(University of Choice)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

MAIN

2022/2023 ACADEMIC YEAR

THIRD YEAR SECOND SEMESTER

FOR THE BACHELORS DEGREE IN HEALTH PROMOTION AND SPORTS SCIENCE

COURSE CODE: HSS 306/HPS 108

COURSE TITLE : STATISTICS IN HUMAN PERFOMANCE

DATE: FRIDAY, 21ST.APRIL, 2023   **TIME:** 8.00-10.00 A.M.

INSTRUCTIONS TO CANDIDATES:
  Answer questions ONE and any other TWO
TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

QUESTION ONE

a) Define the following terms:
   a. Statistics (**2marks**)
   b. Data (**2marks**)
   c. Variable (**2marks**)
   d. Skewness (**2marks**)
   e. Confidence level (**2marks**)

b) Differentiate between:
   a. Research population and research sample (**2marks**)
   b. Inferential and descriptive statistics (**2marks**)
   c. Independent and dependent variable (**2marks**)
   d. Type 1 error and type 11 error (**2marks**)
   e. Null hypothesis and alternative hypothesis (**2marks**)
   f. Qualitative and quantitative data (**2marks**)

c) Explain four types of non-probability sampling method (**8marks**)

QUESTION TWO

Use the following set of ages of a group of 10 sports participants, calculate the flowing: 37 28 12 78 60 36 34 40 55 65

a) Standard deviation (**10marks**)
b) Variance (**4marks**)
c) Confidence interval, $\alpha=0.05$ (**6marks**)

QUESTION THREE

Determine the effects of exercise, medication and diet on Blood pressure

exercise	medication	diet
130	120	120
120	114	130
115	120	114

Using 0.05 as alpha level

I. State H_0 and H_1 (**4marks**)
II. Calculate critical value of F (**4marks**)
III. Calculate the F statistics (**8marks**)
IV. Interpret the results (**4marks**)

QUESTION FOUR

A poker machine is supposed to produce cards at random as if from an infinite desk. In a test you counted 1600 cards in each of four suits as follows:

Hearts 441, Spades 404, Diamonds 402, Cribs 353. Using an Alpha level of 0.01

a. State H_0 and H_1 (**4marks**)
b. Calculate critical value (**4marks**)
c. Calculate the χ^2 value (**8marks**)
d. Interpret the results (**4marks**)

QUESTION FIVE

a. Giving one example explain four scales of measurement (**12marks**)
b. Explain four assumptions that should that may be made when doing a parametric test (**8marks**)