



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2018/2019

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF ARTS

ACU 201: INTRODUCTION OF SOCIAL SCIENCE STATISTICS

DATE: TUESDAY 20TH NOVEMBER 2018

TIME: 11.00 A.M. – 1.00 P.M.

INSTRUCTIONS

Answer Question One and any other Two questions

Question 1

- a) Explore the application of statistics in society today. (12 marks)
- b) Write short notes on the following as used in social statistics
 - i) Descriptive and inferential statistics (6 marks)

- ii) Nominal and Interval variables (6 marks)
- iii) Extraneous and intervening variables (6 marks)

Question 2

- a) Explain the prominence of mean over other measures of central tendency (4 marks)
- b) The table represents the ages of 300 Kiwanja community members who attended a chief's baraza . Study it and answer the questions that follow.

Age	Frequency	Percentage	Cumulative Frequency	Cumulative percentage
21-25	18	6	18	6
26-30	32	11	50	17
31-35	43	14	93	31
36-40	57	19	150	50
41-45	69	23	219	73
46-50	46	15	265	88
51-55	29	10	294	98
56-60	6	2	300	100
Total	30	100	300	100

Calculate

- i) The mode (3 marks)
- ii) The median (4 marks)
- iii) The mean (4 marks)
- iv) Variance and Standard deviation (5 marks)

Question 3

- a) Draw a sketch to illustrate the concept of normal distribution (3 marks)
- b) Explain any THREE characteristics of a normal curve (6 marks)
- c) The heights of males at a university campus are normally distributed with a mean of 140cm and a standard deviation of 20cm.
 - i) Find the probability that a male selected at random would have a height of less than 175cm (3 marks)
 - ii) If there are 400 males in one department, how many would be expected to be taller than 180cm? (4 marks)

- iii) If 5% of the males have a height that is less than the females mean height, what is the female's mean height? (4 marks)

Question 4

- a) Define correction coefficient (3 marks)
- b) How are correlation coefficients interpreted? (6 marks)
- c) The table below shows the marks scored and time spent studying by 15 college students. Study it and answer question that follow.

Score	83	80	62	78	68	80	58	75	79	68	77	72	73	80	67
Time (hours)	60	53	22	44	34	47	38	50	51	35	46	36	48	43	49

- i) Compute the correlation coefficient (7 marks)
- ii) Explain the direction of relationship between time spent and marks scored by the students (4 marks)

Question 5

- a) Define Chi-square
- b) A researcher was investigating the relationship between the gender and status for application to graduate programmes as given in the table. Study it and answer questions the follow

Application status	Gender		
	Male	Female	Total
Successful	25	42	67
Not successful	45	38	83
Total	70	80	150

- c) Identify the dependent variable and the independent variable (2 marks)
- d) State the null hypothesis (3 marks)

- e) Compute the chi-square value for the relationship between gender and application status at statistical significance level of $p < 0.05$? (9 marks)
- f) What are your conclusions about the relationship between gender and application success? (3 marks)