

UGANDA MARTYRS UNIVERSITY

UNIVERSITY EXAMINATIONS

SCHOOL OF ARTS AND SOCIAL SCIENCES

**DEPARTMENT OF GOVERNANCE, PEACE AND INTERNATIONAL
STUDIES**

YEAR ONE SEMESTER TWO 2023/2024 SPECIAL EXAM

COURSE CODE : MRPP 3109

COURSE UNIT : ADVANCED QUANTITATIVE METHODS FOR PUBLIC
POLICY

PROGRAM : Master of Research and Public Policy (MRPP 1)

DATE: THURSDAY 8/8/24

TIME: 9.30-12.30 PM

DURATION: 3 hours

Instructions:

1. This examination consists of **SIX** questions.
 2. Attempt any **FOUR** questions. Each question carries 25 marks.
 3. Do not write anything on the questions paper.
 4. Ensure that your **Registration number** is indicated on all pages of the examination answer booklet.
 5. Remember to indicate the question numbers you have attempted.
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QUESTION ONE

- (a) Differentiate between cross-sectional and panel designs in terms of their strengths and weaknesses. **(4 marks)**
- (b) Explain any three reasons why a mixed-method approach is desirable. **(6 marks)**
- (c) Explain the meaning and the circumstances under which the researcher could use:
 - (i) Simple random sampling **(3 marks)**
 - (ii) Stratified sampling **(3 marks)**
- (d) Describe how quantitative researchers select samples? **(3 marks)**
- (e) Under what circumstances should each of the following tests be used in data analysis?
 - (i) Student (t-test) **(2 mark)**
 - (ii) ANOVA (F-test) **(2 mark)**
 - (iii) Chi-square **(2 mark)**

QUESTION TWO

Public policy research involves various levels of data analysis to understand, evaluate, and inform decision-making processes.

- (i) Using relevant examples, discuss the three broad categories of the levels of data analysis in public policy research. **(15 marks)**
- (ii) What are the common contemporary sources of data for data analysis in public policy research in Africa? **(10 marks)**

QUESTION THREE

(a) Consider the following equation:

$$\text{Respondent's years of education} = 12.45 + 0.567(\text{Father's years of education}).$$

- (i) Describe the predicted relationship in this equation. (2 mark)
 - (ii) How much change in respondent's education is associated with each increase of 1 year in father's education? (2 marks)
 - (iii) What are the predicted years of education of a respondent whose father has completed 18 years of education? (2 marks)
- (b) Missing data can be a major threat to conclusion validity, depending on how much data is missing and why it is missing. How could a researcher deal with missing data? (3 marks)
- (c) Apart from conclusion validity, explain any other three types of inferential validity. (6 marks)
- (d) One of the parts of a research proposal is the "Methodology".
- (i) Discuss the contents of this part using an illustrative example. (5 marks)
 - (ii) Explain the relationship between this part and the statement of the problem. (3 marks)
- (e) How relevant is theory in empirical research? (2 marks)

QUESTION FOUR

Policy analysis involves using quantitative and/or qualitative techniques to define a policy problem, demonstrate its impacts, and present potential solutions. Quantitative methods have long been used in public decision making.

- (a) Explain the relevance of advanced quantitative methods to public policy. (10 marks)
- (b) Discuss any **four** quantitative statistical methods and show how each helps a policy analyst. (15 marks)

QUESTION FIVE

- (i) Give two differences and three similarities between correlation analysis and regression analysis. **(5 marks)**
- (ii) Officials in the Ministry of works and Transport conducted a survey to assess factors determining the taxi fares in Kampala City. In the process of analyzing their data, a Pearson correlation between two variables was generated at 95% confidence level as shown below;

Correlations			
		Taxi fares	Number of taxis on the road
Taxi fares	Pearson correlation	1	-0.506**
	Sig. (2-tailed)		0.003
	N	60	60
Number of taxis on the road	Pearson correlation	-0.506**	1
	Sig. (2-tailed)	0.003	
	N	60	60
**Correlation is significant at the 0.05 level (2-tailed)			

- (a) Identify the variables under study, suggest their possible measures and justify why. State the study sample. **(4 marks)**
- (b) Explain the purpose of computing a correlation coefficient between variables. **(3 marks)**
- (c) As a person knowledgeable in Data management and analysis, provide a clear interpretation of the Pearson correlation results generated above. **(6 marks)**
- (d) What conclusions can you make out of the results? **(3 marks)**
- (e) Suggest two relevant recommendations to the ministry of works and transport based on the above findings. **(4 marks)**

QUESTION SIX

- (a) Explain the difference between plagiarism and citation as used in research.
(2 marks)
- (b) Give two explanations why citations are an important ingredient of academic writing.
(2 marks)
- (c) What do you understand by APA and Discuss APA format referencing style
(3 marks)
- (d) “A research report being the final outcome of a research process should be structured and presented in a logical flow of events covering the key stages of the research process”.
Briefly explain the various contents of a research report.
(8 marks)
- (e) Discuss the different **ethical considerations** in conducting research and their importance during the research process.
(10 marks)

SUCCESS

