



**UNIVERSITY OF  
SWAZILAND**

**FACULTY OF HEALTH SCIENCES**

**DIPLOMA IN ENVIRONMENTAL HEALTH SCIENCES**

**END OF SEMESTER I EXAMINATIONS**

**TITLE OF PAPER:** RESEARCH METHODS

**COURSE CODE:** HSC306

**DURATION:** 2 HOURS

**DATE:** DECEMBER 2013

**INSTRUCTIONS:**

1. READ THE QUESTIONS CAREFULLY.
2. ANSWER **ANY 4 QUESTIONS**.
3. EACH QUESTION CARRIES 25 MARKS. WHERE A QUESTION IS SUBDIVIDED INTO PARTS, THE MARK FOR EACH PART IS SHOWN IN BRACKETS.
4. NO PAPER SHOULD BE BROUGHT INTO THE EXAMINATION ROOM.
5. BEGIN EACH QUESTION ON A SEPARATE SHEET OF PAPER.

**SPECIAL REQUIREMENTS:** Calculator

### QUESTION 1

- a. Describe the type of information obtained in each of the following research approaches:
  - i. Prospective cohort study. [5]
  - ii. Case control study. [5]
- b. Discuss the relationship between participant effects, experimenter effects, single blind, and double blind experiments. [15]

[25]

### QUESTION 2

- a. Identify and briefly describe two types of validity. [10]
- b. Distinguish between the following:
  - i. Split-half and alternate-forms reliability. [8]
  - ii. Probability and non-probability sampling. [7]

[25]

### QUESTION 3

- a. Briefly describe differences in mail, telephone, and personal interview surveys. [13]
- b. Identify the four scales of measurement noting the properties of measurement each scale has. [12]

[25]

### QUESTION 4

- a. Explain the difference between discrete and continuous variables. [5]
- b. Explain the difference in the use of Student's *t*-test and one way analysis of variance (ANOVA). [5]
- c. Discuss the relationship between the terms population, sample, representative sample, and random sampling. [15]

[25]

### QUESTION 5

- a. What are inferential statistics and how do they differ from descriptive statistics? [10]
- b. Discuss two approaches used in collecting qualitative descriptive data. [7]
- c. Draw a frequency graph for the following data. Calculate the mean, median, and mode for the distribution. (48, 50, 53, 59, 59, 63, 63, 67, 67, 67, 72, 72, 72, 78, 78, 78, 78, 85, 85, 85, 85, 85, 90, 90, 90, 90, 95, 95, 98, 100) [8]

[25]

**THE END**