28)a) What do you understand by Sampling? Discuss Non-probability Sampling.
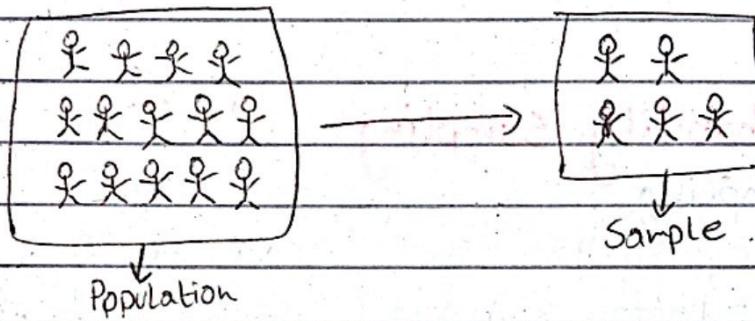
Population → Sample.

Definition=

Sampling is techniqve used by researchers/statistionis, whereby a small portion (or subset) of a overall populatio is selected for the purpose of collecting data.

Categories of Sampling

There are two types of sampling categories =
- Probability Sampling
- Non-probability Sampling

Probability Sampling

Also known as random sampling. This sampling techique uses randomization to make sure that every element of the population gets an equal chance to be part of the selected sample.

Non-Probability Sampling

This type of sampling technique is the opposite of probability sampling. In this technique, sampling is done

based on the researcher's judgement (or some criteria set by the researcher). All elements of the population do not have the an equal chance of being selected in the sample.

Types of Non-probability sampling

→ **Convenience Sampling**

This type of sampling is done based on the avaliability of the whole population, especially if the cost of sampling is high. Follows 'make do with what you have' approach.

→ **Purposive Sampling**

This type of Sampling is based on the intention/purpose of the study. This means sample is selected based on the elements that suit the purpose of the study. For example, what is the most difficult subject in CSS, researchers will have to select students/css aspirants etc for the sample.

→ **Quota Sampling**

This type of sampling depends on pre-set standards. This means they that researchers define a quota, keeping in mind the whole population's traits/characteristics. for example, if the population is 66% rural and 34% urban, the sample should represent the same porcentage.

Referral/Snowball Sampling
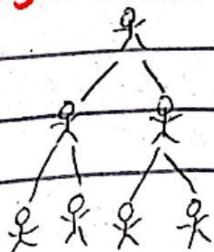
The technique depends on one element of the Sample refers/recommend other elements for the sample selection.

b)   lengths of the tile $= 12\,cm$ and $4\,cm$

Area of one-triangular tile $= \dfrac{1}{2} \times b \times h$

$$= \frac{1}{12} \times 12 \times 4^{2}$$

$$= 24 \; cm^{2}$$

Area of the lounge $= L \times B$

$$= 8m \times 6m$$

or

$$= 800\,cm \times 600\,cm$$

$$= 480000 \; cm^{2}$$

No. of triangular-tiles needed
to cover the rectangular-Lounge $= \dfrac{480000}{24}$

$$= 20,000$$

It takes 20,000 tiles to cover the whole lounge.

Total cost of covering the $= 15 \times 20,000$
Lounge with tiles

$$= Rs.\,300,000$$

Each tile cost Rs.15 and multiply that with 20,000 (no. of tiles) and, therefore, the total cost comes out to be Rs.300,000

c)

Intended price tag = 80% of original price
Actual price tag = 120% of original price
Price above the intended price = Rs. 80

Therefore,

$$\frac{\text{Actual \%age}}{\text{Intended price}} - \text{Actual \%age} = 120 - 80 = 40\%$$

$$
\begin{array}{c}
\overbrace{\qquad 40\% \qquad}\\
80\% \underbrace{\quad\quad 100\% \quad}_{20\%} \underbrace{\quad 120\% \quad}_{20\%}
\end{array}
$$
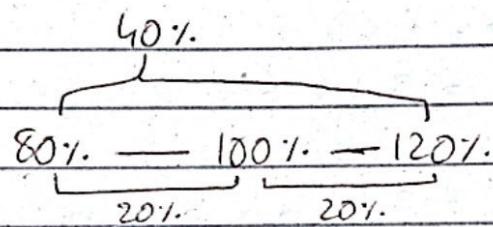
$20\% = \dfrac{80}{20}$

20% ᵒᶠ price $= 40$
above 100%.

$$\begin{array}{c} 20\% \searrow 40 \\ 100\% \nearrow x \end{array}$$

$20\% x = 40 \times 100\%$

$x = \dfrac{40 \times 100\%}{20\%}$

$x = \dfrac{40 \times 1}{0.2}$

$x = \dfrac{40 \times 10^{5}}{0.2_{1}}$

$x = 40 \times 5$

$x = 200$

The original price comes out to be Rs. 200

A B C D E F G H
I J K L M N O P
Q R S T U V W X
Y Z

d)   B = Q   → 10 steps - backward
     R = D   → 12 stes - forward
     O = G   → 8 steps - backward
     T = S   → 1 step - backward
     H = N   → 6 steps - forward
     E = Q   → 12 steps - forward
     R = A   → 4 steps - forward

     S} = I
     I = U
     S = k
     T = S
     E = k
     R = D

STSTER can be written as IUKSKD. The first-letter
is 10-steps backward, second letter is 12-steps forward,
third letter is 8-steps backwards, fourth letter is 1-step
backward, fifth letter is 6-steps forward and sixth letter
is 12-steps forward.