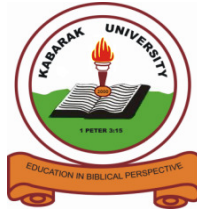


**KABARAK**



**UNIVERSITY**

**UNIVERSITY EXAMINATIONS**  
**MAIN CAMPUS**

**FIRST SEMESTER, 2016/2017 ACADEMIC YEAR**

**EXAMINATION FOR THE DEGREE OF BACHELOR OF COMMERCE**

**BMGT 210: BUSINESS STATISTICS 1**

**STREAM: Y2S1**

**TIME: 2 HRS**

**EXAMINATION SESSION: DECEMBER**

**DATE: 13/12/ 2016**

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**INSTRUCTIONS**

1. Answer question ONE (30 marks) and any other TWO questions (20 marks each).
2. Show all the working clearly and neatly.

**QUESTION ONE ( 30 MARKS )**

a) Distinguish between the following terms;

- (i) Primary and secondary data, (2mks)
- (ii) Random and non-random sampling, (2 mks)
- (iii) Qualitative and quantitative variables (2 mks)

b) State three uses of statistics to a business organization. (6 mks)

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As members of Kabarak University family, we purpose at all times and in all places, to set apart in one's heart, Jesus as Lord. (1 Peter 3:15)

c) Define the following terms;

- (i) Objective probability, (2marks)
- (ii) Subjective probability, (2marks)
- (iii) Probability distribution. (2marks)

d) Three random samples of 20, 30 and 50 bags respectively, are taken from the production line of '90kg' bags of maize flour. The contents of each bag are then weighed. A summary of the results is shown below.

Sample	Size	Mean wt. (kg)	S.D.(kg )
1	20	11.5	1.1
2	30	12.3	0.9
3	50	11.8	0.5

Find, in kilograms, to two decimal places;

- (i) the mean weight per bag, and ( 3mks)
- (ii) the standard deviation of the 100 bags. (4mks)

e) State three methods used to classify data. (3mks)

f) As you set out to do a research, what must you keep in mind? (2mks)

## QUESTION TWO (20 marks)

a) Differentiate between the following;

- (i) Fixed base and chain base methods, (3mks)
- ii) Multiple bar-chart and histogram (3mks)

b) The daily wages of 30 labourers on a farm are shown in the table.

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Wages in sh.	30-34	35-39	40-44	45-49	50-54	55-59
Frequency	1	6	10	8	2	3

Determine the;

- (i) Arithmetic mean (4mks)
- (ii) Mode (3mks)
- (iii) Standard deviation of these wages. (7mks)

### QUESTION THREE (20marks)

a) Distinguish between the following concepts;

- (i) Discrete variables and continuous variables, (3marks)
- (ii) Experimental and theoretical probability. (3marks)
- (iii) Temporal and spatial classification. (3marks)

b) State three shortcomings of statistics. (3marks)

c) State two advantages and two disadvantages of the following methods of collecting primary data;

- (i) Observation. (4marks)
- (ii) Interview. (4marks)

### QUESTION FOUR (20 marks)

a) The probabilities of three teams A,B and C winning in the Kenyan league are  $\frac{1}{10}$ ,  $\frac{1}{6}$  and  $\frac{1}{5}$ .

What is the probability that:

- (i) Either A or B will win, (2mks)

(ii) Either A or B or C will win, (2mks)

(iii) None of them will win (2mks)

b) Differentiate between;

(i) Descriptive and inferential statistics, (2mks)

(ii) upper-class limit and lower-class limit, (2mks)

(iii) Transect and wave (2mks)

c)The following table shows the price of a certain commodity in four consecutive

Years;

Year	2000	2001	2002	2003	2004
Price(ksh.)	172	180	186	190	193

Calculate the three-yearly moving averages. (4mks)

d) What are the two (2) advantages and two (2) disadvantages of collecting primary data by observations ? (4mks)

### QUESTION FIVE (20 marks)

a) (i) What is a sampling frame ? (2mks)

(ii) List two requirements for a good sampling frame. (2mks)

b) Given a data series 15, 20 and 25, prove the condition

Arithmetic mean > Geometric mean > Harmonic mean (4mks)

c) State three characteristics of a normal distribution. (3mks)

d) the year 2001 were as shown in the table below; A householder keeps an annual account of four items of expenditure. The figures for

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Item	Expenditure (£ )
Taxes	x
Travel	1000
Light /Heat	y
Telephone	300

A pie-chart was drawn to illustrate these data .Given that the angles of the sectors representing Taxes and Travel were  $124^\circ$  and  $80^\circ$  ,respectively, calculate;

- (i)the total expenditure for the year, (2mks)
- (ii) The value of x and of y, (3mks)
- (iii) The angle of each of the remaining sectors. (4mks)