



GARISSA UNIVERSITY

UNIVERSITY EXAMINATION **2016/2017** ACADEMIC YEAR **ONE**
FIRST SEMESTER EXAMINATION

SCHOOL OF BUSINESS AND ECONOMICS

FOR THE DIPLOMA BUSINESS MANAGEMENT

COURSE CODE: DBM 04

COURSE TITLE: QUANTITATIVE TECHNIQUES

EXAMINATION DURATION: 3 HOURS

DATE: 04/12/17

TIME: 02.00-05.00 PM

INSTRUCTION TO CANDIDATES

- The examination has **SIX (6)** questions
- Question **ONE (1)** is **COMPULSORY**
- Choose any other **THREE (3)** questions from the remaining **FIVE (5)** questions
- Use sketch diagrams to illustrate your answer whenever necessary
- Do not carry mobile phones or any other written materials in examination room
- Do not write on this paper

This paper consists of **FOUR (4)** printed pages

please turn over



QUESTION ONE (COMPULSORY)

- (a) State any two measures of dispersion [2 marks]
- (b) State any two types of correlation [2 marks]
- (c) Highlight four uses or importance of index numbers to a Business Manager [4 marks]
- (d) From the following data, construct the index for 2003 using 2000 as base year. Comment on your result. [6 marks]

Commodity	price 2000	price 2003
A	30	30
B	35	50
C	45	75
D	45	70
E	25	40

- (e) Describe any four main characteristics of a Normal Distribution [4 marks]
- (f) Find the first quartile Q1 and third quartile Q3 of the following set of data. [6 marks]

A	B	C	D	E	F	G	H	I	J
12	13	15	16	19	20	25	25	29	36

- (g) Give two characteristics of binomial distribution. [2 marks]

QUESTION TWO

From the table below compute

Commodity	base year		current year	
	Price	qty	price	qty
A	4	3	6	2
B	5	4	0	4
C	7	2	9	2
D	2	3	1	5



- i. Laspeyres index [3 marks]
- ii. Paasche index [3 marks]
- iii. Fishers index [3 marks]
- iv. Marshall-edgeworth index [3 marks]
- v. Dorbish-bowly index [3 marks]

QUESTION THREE

(a) Using the following information:

	X	Y
Mean	8	10
Standard deviation	7	50/3
$r = 12/20$		

Required: Find

- i. The regression coefficient of **X** on **Y** [3 marks]
- ii. The regression coefficient of **Y** on **X** [2 marks]
- iii. The most likely value of **Y** when **X**=100 [2 marks]

(b) Using the following information

X	2	3	4	5	6
Y	7	9	10	14	15

- Find the regression equation of **Y** on **X** [5 marks]
- (c) Distinguish between correlation and regression [3 marks]



QUESTION FOUR

- i. Calculate the coefficient of correlation for the following. **[12 marks]**

Husband age(x)	23	27	28	28	29	30	31	33	35
Wife age(y)	18	20	22	27	21	29	27	29	28

- ii. distinguish regression and correlation **[3 marks]**

QUESTION FIVE

The table below shows the marks scored by students of DBM class in a CAT.

Marks scored	0-5	5-10	10-15	15-20	20-25	25-30
No of students	2	8	12	6	7	5

Required:

- i. Calculate the modal mark **[3 marks]**
- ii. The mean mark **[3 marks]**
- iii. Median mark **[3 marks]**
- iv. Variance **[3 marks]**
- v. The standard deviation of marks **[3 marks]**

QUESTION SIX

- (a) Statistical inquiry is a process of transforming raw data into useful information that can tell us more about a subject and allow us to make recommendations and possibly make predictions of future outcomes. Discuss the six stage of statistical inquiry **[12 marks]**
- (b) A container is packed with heavy (2B), medium (HB), fine (2H) and extra fine (3H) pencils. If a pack is chosen randomly from the container what is the probability that the pack chosen is medium. **[3 marks]**

