PAN AFRICA CHRISTIAN UNIVERSITY

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

END OF SEMESTER EXAMINATION FOR THE DEGREE OF

BACHELOR OF ARTS IN COUNSELING PSYCHOLOGY

SEPTEMBER – DECEMBER 2017

CAMPUS: VALLEY ROAD

DEPARTMENT: COUNSELING PSYCHOLOGY

COURSE CODE: COU4113

COURSE TITLE: COUNSELING STATISTICS

EXAM DATE: MONDAY 4th DECEMBER 2017

TIME: 5.30PM-8.30PM

INSTRUCTIONS

- Read all questions carefully before attempting.
- Write your **student number** on the answer booklet provided.
- **Answer any Three Questions out of the Five provided**
- QUESTION ONE IS COMPULSORY.ANSWER ANY TWO QUESTIONS IN SECTION B
- Indicate the questions you have answered on the cover page of the Answer Booklet

SECTIONA: (COMPULSORY)

QUESTION 1 a)Differentiate between the following terms;

i) Descriptive statistics and inferential statistics (2mks)

ii)Population and Sample (2mks)

b) Discuss any three applications of statistics in the Christian society today(6mks)

c) Explain any four properties of a normal curve distribution (8mks)

d) Illustrate asymmetric and symmetric skewness in distribution (4mks)

e)Draw a vertical line through a normal distribution for each of the following Z-score location .Determine whether the tail is on the right or left side of the line and find the proportions in the tail. (8mks)

i) Z = 2.00

ii) *Z =0.60*

iii) Z =-1.30

Iv) Z =-o.30

QUESTION 2

a) Define the following terms(3mks)

i) Mean

ii) Median

iii) Mode

b) Calculate the mean, mode, median and SD after each of these (8mks)

i) 2, 3,4,4,4,5,20

ii) -5,-4,-3, 0,3,4,5

c) A distribution has standard deviation of =6 .Describe the location of each of the following Z scores in terms of position relative to the mean. For example Z=+1.00 is location that is 6 points above the mean (4mks)

i) Z =+2.00

ii Z =+0.50

iii) Z = -2.00

iv) Z = -0.50

QUESTION 3

Any of you who have listened to children tell stories will recognize that children differ fromadults in that they tend to recall stories as a sequence of actions rather than as an overallplot. Their descriptions of a movie are filled with the phrase “and then. . . .” An experi-menter with supreme patience asked 50 children to tell her about a given movie. Amongother variables, she counted the number of “and then. . .” statements, which is the depend-ent variable. The data follow:

18 15 22 19 18 17 18 20 17 12 16 16 17 21 23 18 20 21 20 20 15 18 17 19 20
23 22 10 17 19 19 21 20 18 18 24 11 19 31 16 17 15 19 20 18 18 40 18 19 16

a. Plot an ungrouped frequency distribution for these data. (10mks)

b. What is the general shape of the distribution? (5mks)

QUESTION 4

For the following sample of n=7 scores:

8,6,5,2,6,3,5

a) Sketch a histogram showing sample distribution. (5mks)

b) Locate the value of sample mean in your sketch and make an estimate of standard deviation (2mks)

c) State any two purposeof a Z- score in a distribution (2mks)

c) Compute; (6mks)

i) Standard score (z-score)

ii) Variance

iii) Standard deviation of the sample.

QUESTION 5

Ina study that found greater consistency in the memory performance scores for younger women than for older women. The following data represents data scores obtained for two women one older one younger over a series of memory trails.

Younger:8,6,6,7,8,7,8,8.

Older: 7,5,8,5,7,6,8,5.

a) Calculate the variance of the scores for each woman. (10mks)

b) Are the scores for the younger woman more consistent and why? (2mks)

c) A sample of n=25 scores has a mean of M= 83 and a standard deviation of S = 15.

i) Explain what is measured by the sample standard deviation. (2mks)

ii) Compute the estimated standard error for the sample mean..(1mk)