

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

SECOND YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF COMMERCE, COOPERATIVE MANAGEMENT, ENTREPRENEURSHIP & PROCUREMENT & AGRIBUSINESS MANAGEMENT

BCOM 262: BUSINESS STATISTICS

STREAMS: BCOM, BCOP, BPLM, BEEM AGBM

TIME: 2 HOURS

DAY/DATE: THURSDAY 7/12/2017

8.30 A.M - 10.30 A.M

INSTRUCTIONS:

- Answer Question ONE and any other TWO Questions
- Do not write on the question paper

QUESTION ONE [30 MARKS]

(a) Outline 3 importance of undertaking Pilot Survey (pre-test) before conducting the main survey in business management. [3 Marks]

(b) The following is the data on weights of 50 cartons of cooking fat are given below

41	64	53	43	76	47	86	55	66	46
63	31	35	36	13	63	72	29	56	40
19	50	80	25	61	56	26	69	83	57
52	17	57	44	23	42	38	33	46	45
22	45	38	65	78	58	55	32	52	48

Required:

- (i) Create a suitable grouped frequency distribution. (Starting with 11-20 class) [5 Marks]
- (ii) Using (i) draw a histogram and frequency polygon on the same axis. [5 Marks]

(c)The following data shows the marks scored by 50 students in business statistics unit

Marks	65-69	70-74	75-79	80-84	85-89	90-94	95-99
No. of students	3	5	15	12	7	6	2

Required:

Find,

- (i) Mean [2 Marks]

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- (ii) Median [2 Marks]
- (iii) Mode [2 Marks]
- (iv) Standard deviation [2 Marks]
- (v) Quartile deviation [3 Marks]

- (d) The loaves of tyre bread distribution to ideal stores by a certain bakery have an average length of 30cm and standard deviation of 2cn. Assuming the length are normally distributed, what is the probability of the loaves being: -
- (i) Longer than 31.5 cm
 - (ii) Between 29.3 and 33.5 cm
 - (iii) Shorter than 25.5 cm [6 Marks]

QUESTION TWO [20 MARKS]

(a) The prices and quantities of five commodities are show on the table below

Commodity	2016		2017	
	Price	Unit	Price	Unit
Q	2	8	4	6
P	5	10	6	5
W	4	14	5	10
R	2	19	2	13

Using 2016 as the base year, construct,

- (i) Laspeyre’s price index [3 Marks]
- (ii) Paasche Price index [3 Marks]
- (iii) Fishers price index [2 Marks]

(b) The demand and price (in Kshs. thousand) for a bay of a hybrid 100kg bag of maize in different counties of the county Kenya is a shown below.

Price (X)	56	60	62	65	70	80	90
Deamnd (Y)	138	148	150	156	153	160	173

Required:

- (i) Fit a linear regression equation $[Y=C+MX]$ [6 Marks]
- (ii) What would be an appropriate demand of maize in the area with cost per bag as Kshs.58,000? [2 Marks]
- (iii) Compute Pearson product moment correlation coefficient. [4 Marks]

QUESTION THREE [20 MARKS]

(a) The following data shows the annual sales reported by the four listed companies in Kenya.

	Sales (Kshs.Millions)			
	P	Q	R	W
2014	250	150	250	200
2015	200	180	200	250
201	150	200	150	150

Required:

Present the information in a multiple bar chart.

[8 Marks]

(b) The weight of 30 carton of cooking oil were recorded as follows;

320 324 335 312 324 312 300 348 325 351
 340 314 315 340 308 301 316 326 350 310
 326 352 327 303 350 342 328 327 328 341

Required:

Plot a stem and leaf display.

[8 Marks]

(c) State the 4 roles of statistics in business management.

[4 Marks]

QUESTION FOUR

(a) Outline 3 uses of index number.

[3 Marks]

(b) A trueband company finds that 30% of its shipments arrive late. If 8 shipment are scheduled, what is the probability that

(i) Three will arrive late

[2 Marks]

(ii) Between three and five will arrive late

[3 Marks]

(iii) More will arrive late

[2 Marks]

(c) Differentiate between primary and secondary data. Give examples.

[2 Marks]

(d) Explain two types of correlation.

[2 Marks]

Calculate the rank correlation coefficient for the following data giving ranks awarded by two judges to 10 participants in musical context. Make necessary comments. [6 Marks]

Rank by Judge 1	3	5	4	8	9	7	1	2	6	10
Rank by Judge 2	4	6	3	9	10	7	2	1	5	8