

UNIVERSITY OF SWAZILND

FACULTY OF HEALTH SCIENCES

SUPPLEMENTARY EXAMINATION PAPER, JULY 2010

TITLE OF PAPER: HEALTH STATISTICS

COURSE CODE: HSC 404

TIME ALLOWED: TWO (2) HOURS

MARKS: 75

INSTRUCTIONS:

- 1. THERE ARE THREE (3) QUESTIONS IN THIS PAPER**
- 2. ANSWER ALL THREE QUESTIONS**
- 3. EACH QUESTION IS ALLOCATED 25 MARKS**
- 4. WRITE LEGIBLY**
- 5. SHOW ALL YOUR CALCULATIONS.**

***THIS PAPER IS NOT TO BE OPENED UNTIL THE
INVESTIGATOR HAS GRANTED PERMISSION.***

QUESTION 1

The SPSS output below presents the relationship between age (independent variable) and self reported health status (dependent variable).

Correlations

		Age	Self reported Health Status
Age	Pearson Correlation	1	-.169(*)
	Sig. (2-tailed)	.	.015
	N	206	206
Self reported Health Status	Pearson Correlation	-.169(*)	1
	Sig. (2-tailed)	.015	.
	N	206	206

* Correlation is significant at the 0.05 level (2-tailed).

- A. Interpret the results from the correlation output. (4)
 - B. What is the meaning of the results? (2)
 - C. Describe the four (4) assumptions made by Pearson Correlation Coefficient, and explain how a researcher could violate these assumptions? (8)
 - D. Describe the strengths and weaknesses of the mean. (3)
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SITUATION: The researcher at the Mbabane Government Hospital collected diastolic blood pressure data from 100 clients, and obtained the following data. (*Final answers must be to the nearest 1/10*).

Diastolic blood pressure (mm Hg)	Frequency
46 – 51.....	35
52 – 57.....	28
58 – 63.....	15
64 – 69.....	22
TOTAL	N = 100

- E. Calculate the 75th percentile for the above data. (3)
- F. At what percentile does 64mm Hg fall. (3)

TOTAL 25 MARKS

QUESTION 2

SITUATION: Below are the findings of a study on the census of clients who suffered from different medical conditions and have undergone various surgical operations at the Good shepherd Mission Hospital in the year 2009. *(All final answers must be to the nearest 2/10).*

Medical conditions		Surgical procedures	
Heart failure	500	caesarean section	950
Stress	200	herniorrhaphy	342
Gouty arthritis	325	tonsillectomy	870
Hypertension	400	appendicectomy	288
Diabetes mellitus	450	open reduction and internal fixation (ORIF)	625
TOTAL	1875	TOTAL	3075

- A. What percentage of those suffering from medical conditions are diabetes mellitus clients? (3)
- B. What is the proportion of tonsillectomy compared to caesarean section? (3)
- C. What is the ratio of surgical procedures to medical conditions? (3)
- D. Calculate the coefficient of variation (CV) for the medical conditions. (6)
- E. Calculate the coefficient of variation (CV) for the surgical procedures. (6)
- F. In which of the two groups is more variability, explain. (4)

TOTAL 25 MARKS

QUESTION 3

SITUATION: The following data were the demographic variable data, age of your 100 study participants.

Age (yr)	N
15 – 19	68
20 – 24	45
25 – 29	38
30 – 34	34
35 – 39	15

- A. Calculate your sample mean and mode of the distribution. (*Final answer to the nearest 2/10*). [5]
- B. Piggs Peak with a population of 4.849 has a pulmonary tuberculosis [PTB] rate of 8 people per 100 people. How many people are suffering from PTB in Piggs Peak? (*Final answer to the nearest whole number*) [5]
- C. At the Mbabane Government Hospital, of the babies that were born in 2008, only 295 babies were immunized. The rate of immunization was 105 per 10.000 babies. What is the total number of babies that were born at the Mbabane Government Hospital in 2008? (*Final answer to the nearest whole number*) [5]
- D. At the Faculty of Health Sciences, in year III, the proportion of Nursing Students to that of Environmental Health Students is 0.78. There are 250 students in total at year III. How many are Nursing Students in year III? (*Final answer to the nearest whole number*) [5]

- E. Utilizing the data in question C (above), what is the ratio of Environmental Health Students to that of the Nursing Students? (*Final answer to the nearest $\frac{2}{10}$*)

[5]

TOTAL 25 MARKS