



UNIVERSITY EXAMINATIONS

**FIRST YEAR EXAMINATION FOR THE AWARD OF THE DEGREE OF
BACHELOR IN COUNSELING PSYCHOLOGY
SECOND SEMESTER 2023/2024
[JANUARY – APRIL, 2024]**

BCPS 114: BASIC STATISTICS IN COUNSELLING

STREAM: Y1 S2

TIME: 2 HOURS

DAY: TUESDAY, 12:00 - 2:00 P.M

DATE: 09 /04/2024

INSTRUCTIONS

- 1. Do not write anything on this question paper.***
- 2. Answer question ONE (Compulsory) and any other TWO questions.***

QUESTION ONE

- a). Discuss any five scales of measurement as used in social statistics and psychology. **(10 Marks)**
- b). Use the following X Scores of student performance; 6,3,2, 3, 4 to calculate the standard deviation. **(10 Marks)**
- c). Indicate when each of following graphics are used in statistics presentations:. **(10 Marks)**
- Bar charts
 - Pictographs
 - Pie charts
 - Line charts
 - Scatterplots
 - Histograms

QUESTION TWO

- A. Distinguish each of the following: **(10 Marks)**

- i. Data and a parameter
- ii. A variable and a measure
- iii. A hypothesis and regression
- iv. A Z score and Standard deviation

b). A researcher wants to carry out a baseline on matters Alcohol and Drug Abuse issues and prevalence. The total population of the students is 16150. By targeting $\pm 3\%$ as your level of confidence, settle on the total target population of your choice in year 1,2,3,4 years and proportionately sample the individual actual sample for years 1,2,3,4. **(10 Marks)**

Size of population	Sample size(n) for precision (e) of :			
	$\pm 3\%$	$\pm 5\%$	$\pm 7\%$	$\pm 10\%$
500	A	222	145	83
600	A	240	152	86
700	A	255	158	88
800	A	267	163	89
900	A	277	166	90
1000	A	286	169	91
2000	714	333	185	95
3000	811	353	191	97
4000	870	364	194	98
5000	909	370	196	98
6000	938	375	197	98
7000	959	378	198	99
8000	976	381	199	99
9000	989	383	200	99
10000	1000	385	200	99
15000	1034	390	201	99
20000	1053	392	204	100
25000	1064	394	204	100
50000	1087	397	204	100
100000	1099	398	204	100
>100000	1111	400	204	100

QUESTION THREE

a). Indicate what each of the following means in basics statistics in general and interpret what research will do in each of the equation as given.

(10 Marks)

i. $P \leq 0.05$

ii. $P \geq 0.05$

iii. $P \leq 0.60$

iv. $P \geq 0.60$

v. $r \geq .70$

vi. $r \geq .40$

b). Discuss five types of hypothesis is statistics.

(10 Marks)

QUESTION FOUR

Use the following information to answer section 4(i) & (ii) exercises. A health club is interested in knowing how many times a typical member uses the club in a week. They decide to ask every tenth customer on a specified day to complete a short survey including information about how many times they have visited the club in the past week.

(20 Marks)

i. What kind of a sampling design is this?

(2 Marks)

- a. cluster
- b. stratified
- c. simple random
- d. systematic

ii. “Number of visits per week” is what kind of data?

(2 Marks)

- a. qualitative
- b. quantitative-continuous
- c. quantitative-discrete

iii. Describe a situation in which you would calculate a parameter, rather than a statistic.

(2 Marks)

- iv. Kisii University conducts a survey of high school seniors concerning their plans for future education and employment. One question asks whether they are planning to attend a four-year college or university in the following year. Fifty percent answer yes to this question; that fifty percent is a:

(2 Marks)

- a. parameter
 - b. statistic
 - c. variable
 - d. data
- v. A psychologist is interested in whether the size of tableware (bowls, plates, etc.) influences how much college students eat. He randomly assigns 100 college students to one of two groups: the first is served a meal using normal-sized tableware, while the second is served the same meal, but using tableware that is 20 percent smaller than normal. He records how much food is consumed by each group.

Identify the following components of this study.

(10 Marks)

- a. Population-
- b. Sample-
- c. Experimental units-
- d. Explanatory variable-
- e. Treatment-
- f. Response variable-

QUESTION FIVE

a). Give the interpretation of the reliability co-efficient give in the table below

(10 Marks):

Reliability "r"	Interpretation
>.90	
.80-89	
.70-.79	
<.70	

b). By citing the relevant examples define the concepts given below **(10 Marks):**

- i. ANOVA
- ii. T- test
- iii. P-Value
- iv. Univariate correlation
- v. Regression.