
Note by Roshan Bist

Unit→1
Introduction

⊛. Definition of statistics→ Statistics is one of the branch of science where we study about the data.

OR

According to Croxton and Cowden, statistics is the collection of data, presentation of data, analysis and interpretation of data.

Q.N.1
⊛. Define data and describe its types?

Ans: Data is the information which is useful for any kinds of research activity or data is the raw material for any kinds of enquiry/research.

Types of data:

i) Primary data → Primary data are those data which is collected by investigator himself/herself.

OR Primary data are first time collected data.

For e.g. CBS (Central Bewrau of Statistics) in Nepal conducts population cencus in every 10 years. So the data collected by CBS is primary data.

ii) Secondry data → Secondry data are those data which is collected by one and used by any other.

OR

Secondry data are the second hand data.

For e.g. If we use CBS data, the data will be secondry data for us.

Q.No.2: Describe the methods of collecting primary data.

Ans: Different methods in collecting primary data are as follows:-
OR sources of primary data

i) Direct personal interview → This method is used when the field of enquiry is small and desire for a greater accuracy. According to this method, investigator obtains data by the personal ~~objects~~ observation of the objects under study.

iii) Indirect interview → According to this method information is collected from third person when respondent hesitate to give their answer or information in complex. Under this method instead of directly approaching to respondent, the investigator interviews several third persons.

iii) Mailed questionair → According to this method a questionaire containing a number of questions are send to respondent or informants requesting to answer the questions and return the questionaire. It is cheap method of collecting information. It has high chance of non response.

iv) Information through telephone → According to this method information is obtained through telephone instead of face to face contacting informants. It is quick and accurate method of getting information. It is cheap method of collecting information.

v) Information through correspondents → According to this method information can be collected from local agents or correspondents appointed in different areas under investigation. The agent provides information of different incidence to the investigator.

Q.No.3:- Describe methods or sources of collecting secondry data.

Ans: Secondry data source is broadly classified into two types:-

i) Published source: Different published source of secondry data are national organizations and international agencies.

→ International agencies like WHO, World Bank, International Labour Organization.

→ Governmental organizations such as Central Bureau of statistices, Ministry of commerce and Industry, Nepal Rastra Bank.

→ Semi-Governmental organizations such as Nepal Food Corporation, Nepal Electricity Authority

→ Private organizations such as Nepal chamber of Commerce, Publications.

iv) Unpublished Source → All the statistical information may not be in published form. Some of governmental and private organizations do not publish statistical information. Records of individual business, schools, colleges, trade centre etc are not published.

Q.No.4 Write differences between primary and secondry data.

Ans:

Primary data	Secondry data
i) Primary data are original in sense because it is collected by investigator chimself/herself.	i) Secondry data are not original in sense because it is collected by one and used by the other.
ii) Primary data collection is expensive.	ii) Secondry data are less expensive than primary data.
iii) Primary data are collected by direct interview and indirect interview method.	iii) Secondry data are collected from published and unpublished sources.
iv) Primary data are collected as per requirement of investigator.	iv) Secondry data might have been collected for different objective.
v) Primary data are influenced by investigators biasness.	v) Secondry data are not influenced by investigators biasness.

bias ——→ भय घट गर्न सक्ने

Q.No.5 Describe limitations of statistics.

Ans:- The limitations of statistics are described below:-

i) Statistics does not study individuals → Individuals facts and figures are of importance to individuals only statistics does not deals with them. It deals with mass phenomena and aggregates.

ii) Statistics does not study qualitative phenomenon → Statistics can be applied only on quantitative expression and not on qualitative phenomenon like honesty, healthy skills etc.

iii) Statical data does not reveal the entire story → It do not reveal the entire story of problems. This is because many problems are affected by factors which are incapable of statical ~~problems~~ analysis. Statical data only revel summarized, reduced form.

iv) Statical results are not always unquestionable → It helps us in studying trends, in forming an idea of probabilities, in knowing how a given phenomenon has been behaving generally necessarily unquestionable and reliable.

v) Statical data are liable to be misused easily → Any person can use statistics and draw any type of conclusion like medicines in the hands of quacks, statistics can be easily misused by the inexpert.

Q.No.6. Explain the scope of statiscics.

Ans: The scope and importance of statistics are as follows:-

i) Statistics and planning → Statistics is almost all over the world. The government are re-storing to planning. for economic development.

ii) Economics → Statistical data and techniques of statical analysis have to immensely useful involving economical problem. Such as wages, price, time series analysis, demand analysis.

iii) Business → Statical data are used for studying the much and more desire of the valued customers which helps in productivity of business.

iv) Industry → In industry statistics is widely used to find whether the product is confirming to the specifications or not.

v) Modern Science → In modern ~~sic~~ science like medical science the statical tools are used for collection, presentation and analysis of observed facts. Also in the result of application of various drugs and medicine.

Q.No.7. Discuss the application (or role) of statistics in CSIT.

Ans:. The computers can perform many statistical calculations easily and quickly. Computations of means, standard deviations, analysis of varience, analysis of covariance etc. can be solved very easily using computer. Similarly using computer, linear programming, multivariate analysis etc. can also be done very easily.

Recently developed statical procedures such as data mining, jackknifing, bootstrap, pattern recognization and image analysis are essentially computational. Researchers, using computers, can carry on their task at faster speed and with greater reliability. Statistics respond appropriately to the new demands of research and development in various areas of experimental sciences. Besides this the statical data there might be the problems related to computer science and information technology which can be addressed by statistics. For example to get the answer of question of "How long should we expect the LCD monitors to last before faliure?" then we must take help of statistics.

Q.No.8. What is measurement scale? Describe different types of measurement scale.

Ans:- The measurement consisting of counting the number of units or parts of units displayed by objects and phenomena is called measurement scale. Following are the different types of measurement scale.

1) Nominal scale → It is simplest and lowest level of measurement scale. It is simply a system of assigning number or the symbols to objects or events to distinguish one from another in order to label them. The symbols or numbers have no numerical meaning. The arithmetic operations cannot be used for these numerals.

iii) Ordinal scale → The second and the lowest level of ordered scale is the ordinal scale. It is the quantification of items by ranking. In this scale, the numerals are arranged in some order but the gaps between the positions of the numerals are not made equal. It represents qualitative values in ascending or descending order.

iii) Interval scale → In addition to ordering the data, this scale uses equidistant units to measure the difference between the scores. It assumes data has equal intervals. This scale does not have absolute zero but only arbitrary zero. Interval scale is the developed form of ordinary scale.

iv) Ratio scale → Ratio scale is the ideal scale and an extended form of interval scale. It is most powerful scale of measurement. It possesses the characteristics of nominal, ordinal and interval scale. Ratio scale has an absolute zero or true zero or natural zero of measurement.

⊛. Conversion of inclusive type of class interval into exclusive:-

(i) For converting first we find correction factor as:-

$$C.f = \frac{\text{lower limit of next class} - \text{upper limit of previous class}}{2}$$

(ii) Then we need to subtract C.f from lower limit and we need to add C.f to upper limit of each class interval.

For example: Convert the given inclusive type of class interval into exclusive.

Income	20-29	30-39	40-49	50-59
No. of people	2	3	4	1

Here, $C.f = \frac{30-29}{2} = \frac{1}{2} = 0.5$

Now exclusive type is as:

Income	19.5-29.5	29.5-39.5	39.5-49.5	49.5-59.5
No. of people	2	3	4	1

Question यदि method अनुसार direct convert गरेर लेख्ने,