



“Investing in Africa’s Future”

COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES

NACP 214: RESEARCH METHODS

END OF SECOND SEMESTER EXAMINATIONS

MAY/JUNE 2021

LECTURER: MR. E.CHIKAKA

DURATION: 7 HOURS

INSTRUCTIONS

ANSWER ANY ONE QUESTION

PLEASE STICK TO THE STANDARD HOUSE STYLE i.e.

- TIMES NEW ROMAN
 - FONT SIZE 12
 - DOUBLE SPACING
 - SEND YOUR ANSWER AS A PDF DOCUMENT
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THE MARK ALLOCATION FOR EACH QUESTION IS INDICATED AT THE END OF THE QUESTION

CREDIT WILL BE GIVEN FOR LOGICAL, SYSTEMATIC AND NEAT PRESENTATION

QUESTION 1

- a. An understanding of the research process is of paramount significance as it enables one to be able to efficiently carry out research and sequencing of the stages inherent in the process. Explain using example from your area of specialization. [10]
- b. What do you understand by research? Explain its significance in the achievement of sustainable Agriculture in your country. [3, 7]
- c. “A researcher has to work as a judge and derive the truth and not as a lawyer who is only eager to prove his case in favour of his plaintiff.” Discuss the statement pointing out the objectives of research. [10]
- d. You are an Extension Officer in a district of your choice in your country. All the farmers in a certain district are small holder farmers who own 2-5 Ha of land on which they produce crops. Maize is the staple food crop for the people of this district and the farmers are only able to produce a maximum of 8 months’ worth of maize each year. There is adequate rainfall in the district for maize production but they still achieve low yields. You need to generate priorities for research to report to the Provincial Research and Extension Committee that covers your district.
 - i. What is research problem in this district? Define the main issues which you should pay attention to in formulating the research problem. . [10]
 - ii. What will be the purpose of the study [broad objective(s)] [2]
 - iii. Develop any three specific objectives that you would set out to achieve in this research. [6]
 - iv. Explain the meaning and significance of a Research design. What design would you choose for your study and why? [8]
 - v. Describe fully how you are going to do the research [20]
- d. How will you differentiate between descriptive statistics and inferential statistics? Describe the important statistical measures often used to summarize the survey/research data pointing out the situation when one measure is considered relatively appropriate in comparison to other measures. [20]
- e. What is the relationship between research Paradigm, Ontology and Epistemology in agriculture [10]

QUESTION 2

- a. Distinguish between Research Methods and Research Methodology as used in Agriculture giving examples from your area of specialization. [10]
- b. The basic principles of experimental designs are randomization, replication and local control. These principles make a valid test of significance possible. Choose any one experimental design and explain how each is ensured. [20]
- c. Review of related literature is the most important part of any research. Discuss and explain how a researcher does a review of related literature and the sources available.[20]
- d. *“Research is a venture towards discovery. Before discovery takes place, however, a researcher needs to identify the research problems to begin a study. Figuring out the research problem takes considerable time and effort”.*
 - i. What are the sources to generate research problems in Agriculture in your country? [15]
 - ii. Identify one pertinent problem from your area of specialization and use the **cause-and-effect diagram / Ishikawa diagram / Fishbourne diagram** to come up with the root cause(s) [15]
- e. Discuss the relative merits and demerits of any four methods of collecting data from the field in your area of specialization and how covid -19 pandemic has impacted on

QUESTION 3

- a. Scientific research brings together observations, knowledge and data to solve problems, invent solutions and develop new products. How far do you agree with this statement and how does it apply to your field of specialization? Explain with the aid of examples. [15]
- b. Review of related literature is the most important part of any research. Discuss and explain how a researcher does a review of related literature and the sources available.[20]
- c. What is the relationship between research Paradigm, Ontology and Epistemology in agriculture [10]
- a. What should be included in a research proposal? Why? Explain with the help of an example in your area of specialization. [25]

- b. Explain and illustrate the following research designs:
(a) Latin square design;
(b) Random Complete Block Design;
(c) Simple factorial design;
(d) strip plot design [20]
- f. Covid-19 pandemic and its effects on Agricultural Research? Discuss. [10]