

IQRA National University
Department of Electrical Engineering
Subject: Research Methodologies



Assignment

Student ID: Salman khan 15626:

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 ☐

Question No.1

A)

DIFFERENCE BETWEEN SEARCH AND RESEARCH

SEARCH:

An act of find something, which has lost before or missing .For example, I am searching for my mobile.

To explore through travel an unfamiliar area.

To find food: The birds search for insects.

To look for something for further study or research (A zoologist searches for specific species for research)

RESEARCH:

It is a systematic act of examining or questioning into a subject for improved (revise) fact, theory or application etc.

Question

No.1 (B)

It is important to know about different methods in Research Methodology because;

As a graduate student:

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

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.

As a future practitioner:

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

As an educated citizen: To understand the difference between scientifically acquired knowledge and other kinds of information.

Hence, anyone who is related to science field needs to understand different methods in research methodology.

Question

No.2 (A)

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:

- (1)The philosophical analysis of the nature of knowledge and how it relates to such concepts as truth, belief, and justification.
- (2) Various problems of skepticism.
- (3) The sources and scope of knowledge and justified belief.
- (4) The criteria for knowledge and justification. Epistemology addresses such questions as: "What makes justified beliefs justified?"

2)METHODOLOGY:

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

(B)

Differentiate between Qualitative and Quantitative Methods of research:

Qualitative Methods of research:

- Unstructured or semi-structured response options.
- No statistical tests.
- Can be valid and reliable: largely depends on skill and rigor of the researcher.
- Time expenditure lighter on the planning end and heavier during the analysis phase.
- Less generalizable.

Quantitative Methods of research:

- Fixed response options.
- Statistical tests are used for analysis.
- Can be valid and reliable: largely depends on the measurement device or instrument used.
- Time expenditure heavier on the planning phase and lighter on the analysis phase.
- More generalizable.

Question No.3:

CONCLUDED/PROBLEM:

Being a mayor from above statement I conclude that:

The crime ratio is already reduced during winter season. while during summer the rate of crime remain the same. Hence the chief officer wants to recur his own persons? We know that we increase the patrol officer for reduce the crime rate but it is difficult to manage the salaries or other expenses and also it will disturb the citizens by frequent checking's. Therefore, we go to the technology and we can use alternative way for crime deduction by make use of DNA evidence, help ex-offenders find secure living-wage employment, connect returning prisoners to stable housing and installing CCTV cameras in citywide. It has the benefit that citizens will get undisturbed and will more secure.

SURVEY MATCH:

Hence all the things is predicted so it is classified as prediction type survey.