Restricted Random Samples

- In the case of the heterogeneous population when samples are selected randomly but under certain restrictions, it is termed as Restricted Random Sampling.
- It involves the personal attention of the investigator while selecting a sample.
- It is not purely random.
- Important Methods under this category are: i. Stratified Random Sampling. ii. Systemic Sampling. iii. Cluster or Multistage Sampling

A) Stratified Random Sampling	• In this method, the universe or the entire population is divided into 'Strata' i.e. a number of homogenous groups and then from each 'Stratum' or group certain numbers of items are taken at random. • **For example**, in a class of 40 students to select two Monitors randomly first of all students are divided into two homogeneous groups i.e. Boys and Girls and then they are one each is selected from them randomly. • **Merits**: 1. Sample taken is more representative of the universe. 2. It is easier to organize and administer because the universe is sub-divided. 3. It ensures greater accuracy because each group contains uniform items. • **Demerits**: 1. Not possible if information about the population or 'Strata' is not available. 2. If stratification is not done properly, the purpose will not be served.
(B) Systematic Sampling	• It is also known as Quasi-Random Sampling. • Under this method, the whole population is arranged 'Alphabetically' or 'Geographically', or 'Numerically' or in some other systematic order. • Then every 'n^{th}' item is selected as a sample item. Where 'n' stands for any number. • Like, every '**Even item**' or every '**3^{rd} /4^{th} /5^{th} ….Item**'. • For better results, a list of items should be fully random and the first items should be selected using simple random sampling method.

	• **Merits**: 1. It is a very simple method and generally, results are satisfactory. 2. Re-checking can be done quickly. 3. Same time and efforts. • **Demerits**: 1. Possible only if the complete list of items is available. 2. Feasible only if units are systematically arranged. 3. Chances of bias are there.
(C) Cluster Sampling **Or** **Multi-stage Sampling**	• It involves the procedure of dividing the large population into groups called clusters and drawing a sample of clusters to represent the population. • It is carried out in multiple stages say, two, three or four stages. • **In the first stage** – The universe is divided into many clusters from which certain clusters are selected at random as the first stage samples. • **In the second stage –** The selected first stage samples are again sub-divided into some clusters from which again, certain clusters are selected at random as the second stage samples. • **In the third stage** – The selected second stage samples are again sub-divided into some clusters from which certain clusters are again selected at random as the third stage samples. • Process of division and sub-division of clusters and selection of multistage samples is carried out until the sample size is reduced to a reasonable extent. • **Merits**: 1. Very helpful in large scale surveys. 2. Represents the population with reasonable accuracy. 3. Saves time and money. • **Demerits**:

	1. Division of population into clusters and sub-clusters is quite a difficult task. 2. The investigator needs to have detailed knowledge about the universe expertise in division and selection of clusters.
d)Random Route Sampling Methods	• Random Route Sampling Methods The purest form of probability sampling is a random sample. • Each member of the population has a known chance of being selected. Random sampling in large populations is only possible if every member of the population can be identified. Therefore, national samples are based on multi level selection processes. Multi level selection processes are a combination of random or/and systematic and/or stratified probability samples at different levels: stratified selection of sampling units, systematic selection of households by random walk, random selection of one person per household