

## Probability

**Probability:** A mathematically measure of uncertainty is known as probability.

**Random Experiment:** An experiment in which all possible outcomes are known and exact Outcome can be not be predicted, is called a random experiment.

**Eg.** Rolling an unbiased dice has all six outcomes (1, 2, 3, 4, 5, 6 ) known but exact outcome can be predicted.

**Outcome:** The result of a random experiment is called an outcome.

**Sample Space:** The set of all possible outcomes of a random experiment is known as sample space.

eg . The sample space in throwing of a dice is the set (1, 2, 3, 4, 5, 6)

**Trial :** The performance of a random experiment is called a trial.

eg. The tossing of a coin is called trial

**Event:** An event is a set of experimental outcomes, or in other words it is a subset of sample space.

eg. On tossing of a dice, let A denotes the event of even number appears on top A: { 2, 4, 6 }

**Mutually Exclusive Events :** Two or more events are said to be mutually exclusive if the occurrence of any one excludes the happening of other in the same experiment.

eg. On tossing of a coin it head occur, then it prevents happing of tail, in the same single experiment.

**Exhaustive Events :** All possible outcomes of an event are known as exhaustive events.

eg. In a through of single dice the exhaustive events are six { 1, 2, 3, 4, 5, 6 }

**Equally Likely Event :** Two or more events are said to be equally likely if the chances of their happening are equal.

eg. In throwing of an unbiased coin, result of Heat and Tail is equally likely.

Playing Cards:

(1) Total number of card are 52.

(2) There are 13 cards of each suit named Diamond, Hearts, Clubs and Spades

(3) Out of which Hearts and diamonds are red cards.

(4) Spades and Clubs are black cards

(5) There are **four face cards each in number four Ace, King, Queen and Jack**

**Black Suit Card- (26)**

**i) Spade (13)**

**ii) Club (13)**

**Red Suit Card-(26)**

**i) Diamond (13)**

**ii) Heart (13)**

(6) Each Spade, Club, Diamond, Heart has 9 digit cards 2, 3, 4, 5, 6, 7, 8, 9 and 10

(7) There are **4 Honors cards each Spade, Club, Diamond, Heart** contains 4 numbers of Honours cards Ace, King, Queen and Jack