



**PAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF NATURAL RESOURCES AND SPATIAL SCIENCES**

**DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES SCIENCES**

<b>QUALIFICATION:</b> BACHELOR OF AGRICULTURE	
<b>QUALIFICATION CODE:</b> 07BAGR	<b>LEVEL:</b> 6
<b>COURSE CODE:</b> RME620S	<b>COURSE NAME:</b> BASIC RESEARCH METHODOLOGY
<b>SESSION:</b> JANUARY 2020	<b>PAPER:</b> THEORY
<b>DURATION:</b> 3 HOURS	<b>MARKS:</b> 100

<b>SUPPLEMENTARY / SECOND OPPORTUNITY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER(S):</b>	MR BRIAN J. MHANGO
<b>MODERATOR:</b>	DR TENDAI NZUMA

<b>INSTRUCTIONS</b>
<ol style="list-style-type: none"><li>1. Marks for each question are indicated</li><li>2. Provide your name and student number on the answer booklets</li><li>3. Answer each question on a separate answer sheet</li><li>4. Write clearly and neatly.</li><li>5. Number the answers clearly.</li></ol>

**PERMISSIBLE MATERIALS**

1. All written work **MUST** be done in blue or black ink
2. No books, notes and other additional aids are allowed
3. You are allowed to use a scientific calculator in the examination

**THIS QUESTION PAPER CONSISTS OF 3 PAGES** (Excluding this front page)

**ANSWER ALL THE QUESTIONS [100 MARKS]****QUESTION 1**

Choose the correct answer:

- a) \_\_\_\_\_ is a framework or blueprint for conducting the research project. It specifies the details of the procedures necessary for obtaining the information needed to structure and/or solve research problems.
- A. Problem question
  - B. Research design
  - C. Design formulation
  - D. None of the above
- b) The primary objective of \_\_\_\_\_ is to provide insights into, and an understanding of, the problem confronting the researcher.
- A. Exploratory research
  - B. Conclusive research
  - C. Causal research
  - D. Descriptive research
- c) Cross-sectional and longitudinal designs are types of \_\_\_\_\_
- A. Causal research
  - B. Exploratory research
  - C. Descriptive research
  - D. None of the above
- d) Which of the objectives below would best represent conclusive research?
- A. Describe market characteristics or functions
  - B. Determine cause and effect relationships
  - C. Provide insights and understanding
  - D. Test specific hypotheses and examine relationships
- e) Which of the following statements is not true about exploratory research?
- A. It is flexible.
  - B. It is a pre-planned and structured design.
  - C. It is versatile.
  - D. It is often the front end of total research design.

**(10)**

**QUESTION 2**

The following table gives average monthly mahangu yield on ten farms in northern Namibia:

Yield(kg/ha):	1780	1760	1690	1750	1840	1920	1100	1810	1050	1950
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Based on these yields find both the position and values of yields at Q1, Q2 and Q3. Please show and explain your calculations.

(10)

**QUESTION 3**

An agronomist assumes that amount a fertiliser applied to tomato plants and the subsequent yield are linearly related. The agronomist planted 8 tomato plants of the same variety randomly selected and treated with X grams of fertilizer. The yield, Y kilograms of tomato was recorded (see table below):

Plant	A	B	C	D	E	F	G	H
X	1	1.5	2	2.5	3	3.5	4	4.5
Y	3.9	4.4	5.8	6.6	7	7.1	7.3	7.7

- Plot scatter diagram of yield versus fertilizer application (4)
- Determine the correlation coefficient (10)
- Determine the regression equation line of Y on X (10)
- Estimate the yield with an application of 32 grams of the fertilizer (6)

**[30]****QUESTION 4**

Discuss four possible scenarios that may arise regarding validity and reliability with respect to accuracy and random errors in a research process.

(10)

**QUESTION 5**

Discuss what we mean by methodology in research as opposed to method.

(10)