**Sampling Techniques**

Sampling is the process of selecting a subset of individuals from a population to represent the whole. Different sampling techniques ensure accuracy and fairness in data collection.

### **1. Simple Random Sampling**

A technique where every individual in the population has an equal chance of being selected.

#### **Example:**

* Randomly selecting 50 students from a university.
* Using a lottery system to choose employees for a survey.

**Pros:** Reduces selection bias. **Cons:** May not represent specific subgroups effectively.

### **2. Stratified Sampling**

The population is divided into subgroups (strata) based on characteristics, and samples are drawn proportionally from each group.

#### **Example:**

* Selecting employees from different departments based on their size.
* Surveying students from different academic years.

**Pros:** Ensures representation from all groups. **Cons:** Requires knowledge of population characteristics.

### **3. Systematic Sampling**

A method where every nth individual is selected from an ordered list.

#### **Example:**

* Selecting every 10th customer from a store’s visitor list.
* Choosing every 5th person in a queue.

**Pros:** Easy to implement. **Cons:** Can introduce bias if the list has a pattern.

### **4. Convenience Sampling**

A technique where samples are chosen based on ease of access.

#### **Example:**

* Interviewing people at a mall.
* Conducting surveys in a classroom.

**Pros:** Quick and cost-effective. **Cons:** High risk of bias and non-representativeness.

### **Conclusion**

Choosing the right sampling technique depends on the research goal. For a company surveying employee satisfaction across various departments, **stratified sampling** is ideal as it ensures fair representation from each department based on size.