

For example**:** toss a coin, draw a card, and throw a dice.

It is clear what we mean when we make a statements of the type that it is likely to rain today. Or I have a fair chances of passing the annual examination.

**Set:**

A set is well defined collection or list of distinct objects and the term distinct means that each object must appear only once.

For example: a group of students, the books in the library.

**Members/Elements**:

The objects that are in a set are called members or elements of that set.

Sets are usually denoted by capital letters such as A,B,,C,Y. while there elements are represented by small letters such as a,b,c,d,y.

A={a,b,x,y} or B={1,2,3,4,7} where A and B are two sets and a,b,x,y are the elements/member of set A and 1,2,3,4,7 are the elements of set B.

The number of a set A, written as n(A) .

If A= {a,b,x,y} then the total elements of set A are 4 then n(A)=4

**Random Experiment :**

**Experiment:**

The term experiment means a planned activity or process whose results yield a set of data.

A single performance of an experiment is called a **trial**. The results obtained from an experiment or trial is **called an outcome**

**Random Experiment:**

An experiment which produces different results even though it is repeated a large number of times under essentially similar conditions, is called a random experiment

For example. The tossing of fair coin,

Throwing a balanced dice.

**Sample Space:**

A set consisting of all possible outcomes that can result from a random experiment is called sample space.

**Example :**

1. If we throw a dice.

A={1,2,3,4,5,6} sample space

All possible out comes of our experiment

1. If we toss a single coin there are two possible outcomes of the experiment head or tail.

So the sample space will be

B= {H, T} where H is head and T is tail.

**Assignment**

S= {ball, pen, table, coin, die, card, book}.

A={1,3,5,7,8,9,0,4,2,12}

B= {book,city,clock,teacher}

Write the elements of each set and find out n(A),n(B) and n(S).