

IQRA National University
Department of Electrical Engineering
Subject: Research Methodologies



Assignment

Student ID: Aminullah 15627:

Question No: 1

- a) Differentiate between Search and Research. (05)
- b) Why it is necessary to know about different methods in Research Methodology? (05)

Question No: 2

- a) Explain the following: (05)
 - i) Epistemology
 - ii) Methodology
- b) Differentiate between Qualitative and Quantitative Methods of research. (05)

Question No: 3

Assume that you are the Mayor of Greenwood, a small town in Illinois, and you've got to make decision based on the information collected from the following research study.

The chief of police wants to experiment with increasing the number of patrol officers (X) to reduce the crime rate (Y). The chief invites all twelve area captains to participate in the experiment; only the 103rd volunteers participated. In October, patrol officers in the 103rd are increased by 15%. Reported crime drops 5% between September and December. The chief now wants to implement the program citywide.

Test your research survey with the following case. (10)

☐ Good Luck ☐



Student ID: Aminullah 15627:

Question: NO: 01: (Part A)

Question No: 01: Differentiate between Search and Research?

Answer:

Search:

Search is trying to finding something by looking or otherwise seeking carefully and thoroughly. To look at or examine (a person, object) etc. Carefully in order to find something concealed (hidden); The police search the suspect for weapons.

Research:

One of the ways to find answers to your questions. Research is the systematic investigation into and study of material and source in order to established facts and reach new conclusion.

Question: NO: 01: (Part B)

Question: No :01: Why it is necessary to know about different methods in Research Methodology?

Answer: 1): As a graduate student.

To be able to read and understand the empirical literature in your field; to become a critical consumer of information.

2): As a graduate student preparing for a thesis or dissertation...

To be able to both design and implement your thesis or dissertation as well as future studies that interest you.

3): As a future practitioner...

To be able to intelligently participate in research projects, evaluations, and studies undertaken by your institution.

4): As an educated citizen ...

To understand the difference between scientifically acquired knowledge and other kinds of information.

Question: NO: 02: (Part A)

Question: No: 02: Explain the following?

- 1) Epistemology
- 2) Methodology

1) Epistemology:

Epistemology is the study of the nature of knowledge, justification and the rationality of belief. Much debate in epistemology centers on four areas.

The philosophical analysis of the nature of knowledge and how it relates to such concepts as truth, belief and justification.

2) Methodology:

Methodology is the systematic, theoretical analysis of the method applied to a field of study, it comprises the theoretical analysis of the body of methods and principle associated with a branch of knowledge. Typically, it encompasses concepts such as paradigm, theoretical model, phases and quantitative or qualitative techniques.

Question: NO: 02: (Part B)

Question: No: 02: Differentiate between Qualitative and Quantitative Methods of research?

Answer: Qualitative Method:

- 1) Qualitative Method include focus group, in depth interviews, and reviews of documents for types of themes.
- 2) Primarily inductive process used to formulate theory or hypotheses.
- 3) More subjective: describe a problem or condition from the point of view of those experiencing it.
- 4) Text – Based.
- 5) More in-depth information on a few cases.

Quantitative Method:

- 1) Surveys, structured interviews and observation, and reviews of record or documents for numeric information.
- 2) Primarily deductive process used to test pre-specified concepts, constructs and hypotheses that make up a theory.
- 3) More objective: provides observed effects (interpreted by researcher) of a program on a problems or conditions.
- 4) Number – Based.
- 5) Less in-depth but more breadth of information across a large number of cases.

Question: No: 03:

Assume that you are the Mayor of Greenwood, a small town in Illinois, and you've got to make decision based on the information collected from the following research study.

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Test your research survey with the following case.

Concluded/ Problems:

Now being as a mayor I analyze the problem and predict that if I increase the patrol officer in citywide to overcome the crime rate now here the question is that we can manage these officers' salaries or not and people of city is disturbed or not due to increase in patrol officer now the second doubt is that the chief is recur our person on that post in our favor . if I take these officers and the crime rate is decreasing or not because the decreasing in crime rate in Sep to Dec due to weather condition if I increase that officers and the crime rate is increase in Jan to Aug month so I can do good or not.

Survey Match:

Now there is all about prediction in this paragraph so this survey is match with Classification and prediction survey.

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