

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

SECOND YEAR EXAMINATION FOR THE AWARD OF DEGREE
OF BACHELOR OF COMMERCE

BCOM 262: BUSINESS STATISTICS

STREAMS: BCOM (Y2S1)

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 07/8/2019

2.30 P.M. – 4.30 P.M.

INSTRUCTIONS:

- Answer question ONE (Compulsory) and any other two
- Don't write on the question paper

QUESTION ONE

- (a) Discuss any four areas of application of statistics in a contemporary business society. [8 marks]
- (b) Explain four reasons as to why sample survey may be preferred over census method in data collection. [8 marks]
- (c) The following data relate to the distribution of life times of 500 light bulbs tested by compliance standards agency in XYZ ltd

Life time (days)	Number of bulbs tested
500-550	27
550-600	50
600-650	85
650-700	99
700-750	94
750-800	74
800-850	47
850-900	24

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Required:

- (i) Mean lifetime of the bulbs [3 marks]
- (ii) Median lifetime of the bulbs [4 marks]
- (iii) Standard deviation of the bulbs lifetimes [4 marks]
- (iv) Coefficient of variation for the bulbs lifetimes [3 marks]

QUESTION TWO

- (a) Discuss any four properties of a normal distribution [8 marks]
- (b) In an annual “Miss Chuka University” pageant the scores of ten competitors in a beauty contest by two judges were as follows:

Name	Judge 1	Judge 2
Anita	77	86
Beatrice	91	87
Charity	57	50
Diana	82	63
Esther	52	71
Faith	86	92
Grace	83	89
Hilda	68	83
Irene	85	77
Jane	37	53

Required:

- (i) Calculate the rank correlation coefficient [9 marks]
- (ii) Comment on your results [3 marks]

QUESTION THREE

- (a) Time series analysis provide the basis on which business enterprises predict economic patterns in an economy. Discuss the four components of time series analysis. [8 marks]

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(b) The lifespan of 20,000 electric fans was tested in XYZ ltd and found to be normally distributed with an average lifespan of 2040 hours and standard deviation of 60 hours.

Estimate the number of fans that are expected to run for:

- (i) More than 2150 hours [4 marks]
- (ii) Less than 1960 hours [4 marks]
- (iii) Between 2000 and 2500 hours [4 marks]

QUESTION FOUR

(a) Discuss any four factors to consider when constructing index numbers. [8 marks]

(b) The following information relates to expenditures by an average income family during the years 2017 and 2018

	2017	2017	2018	2018
ITEMS	Price (sh)	Quantity	Price (sh)	Quantity
Milk (litres)	25	1000	27	1200
Maize (kgs)	48	240	59	260
Rice (kgs)	65	180	70	200
Sugar (kgs)	52	60	65	50
Wheat (kgs)	60	80	75	60

Required: Using 2017 as the base year calculate;

- (i) Laspeyre’s price index and interpret the results [4 marks]
 - (ii) Paasche’s price index and interpret the results [4 marks]
 - (iii) Fishers ideal price index and interpret the results [4 marks]
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