



MERU UNIVERSITY COLLEGE OF SCIENCE & TECHNOLOGY

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University Examinations 2010/2011

FIRST YEAR, FIRST SEMESTER EXAMINATIONS FOR DIPLOMA IN BUSINESS ADMINISTRATION/ CERTIFICATE IN BUSINESS ADMINISTRATION

HDC 0102: INTRODUCTION TO BUSINESS STATISTICS

DATE: DECEMBER 2010

TIME: 1½ HOURS

INSTRUCTIONS: Answer questions *one* and any other *two* questions.

QUESTION ONE – (30 MARKS)

- (a) Discuss briefly the possible applications of statistical methods in business. (5 marks)
- (b) It is advisable to be cautious when using secondary data. With reference to this statement, explain:
- (i) Possible sources of secondary data (3 Marks)
- (ii) Problems which might arise when using secondary data. (4 Marks)
- (c) Discuss briefly the different components of time series. (4 Marks)
- (d) Explain the significance of study of correlation in business and management (4 Marks)
- (e) Calculate median, mode and arithmetic mean from the series below.
- 05 men get less than Ksh5
12 men get less than Ksh10
22 men get less than Ksh15
30 men get less than Ksh20
36 men get less than Ksh25
40 men get less than Ksh30 (10 Marks)

QUESTION TWO – (20 MARKS)

- (a) Business derives utility from time series analysis. Explain. (6 Marks)
- (b) An organization whose headquarters are in Nairobi opened a branch in Meru town on 1st September 2009. The branch manager thinks that sales have not been good as initially anticipated. He has collected the following data on sales for the branch for the last 12 months.

Year	Month	Sales (Sh.000)
2009	November	230

2010	December	200
	January	190
	February	170
	March	190
	April	200
	May	190
	June	180
	July	170
	August	160
	September	140
October	150	

Required:

- (i) A time series graph to represent the above information (7 Marks)
(ii) A 3 month moving averages. (7 Marks)

QUESTION THREE – (20 MARKS)

- (a) Distinguish between simple correlation and multiple correlation (2 Marks)
(b) The following data relates to the scores obtained by salesmen of a company in an intelligence test and their weekly sales in thousand Kenya Shillings.

Salesmen	A	B	C	D	E	F	G	H	I
Intelligence Test Scores (X)	50	60	50	60	80	50	80	40	70
Weekly Sales (Y)	30	60	40	50	60	30	70	50	60

- (i) Draw a scatter diagram to represent the above data. (4 Marks)
(ii) Obtain the regression equation of sales on intelligence test scores of the salesmen. (6 Marks)
(iii) If the intelligence test score of a salesman is 65, what would be his expected weekly sales? (2 Marks)
(iv) Compute Karl Pearson's correlation coefficient and comment on the relationship between salesman's intelligence test score and his weekly sales. (6 Marks)

QUESTION FOUR – (20 MARKS)

The following are the marks obtained by students in an examination

28	35	61	29	36	48	57	67
48	40	47	42	41	37	51	62
31	32	35	40	38	37	60	51
37	46	42	38	61	59	58	44
38	44	45	45	47	38	44	47
69	63	54	39	47	50	33	56
57	64						

- (a) (i) Construct a frequency distribution for grouped data using 25 – 34, 35 – 44 etc as class interval. (7 Marks)
- (iii) Represent the data by means of a histogram. (7 Marks)
- (b) Using good diagrams explain the meaning of:
- (i) Positively skewed distribution. (3 Marks)
- (ii) Negatively skewed distribution. (3 Marks)

QUESTION FIVE – (20 MARKS)

- (a) Discuss any four problems encountered when constructing index numbers. (8 Marks)
- (b) Construct index numbers of price from the following data by applying.
- (i) Laspeyre's method
- (ii) Paasche method
- (iii) Fisher's ideal method.

Use 2006 as the base year.

Commodity	2006		2007		
	Price	Quantity	Price	Quantity	
A	20	80	40	6	
B	50	100	60	5	
C	40	140	50	10	
D	20	190	20	13	(12Marks)