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Internal Assesment Test - I

Sub:	**Research Methodology**						Code:	**20MBA23**
Date:	27-Aug-2022	Duration:	90 mins	Max Marks:	50	Sem:	II	Branch:	**MBA**

SET – 1

		Marks	OBE	
			CO	RBT
	Part A - Answer Any Two Full Questions (2* 20 = 40 marks)			
1 (a)	What is Sample in Research?	[03]	CO2	L1
	In research terms a sample is **a group of people, objects, or items that are taken from a larger population for measurement**. The sample should be representative of the population to ensure that we can generalize the findings from the research sample to the population as a whole.			
(b)	Distinguish between Probability and Non Probability Sampling.	[07]	CO2	L2
	Sampling means selecting a particular group or sample to represent the entire population. Sampling methods are majorly divided into two categories probability sampling and non-probability sampling. In the first case, each member has a fixed, known opportunity to belong to the sample, whereas in the second case, there is no specific probability of an individual to be a part of the sample.			

Comparison Chart

Basis for Comparison	Probability Sampling	Non-Probabil
Meaning	Probability sampling is a sampling technique, in which the subjects of the population get an equal opportunity to be selected as a representative sample.	Nonprobability sam sampling wherein, i which individual fro will be selected as a
Alternately known as	Random sampling	Non-random sampli
Basis of selection	Randomly	Arbitrarily
Opportunity of selection	Fixed and known	Not specified and ur
Research	Conclusive	Exploratory
Result	Unbiased	Biased
Method	Objective	Subjective
Inferences	Statistical	Analytical
Hypothesis	Tested	Generated

(c)	Discuss how the Non Responsive error that can effect a field of Research.	[10]	CO1	L3

Non-response error results from a failure to collect complete information on all units in the selected survey. Non-response error affect survey results in two ways. First, **the decrease in sample size or in the amount of information collected in response to a particular question results in larger standard errors**.

Item nonresponses **occur when there is information about the unit but no information about variables**: for example, when information is absent about whether respondents are males or females. The issue about how much missing data can exist in a data set without biasing the results is an unsettled one.

2 (a)	What is Judgmental Sampling?	[03]	CO2	L1

Judgment sampling, also referred to as judgmental sampling or authoritative sampling, is **a non-probability sampling technique where the researcher selects units to be sampled based on his own existing knowledge, or his professional judgment**.

(b) Explain the difference between Population, Sampling frame and Sample with examples. [07] CO2 L2

The sampling frame **may not contain** all the households of the certain nationals. In that case, some eligible items of the population are left out from sampling.

When contacted, some households may refuse to provide information.

The remaining households in the sampling frame become the actual **sampled population**.

I an ideal situation, the population and the sampling frame are same.

Population is the all people or objects to which you wishes to generalize the findings of your study, for instance if your study is about pregnant teenagers, all of the pregnant tens are your target population. Sample frame is a subset of the population and the people or object that you have access to them. For instance, the number of observations that you had about pregnant teens.

(c) Discuss various Probability Sampling techniques in Research. [10] CO2 L3

What are the various probability sampling techniques?
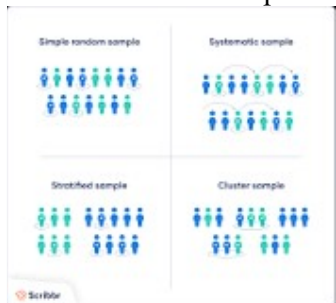
Probability sampling methods include **simple random sampling, systematic sampling, stratified sampling, and cluster sampling**.

What is probability sampling?

Probability sampling is a technique in which the researcher chooses samples from a larger population using a method based on probability theory. For a participant to be considered as a probability sample, he/she must be selected using a random selection.

The most critical requirement of probability sampling is that everyone in your population has a known and equal chance of getting selected.

What are the types of probability sampling?

Simple random sampling, as the name suggests, is an entirely random method of selecting the sample. This sampling method is as easy as assigning numbers to the individuals (sample) and then randomly choosing from those numbers through an automated process. Finally, the numbers that are chosen are the members that are included in the sample.

There are two ways in which researchers choose the samples in this method of sampling: The lottery system and using number generating software/ random number table. This sampling technique usually works around a large population and has its fair share of advantages and disadvantages.

3 (a)	Write the advantages of Survey method?	[03]	CO2 L1

Advantages of the survey method
They provide a broad range of information. Surveys can yield a great range of data, and researchers can use surveys to gather information related to socioeconomic opinions, advertising and marketing and planning or testing product features. They're cost-effective and efficient.

(b)	Differentiate between Stratified sampling and simple random sampling.	[07]	CO2 L2

A simple random sample is used to represent the entire data population and randomly selects individuals from the population without any other consideration. A stratified random sample, on the other hand, first divides the population into smaller groups, or strata, based on shared characteristics

In statistical analysis, the "population" is the total set of observations or data that exists. However, it is often unfeasible to measure every individual or data point in a population. Instead, researchers rely on samples. A sample is a set of observations from the population. The sampling method is the process used to pull samples from the population.

Simple random samples and stratified random samples are both common methods for obtaining a sample. A simple random sample is used to

represent the entire data population and randomly selects individuals from the population without any other consideration.

A stratified random sample, on the other hand, first divides the population into smaller groups, or strata, based on shared characteristics. Therefore, a stratified sampling strategy will ensure that members from each subgroup are included in the data analysis.

(c) Discuss interview and observation method as a technique of data collection in Research. [10] CO2 L3

o draw valid conclusions from your results, you have to carefully decide how you will select a sample that is representative of the group as a whole. There are two types of sampling methods:

- **Probability sampling** involves random selection, allowing you to make strong statistical inferences about the whole group.
- **Non-probability sampling** involves non-random selection based on convenience or other criteria, allowing you to easily collect data.

You should clearly explain how you selected your sample in the methodology section of your paper or thesis.

Population vs sample

First, you need to understand the difference between a population and a sample, and identify the target population of your research.

- The **population** is the entire group that you want to draw conclusions about.
- The **sample** is the specific group of individuals that you will collect data from.

The population can be defined in terms of geographical location, age, income, and many other characteristics.

It can be very broad or quite narrow: maybe you want to make inferences about the whole adult

population of your country; maybe your research focuses on customers of a certain company, patients with a specific health condition, or students in a single school.

It is important to carefully define your target population according to the purpose and practicalities of your project.

If the population is very large, demographically mixed, and geographically dispersed, it might be difficult to gain access to a representative sample.

Sampling frame

The sampling frame is the actual list of individuals that the sample will be drawn from. Ideally, it should include the entire target population (and nobody who is not part of that population).

Example: Sampling frameYou are doing research on working conditions at Company X. Your population is all 1000 employees of the company. Your sampling frame is the company's HR database which lists the names and contact details of every employee.

Sample size

The number of individuals you should include in your sample depends on various factors, including the size and variability of the population and your research design. There are different sample size calculators and formulas depending on what you want to achieve with statistical analysis.

Probability sampling methods

Probability sampling means that every member of the population has a chance of being selected. It is mainly used in quantitative research. If you want to produce results that are representative of the whole population, probability sampling techniques are the most valid choice.

There are four main types of probability sample.
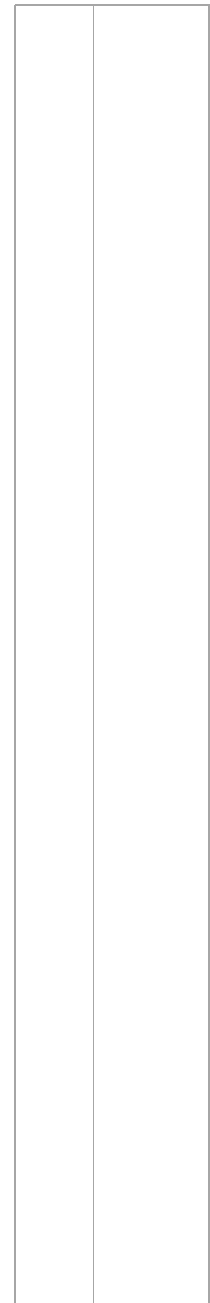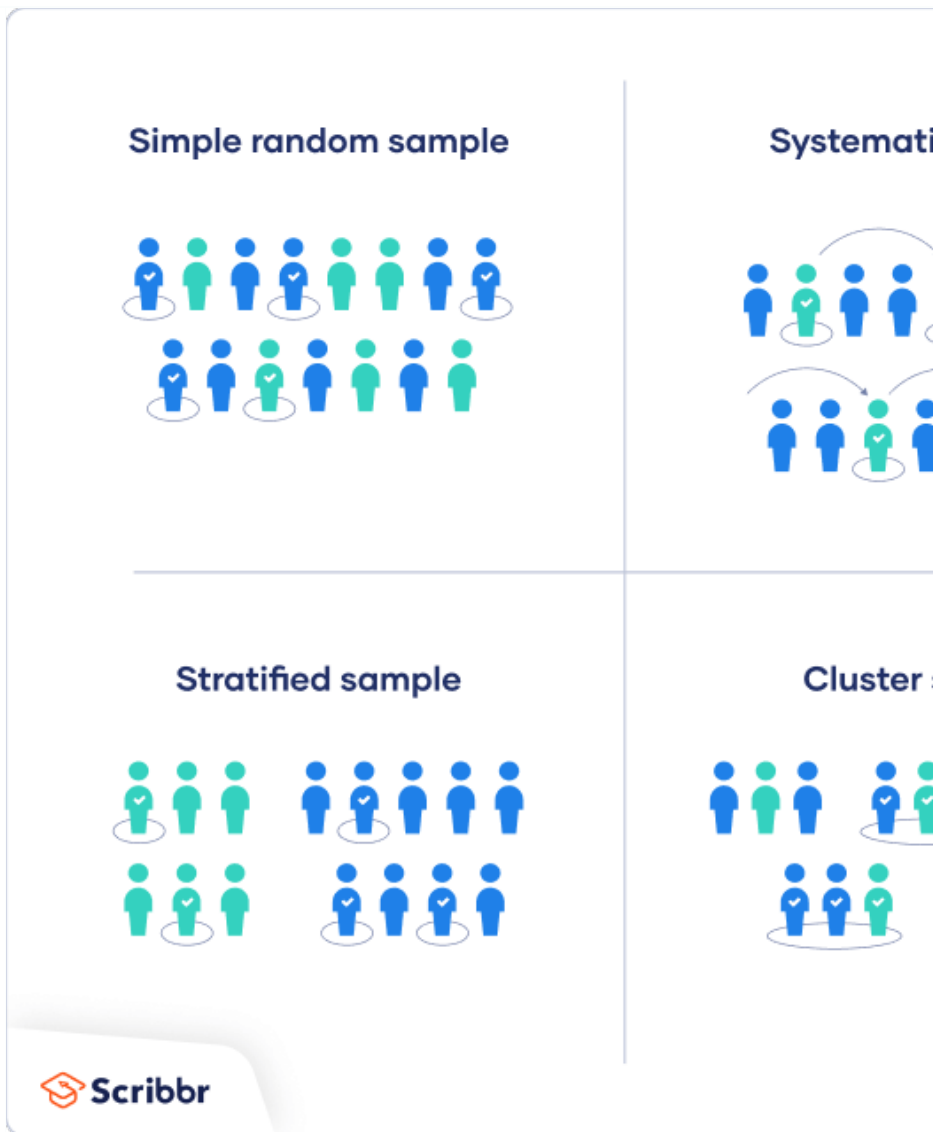
1. Simple random sampling

In a simple random sample, every member of the population has an equal chance of being selected. Your sampling frame should include the whole population.

To conduct this type of sampling, you can use tools like random number generators or other techniques that are based entirely on chance.

Example: Simple random samplingYou want to select a simple random sample of 100 employees of Company X. You assign a number to every employee in the company database from 1 to 1000, and use a random number generator to select 100 numbers.

2. Systematic sampling

Systematic sampling is similar to simple random sampling, but it is usually slightly easier to conduct. Every member of the population is listed with a number, but instead of randomly generating numbers, individuals are chosen

at regular intervals.

Example: Systematic samplingAll employees of the company are listed in alphabetical order. From the first 10 numbers, you randomly select a starting point: number 6. From number 6 onwards, every 10th person on the list is selected (6, 16, 26, 36, and so on), and you end up with a sample of 100 people.

If you use this technique, it is important to make sure that there is no hidden pattern in the list that might skew the sample. For example, if the HR database groups employees by team, and team members are listed in order of seniority, there is a risk that your interval might skip over people in junior roles, resulting in a sample that is skewed towards senior employees.

3. Stratified sampling

Stratified sampling involves dividing the population into subpopulations that may differ in important ways. It allows you draw more precise conclusions by ensuring that every subgroup is properly represented in the sample.

To use this sampling method, you divide the population into subgroups (called strata) based on the relevant characteristic (e.g. gender, age range, income bracket, job role).

Based on the overall proportions of the population, you calculate how many people should be sampled from each subgroup. Then you use random or systematic sampling to select a sample from each subgroup.

Example: Stratified samplingThe company has 800 female employees and 200 male employees. You want to ensure that the sample reflects the gender balance of the company, so you sort the population into two strata based on gender. Then you use random sampling on each group, selecting 80 women and 20 men, which gives you a representative sample of 100 people.

4. Cluster sampling

Cluster sampling also involves dividing the population into subgroups, but each subgroup should have similar characteristics to the whole sample. Instead of sampling individuals from each subgroup, you randomly select entire subgroups.

If it is practically possible, you might include every individual from each sampled cluster. If the clusters themselves are large, you can also sample individuals from within each cluster using one of the techniques above. This is called multistage sampling.

This method is good for dealing with large and dispersed populations, but there is more risk of error in the sample, as there could be substantial differences between clusters. It's difficult to guarantee that the sampled clusters are really representative of the whole population.

Example: Cluster samplingThe company has offices in 10 cities across the country (all with roughly the same number of employees in similar roles).

You don't have the capacity to travel to every office to collect your data, so you use random sampling to select 3 offices – these are your clusters.

Part B - Compulsory (01*10=10 marks)

4   MBA students of the Academic year 2021-23 are yet to start their internship projects. They are now discussing the concepts, companies and research methodology to be used based on the suitability and applicability of each technique that they have learnt during their II SEM MBA in exploring the data required for internship study students propose to make use of both secondary and primary data for their internship study. The case study helps in the discussion of various methods of data collection and the constraints in each of them. The pedagogical objectives of this case research method are to know the students opinions on the following issues: Based on the description above, assume the relevant information and answer the following questions.
Questions:

a. Select various primary and secondary data collection sources and methods for your internship study.	[05]	CO4	L4
b. Outline various constraints in both primary and secondary data collection methods in the above context.	[05]	CO4	L4

Course Outcomes		PO1	PO2	PO3	PO4	PO5
CO1:	Understand various research approaches, techniques and strategies in the appropriate in business.	1c				
CO2:	Apply a range of quantitative / qualitative research techniques to business and day to day management problems.	1a, 1b, 2a, 2b, 2c, 3a, 3b				
CO3:	Demonstrate knowledge and understanding of data analysis, interpretation and report writing.					
CO4:	Develop necessary critical thinking skills in order to evaluate different research approaches in Business using excel in particular				3c, 4a, 4b	

Cognitive level	KEYWORDS
L1 - Remember	list, define, tell, describe, recite, recall, identify, show, label, tabulate, quote, name, who, when, where, etc.
L2 - Understand	describe, explain, paraphrase, restate, associate, contrast, summarize, differentiate interpret, discuss
L3 - Apply	calculate, predict, apply, solve, illustrate, use, demonstrate, determine, model, experiment, show, examine, modify
L4 - Analyze	classify, outline, break down, categorize, analyze, diagram, illustrate, infer, select
L5 - Evaluate	asses, decide, choose, rank, grade, test, measure, defend, recommend, convince, select, judge, support, conclude, argue, justify, compare, summarize, evaluate
L6 - Create	design, formulate, build, invent, create, compose, generate, derive, modify, develop, integrate

PO1–*Theoretical Knowledge;* PO2–*Effective Communication Skills;* PO3–*Leadership Qualities;* PO4 –*Sustained Research Orientation; PO5 –Self-Sustaining Entrepreneurship*

CI   CCI   HOD