INTRODUCTION TO RESEARCH

The word research is derived from **"FRENCH"** word ***"RECHERCHE***" which means to **"search".**

- **Research:** simply a search for new knowledge

or truth What is Research?

Research – Is the science of collecting, observing, selecting, evaluating and presenting of particular information.

OR

Research – is a form of investigation designed aimed at discovering a solution to a problem .

OR

Research: is a scientific and systematic search for deep information or knowledge on a specific topic.

TYPES OF RESEARCH

Researches have been classified according to the **purpose or aim, method and according to the nature of data.**

- In categorising research by purpose, two broad groups are recognised: ***basic research and applied research.***

On the bases of method, research is categorised as ***deductive and inductive research.***

These are:-

i. Applied Research (action research)

- Is the type of research used to find an immediate solution for the problem facing the society/ organization . It is used for problems whose solution is needed instantly
- Are the types of research that aimed at finding the solution of a certain phenomenon immediately.

CHARACTERISTICS OF APPLIED RESEARCH

1. It can be conducted at any place.
2. It is used to solve immediate problems.
3. Uses human being as the study sample
4. It is a work of educators
5. It can be used to improve teaching and learning process.

ii. Basic research (pure/fundamental research)

- Is the type of research which is concerned with generalization and or formulation of theories. Also used to generate or advance scientific knowledge
- Is the type of research carried out for sake of generating knowledge .It mainly concerned with generating and formulation of theories.

CHARACTERISTICS OF BASIC RESARCH

1. It is conducted in a specific area for example in the laboratory
2. It takes a long time to conduct as it involves the investigation of a particular problem.
3. It uses animals as study samples
4. It is done for the aim of generating and expanding knowledge.

viii. **Descriptive Research**

Descriptive research is one that is concerned with the description of the state of affairs or state of a problem or phenomena, as it exists at that particular time.

- Thus it involves a systematic collection and presentation of data in order to give a clear picture of the existing situation.

iii. **Quantitative Research;**

- Is the type of research that deals with the description and or analysis of the quantity of a phenomena. It bases on measurements of amounts/quantity.
- Is the types of research that deals with information or data, which explain distribution of phenomena in quantity form. It deals with numerical data.

iv. **Qualitative Research;**

- Is the type of research that deals with the description and or analysis of the quality of a phenomena. It bases on measurements of quality
- Is the types of research that is based on explains data in descriptive manner. It mainly deals with quality (values) than quantity

v. **Analytical Research (Evaluative Research)**

- Used to assess the achievements/failure of a certain social/scientific project. Needed for decision making
- Is the type of research which use facts or information already available and analyze them to make a critical evaluation of material. It aims at testing hypothesis and interpreting relationships.

vi. **Conceptual research**

- Is the type of research that deals with abstract ideas or theory. Used by philosophers/thinkers to develop new concept or new ideas
- Is the type of research that deals with ideas or theory. It concerned with phenomena that cannot be seen, touched, heard e.g. moral, behavior, traditional believes.

vii. **Empirical research**

Is a type of research where a researcher relies on his/her experience or observation over a long time of his life

- Are the types of research that depend on the experience. It is based on the world appearance /visible world.

viii. **Exploratory research**

Is conducted when a researcher explores things like gold, iron, diamond, and other metal related to mining.

ix. **Explanatory research**

- Is a research that explains about a certain phenomena.

x. **Inductive and Deductive Methods**

- In research conclusions are based on two methods known as the deduction and

induction. Both the methods are widely used in research projects. The methods help the researchers to understand, explain or predict geographical phenomena.

a) **Deduction method** follows a top bottom approach or from the general to the specific in explaining phenomena.
b) **Inductive method** is bottom up in nature, dealing with things from specific to general.

Hence, in deductive method we start from the theory and try to prove it right with the help of the available information while in inductive method we observe some happenings then deduct a pattern so as to draw a conclusion from observation.

CHARACTERISTICS OF RESEARCH .

1) Goal oriented, Purposeful for the solving of particular problem.
2) Systematic, It is scientific in nature, based on plan, procedure and method of conducting it .Eg collecting, analyzing, Interpreting.
3) Based on logical reasoning.
4) Based on evidence of factual that can be verified.
5) Investigation is based on how and why.
6) It focuses on only one problem (phenomena) than general.

❖ OBJECTIVE /PURPOSE OF RESEARCH

i. To develop theories, principles to explain various issue or matters.
ii. To gain new knowledge to be added to the existing one.
iii. To solve different social, political and economic problem.
iv. To fill gaps develop or rose by other researches.
v. To discover answer to different disturbing questions.
vi. To test or approve hypothesis.
vii. To gain familiarity with a phenomena (problem).
viii. To make evaluation of a certain issue.
ix. To explain/describe about certain phenomena.

HOW SHOULD WE STATE OUR OBJECTIVES?

The following are the characteristics of research objectives:-

- **Specific:** What precisely do you hope to achieve from undertaking the research?
- **Measurable:** What measures will you use to determine whether you have achieved your **objectives**?(Secured a career-level first job in software design)
- **Achievable:** Are the targets you have set for yourself achievable given all the possible constraints?
- **Realistic:** Given all other demands upon your time, will you have the time and energy to complete the research on time?
- **Timely:** Will you have time to accomplish all your objectives?

IMPORTANCE OF RESEARCH IN OUR DAILY LIFE

1. Research develop or generate new knowledge e.g. the information produced by research can be applied in many ways e.g. in school, university etc.
2. It helps to improve human activities for the betterment of people e.g. A society can develop irrigation scheme when finds show that there is food shortage.
3. Research can be used to develop new theories and laws.
4. It helps to improve various sectors as related to daily life e.g. Agriculture, industries, etc.
5. It provides reliable and needed information to data bank.
6. Research enable in finding solutions about the special problem's e.g. HIV, hunger, etc.

FIELD RESEARCH (FIELD WORK)

Field research→ is any activity aiming at collecting primary or first-hand information through

observation, recording, or documenting what one sees and hears in a particular setting, usually natural.

- ***It is called field research*** because it is conducted in the field or in the subject's natural environment. **Field research** →is a systematic and scientific way of solving a problem done physical on a certain area. It is involved with searching for knowledge used to solve some problems affecting the society. Examples of such problems include;

Diseases like TB, HIV, etc ▪ Prostitution ▪ Environmental issues like global warming Abortion among young girls ▪ Drug abuse

QUALITIES OF A GOOD FIELD RESEARCH

Every undertaking has its parameters to dwell in. Research must consist of some important qualities so as to be complete and acceptable. Here are the main qualities or characteristics of a good research:

1. A good research should be directed towards the solution of the problem that exists in a particular area and time.
2. It should have carefully designed procedures in data collection, analysis and presentation.
3. It should be through accurate observation and descriptions about the problem or phenomena that has been researched.
4. It should be systematic and carefully recorded and reported.
5. It should be based upon observable experience or empirical evidences for its conclusion.
6. It should be replicable such that other persons can use the same procedure to get the same result.
7. To fulfil all these qualities a good research should be conducted by an expert.

❖ IMPORTANCE /ADVANTAGE /SIGNIFICANCE/USEFULNESS OF FIELD RESEARCH

i. It helps to generate new ideas to verify the existing ones.
ii. To find answer to existing question.
iii. It helps to look for accurate solution to existing problems.
iv. It is useful to one who is preparing for further studies.
v. It helps in developing new theories.
vi. It helps in making evaluation and take rational decision.
vii. It enables society to make intelligent decision concerning problem facing them in particular life at different times.
viii. It helps to improve various sectors as related to daily life e.g. Agriculture.
ix. Used for security purposes by the police, armies and other agencies
x. Source of employment, It is a source of income, where by some people employ themselves in big organizations to do research.
xi. It is the best source of primary data required in writing books and other purposes
xii. It may mean a "carrier". That is if one need masters or PhD he/she must have to conduct research.
xiii. It helps to predict future events.

❖ DISADVANTAGE /DEMERITS/ CONS /WEAKNESS OF FIELDS RESEARCH

a) It is expensive e.g. A lot of money is needed. Since field research needs money and other resources in data collection and presentation, lack of fund can lead to hindrance of any undertaking of a field research.
b) It needs skilled people only.
c) Concentrate of single problem and may lose sight on broad issues.
d) Large amount of data may appear unnecessary even cause's confusion.
e) Can lead to financial crisis; field research needs a lot of money for equipment's, transportation, food, payment to respondents and so on.
f) Time consuming; normally research findings take a very long period of time like years.

g) Diseases; some areas have some diseases which may affect the researcher.
h) There is a feeling of insecurity among the business units and governmental officials to submit sensitive information to researchers because they think that the supplied data may fall in wrong hands and expose them to the public. For this reason, they are always reluctant to supply the needed information for research. This hinders the research as a means of collecting important information.

Preparation for Field Research

1. Reconnaissance; is the pre-visit to the site to familiarize with the area and nature of the population. This will help in choosing of research tools and act as a base for other preparations
2. Staff preparation; sometimes, research need more than one person, so it is important to have in place research assistants
3. Establish legal framework for the research; it may include permits from relevant authorities
4. Preparation for research design; finance, budget, time frame and general work plan

Motivation of doing research; **[What motivates a researcher to conduct research?**

- To get intellectual joy; when a researcher successfully finishes a research, he attain joy of doing something useful to a society
- Desire to face the challenge in solving difficulty problem
- Desire to get research degree along with its consequential benefits
- To be of service to the people/community
- A need to get respectability.

❖ QUALITIES /PRINCIPLE OF A GOOD SCIENTIFIC RESEARCH

i. It must base on logical reasoning: it should be reasonable.
ii. It should be systematic: It is scientific in nature, based on plan, procedure and method of conducting it .E.g. collecting, analyzing, and Interpreting.
iii. It must be objective: that means what is seen in experiment is what is to be observed
iv. It must be replicable: when it is repeated it must bring the same answer.
v. It must be affordable: that means any good research should be easy for everyone to get it.
vi. It should require expert: any good research it require an expert or knowledgeable person to conduct it.
vii. It should be relevant to the society: it should be done to solve the social problem.
viii. It must end up with good conclusion: for example it must end up with suggestion of what to be done.
ix. Should by cyclic i.e. should pass through various stages
x. It must define important terms /concepts.
xi. Research should be objective oriented.
xii. Good research should base on real situation.

Why field research is is scientific?

Field research is scientific because:-

- It is logical; it guided by rules of logic
- It is replicable; research can be done repeatedly by different people and get same results
- It is objective
- It is empirical; this is because research conclusions are supported by data that can be proved
- It is systematic; this is because it follows stages step by step

❖ PROBLEM HINDERING/ENCOUNTERED DURING FIELD RESEARCH

a) *Financial problems*: Researchers faced with the problem of lack of enough capital to

conduct the research activities.

b) Language barriers*:* The problems of language lead to misunderstanding people.
c) *Lack of equipment:* The instrument used in research is not enough to sustain the research.
d) *Presence of disease:* such as epidemic this may affect the research.
e) *Bad climatic condition:* the presences of rainfall or hot season affect the researcher.
f) Lack of access of strictly confidential information.
g) Remoteness /inaccessibility of the research site.
h) *Transport problem* e.g. weather roads

RESEARCH PROCESS

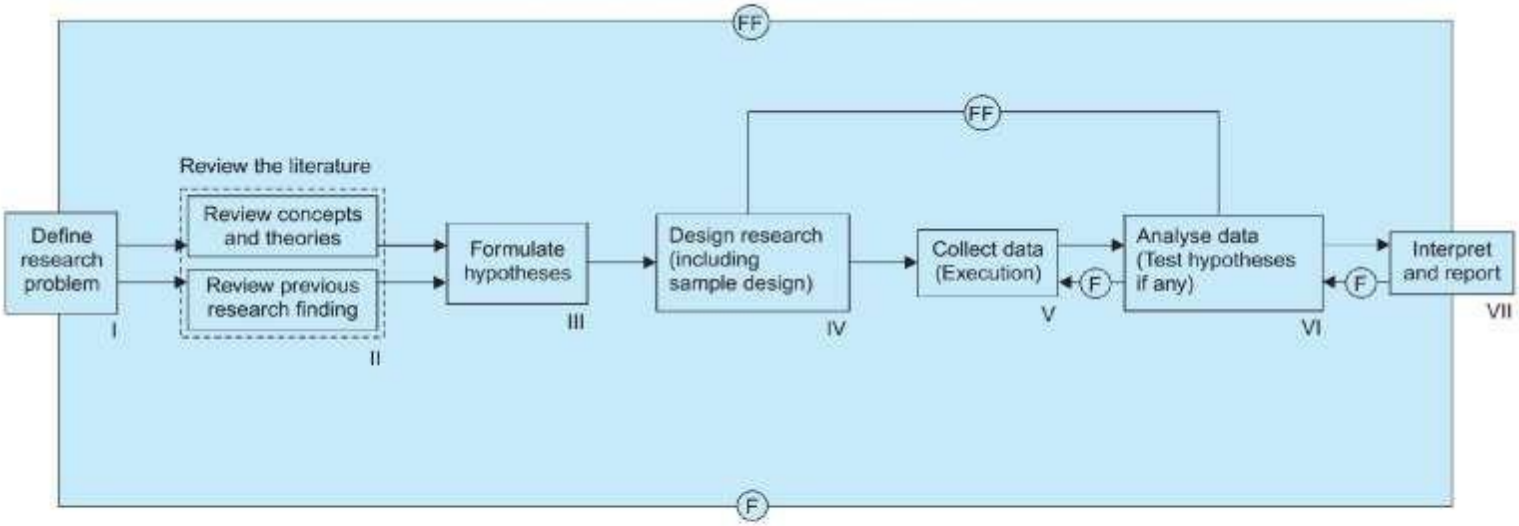
Research process – Is a series of activities that are to be followed over time when carrying out a research.

- It consists of steps necessary to effective carry out research and the desired sequencing at these steps.
- The research process consists of a number of closely related activities
- What is to note is that there is no precise number of stages agrees by different school at though this is due to the following reasons:-
    a) Nature of topic.
    b) Time limit.
    c) Nature of environment.

MAJOR STAGES /STEPS/PROCEDURE OF CONDUCTING THE FIELD RESEARCH

1. Identification of the problem
2. Literature review
3. Formulation of hypothesis
4. Design research (Reconnaissance and sampling)
5. Data collection
6. Data analysis
7. Data recording/presentation and interpretation
8. Testing hypothesis
9. Recommendation and conclusion.

RESEARCH PROCESS IN FLOW CHART



Where (F) = feed back (Helps in controlling the sub-system to which it is transmitted)

(FF) = feed forward (Serves the vital function of providing criteria for evaluation)

I. IDENTIFICATION PROBLEM

- A research problem is a central theme for conducting research. A research must have a particular problem whose solution is needed. This problem must be well stated before research starts
- This is the first step in research process.
- It involves knowing the problem, finding the source of the problem
- **A problem**→is question or ideas of interest which should be answered through data collection.
- **Research problem**→ Is a question or idea of interest that needs to be answered through data collection. Or refer to some difficulty which a researcher experience. in the context of either a theoretical or practical situation and wants to obtain a solution for the same.
- Source of research problem can be personal experience, Practical issues, Land conflict, review of literature, current issue.
- Research problem should be testable, clear, educative, interested, ethical, and researchable.
- General there are two types of research problems:-
  - Those which relate to states of nature and
  - Those which relate to relationships between variables.

STATEMENT OF OBJECTIVES

The statement of objectives or statement of the problem →is the detailed aspect of the research problem or research topic. It is the actual activities to be carried out during the study.

- The statement of objectives can be general or specific, but usually it is expected to be specific, clear, concise and brief. Example of a topic stated in a general form "Child labour in Mwanza city" The possible objectives for the topic could be:
  a) To find out the causes for child labour in Mwanza City.
  b) To find out the effects of child labour on education in Mwanza city.
  c) To find out the effects of child labour on youth discipline.
  d) To find out the type of children involved in child labour.
  e) To find out the solutions for child labour in Mwanza city.

  It is expected that during the formulation of the research topic, the topic should be put into objectives for operation purposes. For example to find out the causes of child labour in Mwanza city

Example :1 on how to identify research problem

Problem situation: In district Y report showed that in the first month there were 500 children under one year old who started immunization, but at the end of the year it was found out that there were only 25 children who completed their vaccination

Discrepancy: All the 500 children at district "Y "should have completed their vaccination but only 5% out of those who started vaccinations have completed.

Problem (research) question: why only 5% of the children completed their vaccination.

Definite answer: Out of the 1 hospital, 2 health centers and 10 health stations found in district "Y" only 2 health stations were functioning, the rest were closed due to insecurity in the area.

- There is no need of undertaking a research, since definite answer is obtained to the problem situation.

Example :2 on how to identify research problem

Problem situation: In district "Z" (population 150,000) there are 2 health centers, 1 hospital and 15 health stations and all of them function smoothly. However, at the end of the year it was found that the coverage was only 25%.

Discrepancy: Although district "Z" had 100% availability of health services and at least 80% of the children should have had full vaccinations the coverage was only 25% as seen above.

Problem question: What factors influence the low coverage in district "Z"?

Possible answers:

a) Mothers might have problems for not attending in the health center sessions.
b) The programs might not have been integrated; hence children might have missed opportunities in getting immunization.
c) The follow up of defaulting children might not be effective and other reasons.

- Thus, the above problem situation is researchable.

SOURCES OF FIELD RESEARCH PROBLEM

Identifying the research problem is not an easy task, and not a straight forward activity. In order to get an appropriate research problem, a researcher has to look into many sources from which to derive the research topic or problem. Among the many sources from which the research ideas or problem originate include:

a. ***Everyday life experience***
b. ***Practical issues facing the society***
c. ***Past research studies***
d. ***Existing theory***
e. ***Deductive reasoning***
f. ***Inductive reasoning***
g. ***Sensory experiences***
h. ***Consultation from expertise***
i. ***Logical reasoning***
j. ***Scientific approach***

i. ***Personal experience:*** everybody has been exposed to some interesting situations in life time; hence he/she may want to inquire into those challenging topic or a problem which was exposed to.

ii. ***Practical issues:*** similarly the society faces many burning issues, which have not been explained and they are not easily explainable without a research. From these issues a researcher may decide to make an investigation in one of the issues which he is interested in. Such issues may include the reasons for the persistence of malaria in a given district.

iii. ***Past research or literature review:*** a research problem can also be identified from reading previous studies done by other researchers. Here the researcher can find it interesting to repeat the same study like what others did but at different time and situation, so as to prove the existing notion or theory.

iv. ***Deduction from theories:*** this is done to find out the applicability of an existing theory to the real life situation or to the problem. Deduction from theories is usually done to provide worthiness to the existing theory.

i. ***Deductive reasoning:*** this is the conclusion that stem from general to specific. It points new relationship as one proceeds from general to specific. For example girls are defendants. Therefore, Mary is dependent. This also can stimulate one to make an investigation in such a statement so as to prove its validity.

ii. ***Inductive reasoning*** this is the conclusion that is made from the particular to the general, i.e. creating a general rule by seeing similarities among specific situations. For example Jane is good at language; therefore girls are good at language. From this a research problem can be identified or developed to prove the statement or theory.

iii. ***Sensory experiences:*** That is by seeing, hearing, smelling, and thinking over information from other people around you who may not be included in your samples, or from the surrounding environment. This can provoke someone to make a research in the situation to prove whether what he has seen is valid.

iv. ***Consultation:*** Consultation with other people especially experts of different disciplines. For example by consulting a health officer on the spread of malaria, the researcher will gate vital information on the causes and spread of the disease in the given locality, that will enlighten him/her in developing a research problem to find out the causes and hence the solutions.

v. ***Logical reasoning:*** The researcher may sometimes apply some reasoning to generate the research problem from the society or the environment in which he/she lives.

vi. ***Scientific approach:*** In this case the testing of an idea is very important. Here the researcher may decide test the idea at hand to find out its validity. Such issues may include reasons for the persistence of malnutrition in a given area, or the occurrence of new cases of HIV/Aids in the society.

CHARACTERISTICS OF A RESEARCH PROBLEM

- In formulating the research problem, it is better to be sure that the identified research problem is appropriate, and has the following qualities:

i. **Relevance of the topic:** The topic chosen should be relevant to the society in which the research is going to be carried. Also should be current and relevant to the present situation. This is because you may be researching about something which its result will not be useful to the society.

ii. **Avoidance of duplication**: Before carrying or identifying a topic or problem for research, it should be found out if this problem has been researched upon previously and

its results approved. This is to avoid repetition or duplication of work unnecessarily.

iii. **Acceptability by the society**: Before the topic is been researched or proposed for research, it should be checked whether it is acceptable by members of the society in which it is to be researched or not. This is because the research may be done on a topic which is useless to the society. Also the society might be against it such that the information collected will be incorrect or invalid.

iv. **Feasibility**: the research to be carried should be feasible in terms of the resources requirement. Such resources include time, money, manpower, equipment or space needed to carry out the research. Thus the problem to be researched must be within the limits of the available resources.

v. **Applicability**: the identified research problem should be applicable in terms of its results to the society in which is undertaken.

vi. **Cost effectiveness**: the research should be cost effective. That is to say its benefits should exceed its costs when one comes to compare the two in undertaking the research and implementing its findings.

vii. **Timeliness:** One has to ask, "Is the results of the research going to be available in time to enable policy makers and other interested people to use it in making decisions." Thus before the researcher undertakes a research he has to predict when the results of the research will be available to the users.

viii. **Ethical considerations:** The research should be acceptable to those who are being studied according to their culture and ethics. Research problems, which do not comply with the culture of the society to be studied, must be avoided. This is because they cannot yield the needed or expected results.

II. LITERATURE REVIEW

- Is a stage involving intensive reading of many relevant literatures on the particular problem so as to expand knowledge.
- Literature source including book, journals newspapers, magazine, litters, research report (dissertation),

TV and Radio programs which are relevant to the problem etc.

- Literature review help to collect more information, identify theories, to avoid unnecessary repetition of work, to enable to formulate hypothesis, It help in the selection and definition of a problem ,It help to save money and time

Questions To Consider In Your Literature Review

a) What do we already know in the immediate area concerned?
b) What are the characteristics of the key concepts or the main factors or variables?
c) What are the relationships between these key concepts, factors or variables?
d) What are the existing theories?
e) Where are the inconsistencies or other shortcomings in our knowledge and understanding?
f) What views need to be (further) tested?
g) What evidence is lacking, inconclusive, contradictory or too limited?
h) Why study (further) the research problem?
i) What contribution can the present study are expected to make?
j) What research designs or methods seem unsatisfactory?

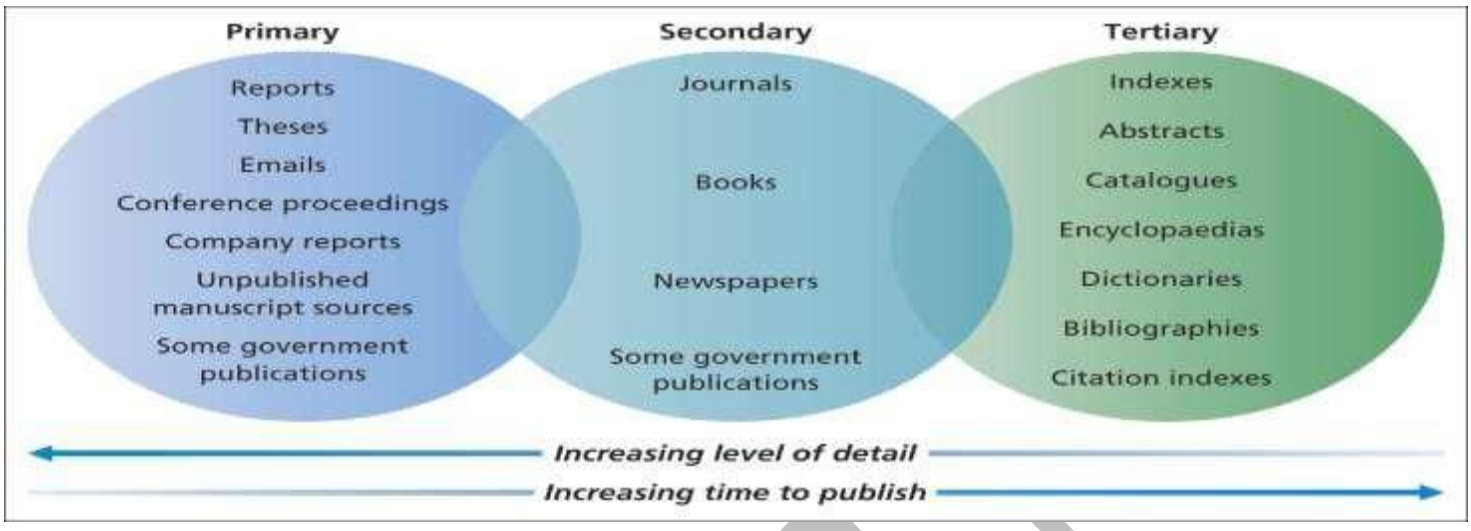
What should I do before writing the literature review?

- Similar to primary research, development of the literature review requires four stages:

a) **Problem formulation**—which topic or field is being examined and what are its component issues?
b) **Literature search**—finding materials relevant to the subject being explored

c) **Data evaluation**—determining which literature makes a significant contribution to the understanding of the topic
d) **Analysis and interpretation**—discussing the findings and conclusions of pertinent literature

Diagram to show Literature sources available



SOURCES OF LITERATURE REVIEW

The resources of literature review are numerous depending on the identified research topic. But they can be categorised into two main categories: primary sources and secondary sources:

1. ***Primary sources:***

A primary source is a direct description of any occurrence by an individual who actually observed or witnessed the event. In research this is the description of a person who carried the research. The review of literature should be based on primary sources as much as possible because information from the secondary sources may be altered by the writers.

2. ***Secondary sources:***

Secondary sources include any publication written by an author who was not a direct observer or participant in the events described. The following sources are the most common.

- *Journals for related topics*
- *Conference proceedings*
- *Government reports and records*
- *Text books*
- *Internet*
- *Magazines and news papers*
- *Encyclopaedia*
- *Dissertation and theses produced by students for degree awards.*

IMPORTANCES/SIGNIFICANCE OF LITERATURE REVIEW

a) This stages guide the researcher to do a research on what other have not gone through in

order to avoid repetition.

b) It helps the researcher to select the appropriate study methods.
c) It helps the researcher to select adequate sample.
d) It helps the researcher to redefine his/her research.
e) It enables to formulate hypothesis.
f) Help in understanding the structure of the subject;
g) Help to collect more information.

III. FORMULATION OF HYPOTHESIS

- It involve different research question.
- It is a tentative answer to the problem in question.
- Is a guess for the answer of the problem to be researched.
- Hypothesis must cover the cause of the problem, effect of the problem, possible solution and recommendation.
- It can be null hypothesis or alternative hypothesis.

IV. RECONNAISSANCE/PILOT SURVEY

- is the stage where a researcher visit the site before field research starts.
- It is a pre-visit to the site before research. The aim is to familiarize with the area, get permits, chose research tools, enable proper planning/design and so on formulation of research proposal

V. DATA COLLECTION

- Is a process of searching for data using different research tools like questionnaire, interview, observation and so on
- Is the body of information presented in numerical form
- Can be qualitatively or quantitatively.
- At this stage the researcher go to the field and collect data physically.
- Data can be obtained from primary source or secondary source.

VI. DATA ANALYSIS AND ORGANIZATION

- **Data analysis** →refers to the process of ordering and manipulating the collected data. It involves the computation of certain measures along with searching for patterns of relationship that exist among data groups
- A stage data collected are edited and analyzed to identify relevant and irrelevant data.
- Data are putted in systematic form.
- Data are tabulated and various satisfied measures such as measures of central tendency are assessed.

VII. DATA PRESENTATION AND INTERPRETATION

- **Data interpretation**→ refers to attaching the meaning and significance to the analysed data, explaining descriptive patterns, and looking for relationship and linkages among descriptive dimensions. A research report usually includes a great deal of description of the events, places, people, or objects. The purpose of these descriptions is to let the reader know what happened, what it was like from the participant's activities.
- Data edited, sorted, recorded and analyzed in the previous stage are now presented in various statistical form e.g. as graphs, maps and charts, tabulation also photograph field sketching.

VIII. TESTING HYPOTHESIS

- The original hypothesis is tested against the research results.
- If data support the hypothesis appears wrong the researcher goes back to the field and start afresh and ways of collecting data must be changed.

IX. RECOMMENDATION AND CONCLUSION

- At the end of the research, the researcher has to prepare a report of what has been done the researchers' finding have to be communicated or exposed to the public.
- Researcher gives his or her opinion and gives conclusion of all that he has observed.

SIGNIFICANCE/IMPORTANCE OF STAGES IN A RESEARCH

Research is understood to follow a certain structural process, but the step order varies according to the subject matter and the researcher's needs. Steps or stages in research remain the bases of a research in the following manner.

a) Stages in research help the researcher to select the appropriate topic and research objectives for the identified problem.
b) They help the researcher in deciding the correct literature to be reviewed to get the relevant information regarding the research problem or the topic identified for research.
c) Research steps help the researcher to conduct a systematic and scientific research rather than doing things haphazardly.
d) Steps in research guide the researcher in the whole process of the research and keep him in the right truck. They control the researcher from diverging the intended goal and relevant course of investigation by providing the framework within which the planned research activity proceeds.
e) They also guide the researcher in selecting the appropriate methods for data collection, analysis and presentation for the identified research problem or topic.
f) They help the researcher to identify the research questions which can be relevant or appropriate to the present research problem.
g) Steps in research guide the researcher in collecting the appropriate data that suit the stated research objectives.
h) They also help the researcher to come up with appropriate suggestions and recommendations for the problem under study.

RESEARCH SITE SELECTION

A research site→ is a location or place at which the research activities will be conducted. It may be a factory, an institution such as a school, a forest, a village, a district or even a country, depending upon the needs of the researcher, the purpose and objectives of the research. The extent of the problem and the resource available are also necessary in determining the research site. A research site should fulfil the criterion of representative of the population of study.

QUALITIES OF GOOD RESEARCH SITE

A research site should therefore posses some qualities so as to be considered appropriate for the research.

i. It should be endowed with a required amount of the needed information from which the researcher can collect the needed data in the proposed period of time.
ii. The research site should also be cost effective, in that the research will be conducted at a minimum cost in terms of money, time and other resources.
iii. Moreover, a research site should be the right location from which the event or problem has occurred. This is necessary as to give the real picture about what, where, why and how the event occurred. This will provide you the exact information needed.
iv. The research site should be one that can help to answer the research questions and enable the researcher to attain the stated research objectives.

From the stated qualities or requirements of an ideal research site, it can be said that, it is important to select an appropriate research site due to the following reasons.

a) An appropriate research site will help to minimise the cost of the study and help the research to meet the proposed deadline of the study.
b) It is also important to note that an appropriate site is advantageous because it will provide the appropriate data needed to answer the research questions.
c) An appropriate site for the research will provide the right information for the research objectives. Hence the researcher to be successful in conducting a particular research, he/she should select a site which is appropriate to the research topic or problem.

RESEARCH DATA

Is a body of information about a particular problem or phenomena.

❖ TYPES /SOURCES OF DATA IN RESEARCH

i. PRIMARY SOURCES /DATA

Is the original data collected directly from the field.

- It provides primary data. This source provide data directly from the field using research tools like questionnaire, interviews ,observation and so on

MERITS/ ADVANTAGES OF PRIMARY DATA/SOURCES:

a) Provide data directly from the original source
b) It minimizes inaccuracy information
c) It is easy to prove or to find some proof
d) It is the common source of data used in research

DEMERITS/ DISADVANTAGES OF PRIMARY DATA/SOURCES:

a) It is time consuming.
b) It may involve confrontation with respondents.
c) It can be expensive; due to transportation, accommodation and so on.

ii. SECONDARY SOURCES /DATA

- Is the data collected from documents. E.g. through books, journals, economics, survey, census report, official report.
- This is a source that provide data indirectly through books, magazine, journals, TV and radio programs, DVD, VCD, Films and Cassette, internet and so on. Advantages: save time and cost

ADVANTAGES/ MERITS OF SECONDARY SOURCES

a) It saves time
b) It can be cheap as it avoids transportation, accommodation and so on
c) It does not involve confrontation with respondents

DISADVANTAGES / DEMERITS OF SECONDARY SOURCES:

a) Provide data indirectly from the field, so do not provide original data
b) It may contain inaccuracy/wrong information. Eg some books have many errors
c) It is difficult to prove or to find some proof
d) It is not the common source of data used in research

RESEARCH HYPOTHESIS

Hypothesis – is a prediction of outcome of the results.

- It is the statement of expected results.
- Is an assumption used on what one expects to find out in the field. It can be either true/false. E.g. poor student classrooms attendance result to poor academic performance.

- The hypothesis are:-
  - Poor family income
  - Poor parental care
  - Involvement of student in economic activities.

❖ TYPES OF RESEARCH HYPOTHESIS

a) Null hypothesis. (negative hypothesis)

Is the on stated negative showing no relationship between two variable .E.g. There is no relationship between poverty and early marriage. Or "Poverty doesn't cause HIV"

b) Alternative hypothesis. (positive hypothesis)

Is the one stated positively showing that there is relationship between two variables. E.g. there is relationship between poverty and early married. Or "Poverty causes HIV.

❖ CHARACTERISTICS OF HYPOTHESIS

A good hypothesis should possess the following characteristics:-

i. It should be related to the research problem.
ii. It should focus on a few variables so that it can draw the attention of the researcher into the more important parts of the research problem.
iii. It should be precise, simple and clear such that it is easy to understand and interpret.
iv. It should have an element of comparison, where two or more items are compared.
v. It should be clearly and carefully stated so that at the end of the research can be tested against the data collected for approval or disapproval.
vi. It leaves room for "yes" or "no".
vii. Quantities words are used e.g. more, most, majority.
viii. Should be relevant to the society.
ix. Should be testable.

❖ IMPORTANCE OF HYPOTHESIS

- It defines which facts are relevant and which are not.
- It indicates the type of data required.
- It contributes to theory development.
- It helps to limit the area of research.
- It is suggest solution to the problem.
- Give researcher direction to the collection and interpretation of data.
- Provide a framework for reporting conclusion of one's study.

❖ PROBLEM FACING IN HYPOTHESIS FORMATION.

i. Little knowledge about a problem.
ii. Researcher fails to formulate focused hypothesis (off – track)
iii. Unclear hypothesis due to ambiguity, poor language, poor presented problem.
iv. Lack of enough time to think on many possible alternatives.
v. Bias of some researcher to his present knowledge.

RESEARH METHODS /TOOLS

- These are basic and common methods which are used to collect primary data in the field.
- Refers to the techniques used to collect data in the field. It is not that simple to get data from respondents. Thus techniques must be used. Some of these techniques include:

I. ***OBSERVATION***; data are obtained on the field by observation over a phenomena or respondent
II. ***QUESTIONNAIRE***; data are obtained through questions written on paper by researcher
III. ***INTERVIEW***; data are obtained via oral interrogation between a researcher and respondents
IV. ***FOCUS GROUP DISCUSSION*** – FGD; data obtained through discussion between respondents and a researcher
V. ***SCHEDULING***; data are obtained through questions on paper, read and interpreted to respondents by enumerators who then fill the questions in a form/paper. Eg in census
VI. MEASUREMENTS AND EXPERIMENTATION
VII. DOCUMENTARY RESEARCH.

I. OBSERVATION

Are researcher uses his/her five senses of hearing, tasting, smelling, seeing and touching to observe the phenomena and record what is observed.

TYPES OF OBSERVATION

a) Participant observation

- In this method the researcher becomes parts of people under study ,he participates fully on a particular events.

b) Non – participant observation

- In this the researcher observes the action, behaviors and activities of the researched group without participating or seen by the participants.

❖ ADVANTAGE OF OBSERVATION

- Helps to develop skills like observation and recording.
- Data are recorded as they observed /occur.
- It gives first-hand information.
- It is a quick method of data collection.
- It avoids language barriers.
- No bias.
- Allows full participation of learners in teaching and learning process.

❖ DISADVANTAGE OF OBSERVATION

i. It costs time and money.
ii. It is subjective because data is based on personal observation.
iii. Some geographical phenomena many not be easily obtained.
iv. Misinterpretation of data may occur.

v. It can give wrong information when the respondent discovers that they are researched.
vi. Risk may occur when observing people that are doing something illegal.

II. INTERVIEW

- Is the verbal interaction between the interviewer and interviewee.
- It designed to list the information, opinions and feelings they have on their own.
- It is a face technique between a researcher and a respondent.
- It can be through two ways – face or telephone interview.

❖ TYPES OF INTERVIEW

a) Structure interview

- Is the type of interview in which the same questions are asked to respondent.
- A researcher prepares questions which he asks ach respondent in a good order and manner.

❖ Advantage of structured interview.

- It is not time consuming.
- A researcher can compare answer from different respondent.
- It is possible to use quantitative analysis to analyses the data.

❖ Disadvantage of structured interview.

- Some hidden information cannot be obtained easily
- It is inflexible; researcher cannot ask more apart from those prepared before.

b) Unstructured interview

- Is a set of questions that the interviewer asks when interviewing.
- The questions vary from one respondent to another.

❖ Advantage of unstructured interview.

i. Respondent are given chances to say more on what they are asked.
ii. More information can be revealed because of high degrees of freedom.

❖ Disadvantage of unstructured interview

- It is time consuming
- Answer can't be able to compare because of different question asked.
- If it is not controlled it may collect irrelevant information.

(PREPARATION FOR AN INTERVIEW) / PROCEDURE FOR CONDUCTING AN INTERVIEW

Necta {2015}

- Before starting your interview, the following aspects should be observed/adhere as a guideline:-

i. Choose a setting which will present minimum distraction during the interview by
   - Avoiding bright light and noise areas for an interview.
   - Ensuring that the interviewee is comfortable by asking him/her if he/she is.
   - Try if possible to use their own places of work or homes.
ii. Create friendly atmosphere where two people can talk easily.
iii. Explain briefly the purpose of the interview.
iv. Ask the respondents if they have any questions before getting started with the interview.
v. Maintain warmth and friendliness. This enables the respondent to express in details their thought and feeling
vi. Tell or specify how long the interview will take to be accomplished.
vii. Be neutral and don't suggest any answer.
viii. Instill confidence and trust to the respondent by assuming her information given would be confidential.

ix. Do not count on you memory to recall their answers. Ask for permission to record the interview or bring with you someone to take notes about what is said.
x. Avoid the use of tape recorder as it might inhibit the respondent from interpreting effectively.
xi. Encourage the respondent to keep on talking and avoid interpreting him/her unnecessarily.

❖ **Advantage of interview**

- No restricted it is flexible.
- It enables a researcher to obtain required information quickly.
- Interview method can also employ observation method.
- Provide data which is not possible to get through questionnaires.
- Can provide much information when situation is adopted.

❖ **Disadvantage of interview**

c) It is time consuming.

d) There is an element of distortions.

e) It is cost e.g. when researcher travel to meet the respondent .

f) The respondent tends to be subjective.

g) Some respondent gives irrelevant information when they are suspicious.

III. QUESTIONNAIRES

- These are ready written questions which are given to the respondent to be answered.
- Consist of list of questions related to the topics used to obtain the data required.

❖ **TYPES OF QUESTIONNAIRES**

a) Closed – Ended /structured questionnaires

- Are questions which are accompanied by a list all possible alternativeness from which respondent select the answer that is best.
- The respondents are limited on answering the

questions. For example how long have you been working in this company?

A. Less than a year
B. One year
C. Two years [ ]
D. Three years
E. More than three years

❖ **Advantages of closed – ended questions**

- They are easier to analyze.
- They are easier to administer because each item is followed by an alternative answer.

❖ **Disadvantage of closer – ended questions.**

i. They are difficult to construct.
ii. They limit the responses.

b) Opened – ended /unstructured questions

- Are questions where the respondents are free to explain the answer.
- They permit respondent to respond in his /her words.
- ❖ Example of a question of an open ended questionnaire can be "what do you think are the reason for the persistence of malaria in your area of residence?" In this case several responses will be provided by the respondents depending on their opinions for the causative factors.

❖ **Advantage of open –ended questions**

- Allow a greater chance of responses.
- Simple to formulate.
- Can stimulate a person to think about his/her feeling to express.

❖ **Disadvantage of open – ended questions**

i. It is time consuming.
ii. Some respondent can answer out of the research questions.

❖ **PROCEDURES CONSIDERED IN PREPARING QUESTIONS**

i. Question should be polite.
ii. Question should be short, simple and straight forward.
iii. Question asked should follow the order.
iv. Avoid sensitive questions e.g. how much is your salary.
v. The questions should be free from bias. Do not help the respondents in deciding answers.
vi. The questions should be strictly relevant to the topic and should help the interviewers to obtain required information.

❖ **ADVANTAGES OF QUESTIONNAIRES**

- Freedom to the respondents.
- It is well planned.
- It is usefully to distant respondent.
- A researcher gets a lot of information from different respondent.
- Omission of names makes the respondent to respond the questions.

❖ **DISADVANTAGES OF QUESTIONNAIRES**

i. It is time consuming.
ii. It is limited to illiterate (It is selective).
iii. It is expensive to prepare.
iv. Some questions can provide wrong data because no elaboration.

N: B, MAIL QUESTIONNAIRES– is the types of questionnaires which involves mailing Questions to the respondent

➢ It can be through post mail

IV. FOCUS GROUP DISCUSSION

➢ Is the research method which involves intensive discussion on a particularly issues.
➢ Normally done in groups of 5 – 7 people
➢ A researcher guides the discussion and records the data from what is discussed by the member.
➢ It enables the group to get additional information.

❖ **Advantage/merits of focus group discussion**

- It is not cost full.
- Allows critical thinking to the participants.
- Makes respondents understand well the topic.
- Makes the research topic to be live and interesting.
- Respondent get skill of writing, speaking and coordinating.
- A researcher becomes an active person in the discussion

❖ **Disadvantage/demerits of focus group discussion**

i. Not easy to analyze the data collected.
ii. Very small sample is used.
iii. It is time consuming.
iv. Selection of sample may be affected by biasness.

v. DOCUMENTARY RESEARCH

This is the methods of collecting data which involves reference to past publications and official documents. It is often conducted in the context of library research. These data may be extracted from text books, statistical abstracts, economic surveys, census report, journal and official reports.

ADVANTAGES OF DOCUMENTARY RESEARCH

i. Data collected are made easy because it is based on the extraction of analyzed information
ii. The methods is cheap since the relevant publications are readily available
iii. Library are source of officially accepted information
iv. it is easier for one to understand social changes with time by comparing information of different periods.
v. Secondary source provides information which may not be easily acquired from primary sources.

DISADVANTAGES OF DOCUMENTARY

a) The authors could emphasize prejudicial ideas
b) The required data may appear in a format is not appropriate to the study being undertaken
c) Available data in most cases are outdated
d) Some secondary data may not be incomplete Classified secondary data may not be available to the researcher
e) It is based on the misleading assumption that there exists a well-established data bank.
f) The available information could have been biased.

SIMPLIFIED TABLE TO SHOW RESEARCH TOOL

No	Research Tool	Types	Advantages	Disadvantages
1	***Observation***	i. Participatory ii. Non-Participatory	• Provide data direct from the field(provides first hand data) • It is more accurate • Used to both literate and illiterates - No shyness problem	• Time Consuming • It is Expensive • A researcher can be affected • Some issues aren't observable
2	***Interview***	i. Face to face ii. By telephone iii. Structured iv. Unstructured	• Provide data direct from the field • It allows clarification of questions and answers/ response	• Time Consuming • It is Expensive • Wrong/false response • There is shyness • - There is language barrier

3	***Questionnaire***	i. Open ended ii. Close ended	• Provide data direct from the field • Can cover a large area/population • No shyness problem • easy to analyze • it avoids bias of a researcher - it give respondents more	• Time Consuming • It is Expensive • Language barriers • Failure to return response • Used by literate only • Wrong/false response • No clarification/nonflexible

4	***Focus Group Discussion F.G.D***		• Provide data direct from the field • Can cover a large area/population • No shyness problem • A wide range of data are obtained	• Time Consuming • It is Expensive • A researcher can lose control over the group • Wrong/false response • Difficult to note and analyze responses

FACTORS INFLUENCING THE CHOICE OF RESEARCH TOOLS

i. The skills of a researcher; the choice of tools must rely on which tool is the researcher skilled
ii. Time available for research; some technique are time consuming while others are comparatively faster
iii. Nature of investigation; investigation may be done secretly hence appropriate tool is chosen
iv. Objectives and scope of inquiry
v. Desired degree of accuracy; some research problem must get the most accurate data
vi. Nature and size of population; differences in size of population affect the choice of data collection method.

RESEARCH SAMPLE AND SAMPLING

"Population" and "Sampling" in Field Research

❖ ***Population;*** Refers to all members (people, things) found in an area where research is done. Some research problems have high population while others have low population

❖ ***Sample;*** a sample refers to a few selected members from the total population for study purpose. It is a representative from the population for study purpose.

- is the small number of population which represents the whole population
- A good sample has the following features:-
  - It must have enough number of representative
  - Must cover a wide area

❖ ***Sample frame***; is the list of all elements/members in the target population. These elements must have similar characteristics related to the research study. A sample is thus taken from the sample frame in a population

❖ ***Sampling unit;*** is the place or case from which sample frame is taken. Include street, class, family, etc

❖ ***Sample size;*** is the amount or number of representative (sample) enough for the study. The choice of sample size depends on the nature of study/problem, time available/coverage and financial resources.

❖ ***Sampling;*** this is the process of selecting few members from the population for study purpose. It is the procedure of picking few members (samples) from the population for study purpose

- Is the process of collecting sample from the population

Sampling→ is a scientific procedure of selecting a portion or a required number of elements, units, items, things or people from a population to form a representative of the population for research purposes or for other uses.

CHARACTERISTICS OF A GOOD SAMPLE

For a reliable and valid conclusion in research it requires a good sample. A good sample should posses the following characteristics:

a) It should be a truly representative of the whole population by possessing all the important characteristics of the population from which it is drawn.
b) It should be randomly drawn from the population such that every member of the population must have equal chances of being chosen.
c) It should be of optimum size such that it fulfils the requirements of efficiency and representative in research.

STEPS IN SELECTING THE SAMPLE

- In order to obtain a representative sample of the population the researcher has to systematically select each unit in a specified way under controlled conditions. The following steps are involved in the process of selecting the sample:

i. Obtaining an adequate sample
ii. Selecting a representative sample
iii. Formation of a sampling frame
iv. Identifying the target population

I. Identifying the target population

- The target population or group is the sum total of all units from which information is to be obtained. It is a well defined group of human being, trees, houses, or any other entities in a given area. The researcher must state clearly the group or items, which she/he is going to deal with during the research.

The size of the population also varies with area and type of units that will be involved in the investigation. For example to study "the effects cost sharing on education in secondary schools", all the secondary school students in the country will be the target population. In studying the causes and effects of street children in Mwanza city, the target population would be small because the geographical area covered is small and the subjects constitutes a small proportion of the population of Mwanza city.

II. Formation of a sampling frame

- Once the target population has been identified, the researcher has to list down the population units that will form a sampling frame. A sampling frame is a list of all items from which the sample is to be drawn. It contains all the names of the universe i.e. it includes all sampling units in the population of interest. For example a sample frame for a research to study cost sharing in secondary schools in Tanzania will include a list of all students attending secondary education in Tanzania. If the study is centred on the environmental degradation in Lake Victoria due to fish processing industry, the sample frame will be a list of all fish processing industries in the countries of Tanzania, Kenya,

and Uganda, which are located around Lake Victoria. The sampling frame should be the true representative of the population.

III. Selecting a representative sample

- A representative sample is a sample drawn randomly from the population and possesses all the important characteristics of the population from which it is drawn. After listing down the units of the population, the researcher selects a few units from the list to form the sample, this is the sampling unit.

A sampling unit is the group of items selected to form the sample. It may be a geographical one or a construction unit eg a house, school, hospital or a social unit e.g. a family, a club, or a household.

IV. Obtaining an adequate sample

- The sample shall be larger enough to represent the characteristics of the population under study. The behaviour of three students, for example, selected from a school with a population of 300 students to represent the behaviour of all students will not sufficiently represent the behaviours of all students because it is too small. However, there are no rules on how to obtain an adequate sample, because each situation has its own problems. Nevertheless, if the population under study is homogeneous, a small sample is sufficient. But to be on the safe side the sample size should be as large as possible, usually between 10% and 20% of the population.

- **Sampling size** refers to the number of items to be included or selected from the population to form the sample. The size of the sample neither should be excessively large nor too small. But it should fulfil the requirements of reliability and efficiency representative.

TYPES OF SAMPLING

i. Probability sampling/ Random sampling.
ii. Non – probability sampling/ Non-random sampling.

I. PROBABILITY SAMPPLING

- It is a random selection of sample by chance.
- Each individual in a population has an equal chance of being included in the sample.

TYPES OF PROBABILITY SAMPLING

a) Sample random sampling

- It is a chance sampling techniques where each of every items or individual in the population has an equal opportunity of being included in the sample .e.g. Table random number.

b) Systematic sampling

- Is the types of sampling by selecting of individual or items on a given regular interval.
- selection is done in a systematic manner, eg pick 2 members after every 10 minutes.
- It is very applicable when population sample is large and the target population is evenly distributed.

c) Stratified sampling.

- Individual for the sample are selected from different strata.Eg .A researcher Lukwaro wishes to get a sample of 20 students from 5 schools, he will have to select 4 students

from each school.

d) Cluster sampling

- Is the type of sampling used when target population is displaced over a wide geographical area.
- Under this the total area at study is divided.

MERITS OF RANDOM SAMPLING

i. Used where the population is very big
ii. It avoids the problem of bias in sample selection
iii. It saves time

DEMERITS OF RANDOM SAMPLING

i. It may lead to the selection of a wrong sample

II. NON – PROBABILITY SAMPLING

Is the type of sampling which does not give each items equal chance to be included in sampling

❖ TYPES OF NON-PROBABILITY SAMPLING

a) Accidental sampling

- Researchers collect data from responds he/she meets accidentally during the period of research.

b) Snow ball sampling

- The researcher begins with few individual available, then those individual recommend other.

c) Purposive sampling

- Is the judgment of sampling in which researchers use his/her knowledge to select a sample.
- The sample base on certain purpose .E.g. only engineer, male, student, youth, elders etc.

❖ Importance of sampling in field research

i. Save time, since can procedure result from within short time.
ii. It is cheap in terms of cost. It lowers the cost of fieldwork.
iii. Provide a greatest scope in terms of variable that may be studied.
iv. Sampling is scientifically and statistically justifiable.
v. It helps to avoids biasness.
vi. It provides alternative way when populations contain large number.
vii. It is less cumbersome.

RESEARCH PROPOSAL

Research proposal – Is a systematic plan, suggestion or an outline that will guide you during conducting field research.

- Is the systematic plan which brings together the preliminary planning that will be needed to accomplish the objectives of the research. Simply, it is a summary plan for conducting research.

❖ PURPOSE/AIMS OF RESEARCH PROPOSAL

- A proposal act as a record for agreement.
- It helps the researcher to think over important issues about the study.
- Help to find for the sponsor.
- Proposals are used to make a choice among the competing suppliers (researchers) and to influence positively the decision to fund the proposal study.
- To provide guideline to the research during the research process.
- It suggests when it will be carried out.
- To prepare for the cost of research.

Components of research proposal

a) The title of the research
b) Time schedule, Budget chart and Reference
c) The problem & its setting, hypothesis & literature review
d) Research Extract or Executive summary

- ***FORMAT OF CONTENT OF A RESEARCH PROPOSAL.***

i. **Preliminary pages**
   - Title page, research name, degree requirement.

ii. **The main body**
   - Introduction ,literature review and research methodology

iii. **Back page.**
   - Consist of all list sources that were consulted in writing the proposal.

RESEARCH DESIGN

Research design→is a plan structure prepared for directing a research study.

A research design →is a plan of action in which the researcher stipulates or states clearly how is going to execute the actual research. It is the conceptual structure within which the research is to be conducted. The research design, therefore, constitutes the blueprint for the collection, processing and analysing the required data for a given research study.

- This is the arrangement of conditions for collection and analysis of data in the manner that aim to combine relevance to the research purpose with economy in the procedure.
- It is a structure within which a research is conducted. It facilitates the smooth sailing of various operations of research.
- It specifies the objectives of the study, methodology and techniques to be applied for achieving the objective.
- Is a systematic plan of the procedures for the researcher to follow up.
- A good researcher designed should be flexible, economic, accurate, appropriate and efficient. Research design is the specific plan or structure which shows how data will be collected effectively and efficiently

- ***The research design involves the following activities:-***

1. Selection of variables to be studied, which involves the selection of the target population.
2. Selection of the type of study to be undertaken, whether descriptive, analytical or basic, and the reason for preparing such a research and not the other.
3. Selection of the method of data collection which is going to be adopted during the research study.
4. Deciding on the sampling method that is to be adopted in selecting elements to form the sample.
5. Planning how the collected data will be processed and analysed.

FEATURES OF A GOOD RESEARCH DESIGN:

a) It has to be flexible; it should allow changes to take place during research due to important factors
b) It must be economical; a research design must be in such way that it will save money and time
c) It must be appropriate and efficient
d) It must lead to maximum collection of data

COMPONENTS OF RESEARCH DESIGN;

- A research design must contain/show the following:

a) A plan that specify the source and type of data relevant to the research problem
b) It must show and specify the approach to be used in data collection and analysis
c) It must show research tools
d) It must contain time and cost budget
e) Objective of the study

IMPORTANCE / SIGNIFICANCE OF RESEARCH DESIGN

i. Research design is needed because it facilitates the smooth sailing of various research operations, thereby making research as an efficient as possible yielding maximal information with minimal expenditure of effort, time and money.
ii. We need research design as a plan in advance data collection and analysis for our research project.
iii. Research design stands for advance planning of the method to be adopted for collecting the relevant data and techniques to be used in their analysis.
iv. Research design, in fact has a great bearing on the reliability of the results arrived and at and as such constitutes the firm foundation of the entire edifice of the research work.

TYPES OF RESEARCH DESIGN

- There are as many research design types as there are research problems. The types of research designs are dependent on many different factors including the nature of the research problem, field of research, depth of the required detail and its objective. Hence in selecting the best research design type you need to state your research objective clearly. The objective will decide what information is needed to proceed and how you will go about collecting, processing and analysing the required data.

I Correlation research design

- Is the research design which enables the researcher to assess the degree of relationship that exist between two or more variable.
- It analyses the correlation between two or more variable.
- E.g. compare the geography, find the exams result of group of students who frequently attended geography periods and those who rarely attended geographical period.

II Experimental research design

- It is a type of research design involving random classification at the respondents into experimental groups and control group and then conducting an experiment through exposing the experimental group to unusual conditions.
- It is most appropriate in controlled setting such as laboratories.

III Survey research design

- Data is collected through sample obtained from a large population
- It is a broad based investigation of phenomena through administration of data collection instrument to a target population selected.
- Only two methods of data collection can be used. The methods are interview and questions.
- It is also called descriptive research design.

IV Case study research design

- Data is collected by analyzing a particular unit/area/phenomena

- It uses direct observation to give a complete snapshot of a case that is being studied.
- It arms at studying everything about something rather than something about everything.
- It involves a study of a single unit like family, community, class or a certain geographical areas.

V <u>Historical research design</u>

- It is a research design concerned with the study of past records and other information sources with a view of reconstructing the origin and development of an institution.

Qn: ***EXPLAIN HOW WOULD YOU PREPARE YOURSELF FOR A FIELD RSESEARCH?***

Field research – is a process of data collection in a systematic manner with the aim of solving a problem.

- It requires sources like finance, capital, human and time.
- *Important issues needed for preparation of field research include:-*

a) Knowledge of the problem
b) Research design (work plan)
c) Time schedule
d) The budget

RESEARCH METHODOLOGY V.S RESEARCH METHOD

- **Research methodology→** is a way to systematically solve the research problem. It can be looked as "The analysis of the principles of methods, rules, and postulates employed by a discipline" or "the systematic study of methods that are, can be, or have been applied within a discipline"; or "a particular procedure or set of procedures."
- It largely include the setting of:
  - Research design
  - Sampling procedure
  - Research tools and data analysis

In research methodology, Researcher needs:-

i. To know the research methods/techniques and the methodology.
ii. To know how to develop certain indices or tests,
iii. To know which of the methods or techniques, are relevant and which are not, and what would they mean and indicate and why.
iv. To understand the assumptions underlying various techniques and they need to know the criteria by which they can decide that certain techniques and procedures will be applicable to certain problems and others will not.
v. To design methodology for his/her problem as the same may differ from problem to problem. For example, an architect, who designs a building, has to consciously evaluate the basis of his decisions, i.e., he has to evaluate why and on what basis he selects particular size, number and location of doors, windows and ventilators, uses particular materials and not others and the like.
vi. To expose the research decisions to evaluation before they are implemented.
vii. To specify very clearly and precisely what decisions he selects and why he selects them so that they can be evaluated by others also.

Research methods are all those methods which are used by a researcher during the course of studying his research problem.

- **Research methods can categorized into the following three groups:**

a) Methods which are concerned with the collection of data - used where the data already available are not sufficient to arrive at the required solution;
b) Statistical techniques - used for establishing relationships between the data and the

unknowns;

c) Methods which are used to evaluate the accuracy of the results obtained.

- Research methods in groups 1 and 2 are generally taken as the analytical tools of research. Methodology is the science of studying how research is systematically and scientifically conducted. It is concerned with judging which methods/techniques should be applicable.

FIELD RESEARCH REPORT

A field research report →refers to an account of the observations or study made by a researcher. It is a process that will make the research findings to be known to the public. A research report differs much from other reports written by other people in its presentation, because it provides information by describing the observed phenomenon; a person; an event or a place without making any alteration or modification to the observed phenomena or event.

The purpose of the field research report is to communicate findings of a particular research to the public by telling the readers about what has been done; how it was done and what has been found during the study. The research report is important because the results of the research are intangible, since once the study is completed and the decision has been made, there is little or no physical evidence to show what took place and what went into the project in terms of time, money and effort. Hence the written report is the only evidence of the study that the public will be exposed to. For this reason the report should stand on its own.

WRITING A FIELD RESEARCH REPORT

The field research report must be accurate, objective and systematic in its presentation. An accurate report must reflect a recall (but not a reconstruction) of observations made on an event, a person a place, an object, a process or any non-primary information that were collected from reading materials and old records. For this reason, an account containing wrong or manipulated data does not constitute a research report.

- A field research report must also be formed by an account of original information as it was gathered from the field.

Therefore the research report should fulfil its purpose of informing the public or readers about what you investigated, why you conducted that investigation, and what the results of your investigation were. It should also inform about your conclusions. Hence, being an investigator, your job is simply to report and not to convince or to advocate on your investigation. Therefore provide enough detail and leave the readers to make their own judgments about your research.

SECTIONS OF A RESEARCH REPORT

In writing a field research report you need to develop several different sections. You can also writ them in any order of your preference, though to make your report sensible, you can organise them in the order laid out below.

i) The preliminary pages
ii) The main body of the report
iii) The conclusions

I. The Preliminary Pages

This provides the guide to the readers. It consists of the title, declaration, acknowledgement, the table of contents, list of figures, a list of tables and the abstract.

a) ***The title:*** This is written on the first page and usually not numbered. The title contains

the heading of the research topic written in a brief and descriptive form, but clearly pointing out what the study is all about. To make the title more clear, you can specify the cause and effect relationship in your key words, but avoid wasteful phrases such ***as "AN INVESTIGATION TO DETERMINE THE EFFECT OF HUNGER ON LEANING AMONG DAY SCHOLARS***, be direct to the point and say ***"THE EFFECT OF HUNGER ON LEARNING AMONG DAY SCHOLARS".***

b) ***Declaration:*** written on page (ii) of the research report, it spells the oath and confirmation that, this work is yours. The declaration must be signed by you, the researcher, and your supervisor (your teacher in case of subject project).

c) ***Acknowledgement:*** this is found on page (iii). In this part the researcher expresses his/her gratitude to all that assisted him/her in one way or another to make the research successful.

d) ***The table of contents*** on page (iv), indicates where the various information in the research report can be found. Here the various topics and subtopics are arranged chronologically.

e) ***A list of figures*** is found on page (v). It consists of diagrams, maps, and/or graphs that you might have used to illustrate your points so as to make them understood to the readers.

f) ***A list of tables*** usually found on page (vi) or vii depending on the size or length of the list of figures. It consists of any mathematical or numerical information like marks, population figures, output values, and any other relevant information to illustrate relationship between variables in your study.

g) ***Abstract:*** this is a summary of what the report contains. It is written in a few words between 100 and
120. The abstract describes briefly the statement of the problem, the population or subjects of your study, both the dependent and dependent variables in the study; the instruments used in data collection, the research design employed and the major findings of the study. It also includes the researcher's conclusions about the problem. Thus in the abstract the most important aspects of the research are describe within the word - limit.

II. The main body of the report

The main body of the report consists of the introduction, literature review, the methods used in the study and the discussion made by the researcher each described separately. .

a) Introduction

In this section, introduce your main ideas in brief presenting the investigated problem, the importance of the study and an overview of your strategies. State the origin of your main idea and the rationale behind its conceptualization (back ground of the problem). Support your rationale with previous studies but citing only the most significant and relevant sources (make a brief literature review).

State clearly your justification for choosing the problem by stating the study objectives or the statement of the problem. Cite benefits that may accrue from your study findings (significance of the study).

Briefly tell how you conducted your study by describing your research design or your methodological strategies used to tackle the problem. Specify the data used and how they were obtained (data collection procedures and instruments. Clarify important terms used in the report by giving their conceptual and/or operational meanings (definition of terms).

b) Literature review

The introduction part is usually followed by a review of the literature. In this part show how your research builds upon prior knowledge by presenting and evaluating what is already

known about your research problem. The goal of literature review is to demonstrate the logical continuity between previous and present work. Hence, discuss the different findings which are related to your problem of study, to make your readers understand why the topic or problem was researched and why the study represents a contribution to the existing body of knowledge.

c) Methods

The method section includes separate descriptions of the sample, the materials used, and the procedures. At first, discuss the methods used in data collection, how did you do it and what did you do during data collection. Be detailed and include information about where, when, and how data was collected.

d) Sample

Describe your sample with sufficient details so that it is clear about the kind population the sample represents. A discussion of how the sample was formed is needed for understanding your study. Discuss about people (subjects or population) you observed but do not expose them, only talk about their racial and gender. Also talk in general about their relation to you during the research or study.

e) Instruments

Describe your instruments including all surveys, tests, questionnaires, interview forms, and other tools used in data collection, and how were used.

f) Procedures

The design of the study, whether it is case study, a survey, a controlled experiment, or other types of research, has to be described. It is here that you describe your activities during the research telling what was said to the participants, how groups were formed, what control mechanisms were employed etc. The description should be sufficient enough to provide detailed information to the readers, so that they can replicate the essential elements of the study. It is important for the procedures to conform to ethical criteria of the researchers. You must also tell how your presence affected the data collection process.

g) Findings

Present a summary of what you found in your research. Here you should describe the techniques that you used in each analysis and the results of each analysis. Start by a description of complications, such as protocol violations, and missing data, that may have occurred. Examine your data for anomalies such as outliers, points of high influence, miscoded data and illogical responses. Use common sense to evaluate the quality of your data and make adjustments if needed.

- Group similar findings under the same subsections then discuss them in descending order of significance or relevance to the study problem. Support your statements with citations or well known opinions about the statement you have made.
- Try to use the simplest and appropriate techniques in data analysis for which you can meet their underlying assumptions.
- Be objective in the entire presentation of your study results. Just present the facts that were found and leave your readers to make individual interpretation and judgements about your study.
- Provide only a summary of the details about what you found rather than an exhaustive listing of every possible analysis made and every data gathered.
- Use carefully planned tables and graphs which are self explanatory. Do not include a table or a graph unless it is discussed in the report. Limit them to those that help the readers to understand your data.

III. The conclusions

This part includes the discussions and the conclusions and recommendations made by the researcher.

a) Discussions

In this section, discuss and interpret your data for the readers. Tell them about the implications of your findings. Do not be afraid to state your opinions. Present your own analysis, opinions, criticisms, and advocacy, and support them by literature or previous research studies. Just make sure that the readers see a clear distinction between what is due to your work and what is due to what was found by your study.

Begin the discussion by highlighting key results. Relate your findings to those of previous studies, by explaining relationships and supporting or disagreeing with what other researchers have found. Tell the readers what you now think and why.

b) Conclusions and Recommendations

- Sum up your salient findings and all insight obtained from your study. Describe your logic through evidences. Tell if you meet the objectives of your study and if not explain why.
- Proceed by stating briefly the limitations of your study (tell what could not be controlled by you) and the delimitations of the study (the boundaries beyond which the study could not reach). For example state and justify which procedures that could have been done but were undoable on your part. End your report with recommendations that will leave the readers with precise answers to questions such as what is the further implication of the study? What would be the next move after this?

c) References

Give credit to whom they are due. This is the formal way of saying "Thank You". List references cited in the report. Note that, enumerating your sources of information, offers your readers the opportunity to verify your study.

d) Appendices

In this part attach all relevant materials (tables, formulas, graphs, computations, photos CDs and other materials cited or used in the study. All the information which was not included in the body of your report, for reasons that they would cluster your presentation, should be put here.

SUMMARY OF RESEARCH REPORT

THE REPORT FORMAT

The research report should have three main parts;

a) Preliminary pages
b) Main body
c) Conclusion

A) PRELIMINARY PAGES

Saves as the guide to the reader,consist of:- Page 1: Title of the researcher

Page 2: Declaration; that the work belongs to the said researcher.

Page 3: Acknowledgement. (A researcher gratitude to all who are in one way, or another help the researcher to be successful).

Page 4: Table of contents.

Page 5: List of tables (if any) Page 6: List of figures

Page 7: Abstract –This summarize the whole research work. It should not be more than 120 words.

(B) THE MAIN BODY

It contains five chapters;

Chapter 1 Introduction

The Chapter contain the following parts;

- Background of the study.
- Statement of the problem.
- Objective of the study.
- Purpose of the study.
- The scope of the study.
- Significance of the study.

Chapter 2 Literature Review

Covers the literature review of other researchers who did a similar research in the past.

Chapter 3. Research Methodology

This describe the design of the research and method of conducting the study e.g;-

- Population.

- Sampling.
- Location of the study area.
- Tools and data analysis techniques.

Chapter 4. Data Presentation

The parts cover the results of the findings of the research.

Chapter 5 Conclusion and Recommendations

Provide detailed summary of the findings and the implications drawn from the results.

USES OF RESEARCH OUTPUT AND RECOMMENDATION

1) Help to improve the knowledge of the people e.g discovery of diseases.
2) They are used in formulating government policy.
3) They are usefully in protecting and conserving environment
4) New sources like minerals and fossil fuel can be exploited.
5) The results improve economic and social activities
6) The result helps in finding facing society's e.g. Famine, disease.
7) It helps to identify the specific need of each community.

Research Feasibility: Refer to the complexity of the problem and the resources you will require to carry out the study. Thought should be given first to personnel, time, equipment and money that are locally available.

- Feasibility, include;
  - Time
  - Funding for the study
  - Researcher expertise
  - Availability of participants
  - Availability of facility and equipment

SAMPLE QUESTION

1. (a) Define field work.

Field study→is the geographical method of study in which learners go out of class to observe record, analyses and interpret for themselves what they see.

(b) State three types of field work.

i. Field study.
ii. Field work research.
iii. Field excursion.

(c) Explain three types of field work.

i. **Field study**→is the study which involves an individual or a group of people setting out to collect data in order to achieve specific objectives clearly outlined before study.
ii. **Field work research**→is the study conducted by expert who goes out to the real life situations to identify causes and possible solution to problems.
iii. **Field excursion**→is sight-seeing outing mainly for relaxation.

2. (a) What is research reconnaissance?

Research reconnaissance→*is the prior visit to the area of study before the actual study. It is also known as pre-visit.*

(b) Why is it importance to conduct reconnaissance? It helps the researcher to:-

i. ***It helps the researcher to*** *be familiar with the routes or features in the area.*
ii. ***It helps the researcher to*** *Decide on the method of collecting data.*
iii. ***It helps the researcher to*** *Determine suitability of area of study.*

iv. ***It helps the researcher to*** *Identify problems and how to solve them.*
v. ***It helps the researcher to*** *Estimate cost of research /study.*
vi. ***It helps the researcher to*** *formulate the appropriate objectives and hypotheses.*
vii. ***It helps the researcher to*** *Assemble appropriate equipment for the study.*
viii. ***It helps the researcher to*** *introduce himself to authorities and respondents/seek permission from owners or authorities.*

3. Briefly explain the importance of fiekld research

Research is important both in scientific and non-scientific fields. Usually in life new problems, events, phenomena and processes occur every day. These require solutions and suggestions to tackle them. For this reason, research has to be undertaken on then to find their causes, solutions, explanations and applications in the society. The undertaking of a research on a problem, event or phenomena, therefore is important to the society in the following ways:-

i. Research provides new knowledge to the society. This is through discovery of new facts and ideas, their correct interpretations and practical applications. This makes research the fountain of knowledge for the society.
ii. Research provides the basis for nearly all government policies. For example, research on the needs and desires of the people and the availability of resources to meet their needs helps the government to prepare a relevant budget.
iii. Research helps in solving operational and planning problems of business and industrial activities. In this respect, research helps industries and business organisations to increase their gain, productivity and the quality of their products to meet the market demand.
iv. Research findings are used in predicting future events, developments and trends of issues taking place in the society. Events like the occurrence of floods and droughts, and trends such as employment opportunities or climate change can easily be predicted through research.
v. Social research for example helps in finding answers to social problems. They also explain social phenomena and social relationships.
vi. As a series of academic activities, research contributes to the development of knowledge and formulation of new theories which might be very important to the life of a society.
vii. It is through research that new inversions are made. For example, new and novel phenomena and processes such as the discovery of new stars, and tectonic plates have been possible through research.

Generally; research plays an important role in making us understand the world that we live in.

NECTA QUESTION

1. *(a)Define the term "Hypothesis" in research?*
   (2001) (b)What are the merit and demerits of research?
2. *(a)what are the objectives of field research*
   (2002) (b)Briefly explain the following
   i. *Primary data in research.*
   ii. *Interview as a method of data collection*

3. *(a)Define hypothesis as applied in research.*
   (2003) (b)Why is the knowledge of conducting field research important to researcher?
4. *Explain the following concepts as applied in research.*
   a) *Descriptive research.*
   b) *Applied research.*
   c) *Quantitative research.* *(2004)*
   d) *Research tools.*
   e) *Sampling techniques.*
5. *(a) Define the term sampling as used in field research NECTA 2005;*
   (b) Outline the major types of sampling as used in field research
   (c) What problems are likely to be encountered in field research?
6. *Write short notes on how you would prepare yourself for a field research. (2006)*
7. *Giving example, explain how you can conduct a field research. (2007)*

8. *NECTA 2009 (Private candidates)*
   (a) Define research problem
   (b) Mr. Wanjiku wants to conduct a research but she is still looking for a good Research problem. Outline the qualities of a good research problem.
9. *(a)What is research design? (2009)*
   (b)Briefly explain any four types of research design.
10. *Hypothesis formulation can be used in both qualitative and quantitative research. Examine the problems faced in hypothesis formulation. (2010)*
11. *Explain how you adhere good interview. (2015)*
12. *Suggest the advantages of research findings to Tanzania as developing country. (2008).*

DISCUSSION QUESTIONS

1. *What are the important stages used when conducting Research. Briefly explain each*
2. *Research is a Science. Discuss.*
3. *Describe all the types of research that you know.*
4. *Why is it important to study research? Explain major limitation of field research*
5. *What are the research tools? Briefly explain the pros and cons of each research tool*
6. *What is sampling? List and explain the types of sampling techniques in research*
7. *What is research design? Briefly explain any four types of research design*
8. *Define research problem and explain the qualities of a good research problem*
9. *Write short notes on the following terminologies as applied in Field Research.*
   a) *Hypothesis*
   b) *Sampling*
   c) *Sample*
   d) *Reconnaissance*
   e) *population*
   f) *Respondents*
   g) *Research report*
   h) *Research proposal*
   i) *Field research*
   j) *Research methodology*
   k) *Research methods*
   l) *research design*