

# **Diploma in Business Administration**

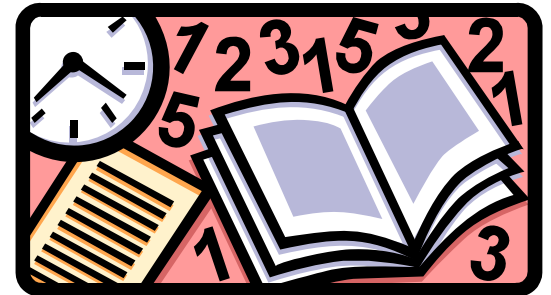


## **Business Statistics**

# Objectives of Subject

- Achieve an overall understanding on how and why statistics and mathematics are used in economic and business decisions.
- Demonstrate the ability to collect, present, analyze and interpret quantitative data using standard statistical techniques.





# Probabilities

## Learning outcomes:

- To be able to explain the concept and theory of probabilities.
- Be able to recognize and solve problems involving conditional probability.

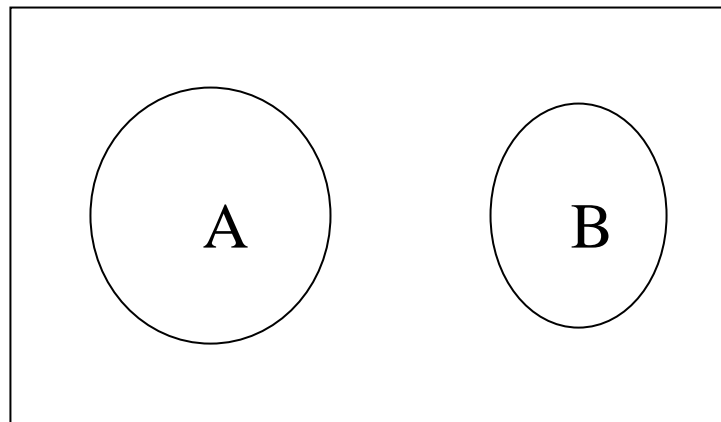


# Introduction

- **Experiment** : Is any process that allows investigators to obtain observation.
- **Event** : Is the collection of outcomes of an experiment
- **Sample space** : Consist of all possible outcomes that cannot be broken down further

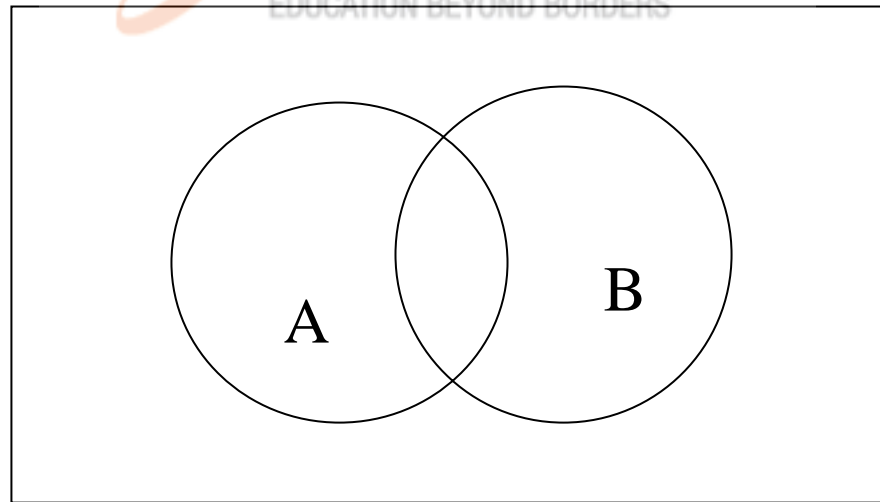
# Mutually Exclusive Events

Two events A and B are said to be mutually exclusive if the occurrence of one event excludes the occurrence of the other event and vice-versa.



# Dependent Events

Two events A and B are said to be dependent events if the probability of both the events A and B happening together is not equal to zero



# Classical approach

- If an experiment has ' $n$ ' different outcomes, each is equally likely and mutually exclusive, and there are ' $a$ ' possible outcomes favourable to the occurrence of event  $A$ , then the probability of event  $A$  happening,  $P(A)$ , is given as follows:

$$P(A) = \frac{a}{n}$$

**Example:**

A fair dice is thrown once. What is the probability of getting the number '2'?

**Solution:**

A throw of a fair dice has 6 possible outcomes, that is  $\{1, 2, 3, 4, 5, 6\}$ . So  $n = 6$ .

To get a number '2', there is just one possible outcome. So  $a = 1$ .

Hence,  $P(\text{to get a number '2'}) = 1/6$

