



PAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF NATURAL RESOURCES AND SPATIAL SCIENCES

DEPARTMENT AGRICULTURE AND NATURAL RESOURCES SCIENCES

QUALIFICATION : BACHELOR OF NATURAL RESOURCE MANAGEMENT HONOURS (NATURE CONSERVATION)	
QUALIFICATION CODE: 06BHNC	LEVEL: 6
COURSE: BASIC RESEARCH METHODOLOGY	COURSE CODE: BRM620S
SESSION: NOVEMBER 2019	PAPER: THEORY
DURATION: 3 (THREE) HOURS	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER

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MODERATOR:	PROF. B. STROHBACH

INSTRUCTIONS

1. Answer ALL the questions.
2. Write clearly and neatly.
3. Number the answers clearly.

PERMISSIBLE MATERIALS

1. All written work MUST be done in blue or black ink
2. No books, notes and other additional aids are allowed

THIS QUESTION PAPER CONSISTS OF 4 PAGES (Including this front page)

SECTION A: ANSWER ALL THE QUESTIONS

Question 1 **[14]**

- 1.1 In science an explanation is an answer to the question, “Why does that happen?” It consists of statements from which one can deduce the phenomena to be explained and it must satisfy several criteria? List five criteria used: [5]
- 1.2 Before we can understand the Criteria of Explanation, we need to understand types of statements. List and explain 3 types of statements giving examples [9]

Question 2 **[30]**

- 2.1 List any five common errors made in literature reviews [5]
- 2.2 List any Writing a good summary demonstrates that you clearly understand a text and that you can communicate that understanding to your readers. List the 4Rs to summarizing. [5]
- 2.3 Summarise the following statements by applying the 4Rs. Your answer to be a one sentence statement ONLY.
- a) As an international government, the UN is involved in many different areas. [5]
- b) In 2001, UNAIDS launched the ‘3 by 5’ initiative with the goal of providing anti-retroviral drugs to 3 million people with HIV/AIDS living in developing countries by 2005. [5]
- c) It emphasises the need to get anti-retroviral drugs to people in Africa, Asia and other poorer parts of the world. [5]
- d) For the ‘3 by 5’ initiative to succeed, UNAIDS needs support from governments around the world and from NGOs like Oxfam and the Red Cross and Red Crescent. It also needs the support of big business, including the big pharmaceutical companies – big pharma. [5]

Question 3 **[6]**

Write a hypothesis for each of the statements and identify the variables.

- a) Hummingbirds are attracted to the colour red. [3]
-
- b) Plants grow best in white light. [3]

SECTION B: ANSWER ALL THE QUESTIONS

QUESTION 4

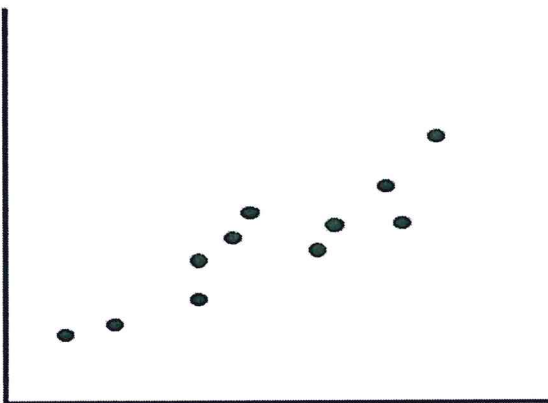
[10]

- a) Which of the following descriptive statistics is least affected by adding an outlier to a data set?
- (A) The mean
 - (B) The median
 - (C) The range
 - (D) The standard deviation
 - (E) All of the above
- b) Which of the following data sets has a median of 3?
- (A) 3, 3, 3, 3, 3
 - (B) 2, 5, 3, 1, 1
 - (C) 1, 2, 3, 4, 5
 - (D) 1, 2, 4, 4, 4
 - (E) Choices (A) and (C)
- c) Without calculating, which of the following data sets has the highest standard deviation?
- (A) 1, 2, 3, 4
 - (B) 1, 1, 1, 4
 - (C) 1, 1, 4, 4
 - (D) 4, 4, 4, 4
 - (E) 1, 2, 2, 4
- d) You took a survey of 100 people and find that 60% of them like statistics and 40% don't. Which of the following gives the distribution of the "statistics versus no statistics" variable?
- (A) A table of the results
 - (B) A pie chart of the results
 - (C) A bar graph of the results
 - (D) A sentence describing the results
 - (E) All of the above
- e) Which of the following is an example of a categorical variable (also known as a qualitative variable)?
- (A) Years of schooling completed
 - (B) College major
 - (C) High-school graduate
 - (D) Annual income (in dollars)
 - (E) Choices (B) and (C)

QUESTION 5

[10]

- a) List any two relative measures of dispersion and any three absolute measures of dispersion. [5]
- b) The graph below show a scatterplot between two variables. Based on the scatterplot:
- i. Label the plot to show the response and explanatory variables [2]
 - ii. Estimate the direction and the magnitude of the correlation between the two variables [3]



QUESTION 6

[10]

- a) What measures of data need to be known to use the empirical (68-95-99.7) decision rule? [3]
- b) Last year's (2018) graduates from the department of agriculture who entered jobs as nature conservation staff, had a mean first-year of employment income of N\$48,000 with a variance of N\$49,000,000. The distribution of salaries in the job market is normal. What is the approximate percentage of first-year department of agriculture nature conservation employed graduates that earned more than N\$55,000? Assume that your estimation is within plus/minus one-standard deviation. [7]

QUESTION 7

[20]

The table below is a distribution of students' statistics final examination marks obtained by nature conservation students in 2018.

40	40	40	40	40	40	40	40	40	40	40
80	80	80	80	80	80	80	80	80	80	80
70	70	70	70	70	70	70	70	70	70	70
50	50	50	50	50	50	50	50	65	65	65
60	60	60	60	60	65	75	75	75	75	75
30	30	30	30	30	65	65	65	65	65	65
29	29	29	29	65	65	65	65	65	65	65

- a) Using 9 classes, determine the class width of the data. [2]
- b) Construct a frequency distribution table showing the class mid-points, frequencies, cumulative frequencies, relative frequencies and tallied frequencies using 29.5 as the lowest class boundary. [12]
- c) Draw an appropriate graph presenting classes and their frequencies. [6]

THE END

Total Marks: 100