

GARISSA UNIVERSITY COLLEGE

(A Constituent College of Moi University)

UNIVERSITY EXAMINATION 2016/2017 ACADEMIC YEAR <u>ONE</u> <u>SECOND</u> SEMESTER EXAMINATION

SUPPLEMENTARY/SPECIAL EXAMINATION

SCHOOL OF BUSINESS AND ECONOMICS

FOR THE DIPLOMA IN BUSINESS MANAGEMENT

COURSE CODE: DBM 004

COURSE TITLE: QUANTITATIVE TECHNIQUES

EXAMINATION DURATION: 3 HOURS

DATE: 29/09/17

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 FIVE (5) printed pagesSupplementary / special exam_1

please turn over Good Luck – Exams Office



QUESTION ONE (COMPULSORY)

- (a) State any two measures of central tendency or averages (2marks)
- (b) State any one measure of dispersion or variation (1mark)
- (c) Discuss any two advantages of studying Quantitative Techniques to a Business Manager

(4marks)

(3 marks)

- (d) Company XYZ has three production sections S_1 , S_2 , S_3 which contribute, 40%, 35% and 25% respectively to the total output. The following percentages of faulty units have been observed;
 - $S_1 = 2\%$ (0.02) $S_2 = 3\%$ (0.03)
 - S₃ 4% (0.04)

There is a final check before output is dispatched. Calculate the probability that a unit found faulty has come from section $1 (S_1)$ (5marks)

- (e) Describe any two main characteristics of a Normal Distribution (2 Marks)
- (f) Discuss the uses of Index Numbers in business
- (g) You are the Supervisor of the Candy Section of Madina Supermarket. On Friday afternoon the first 50 items sold out (in K.Shs) from the section were recorded as follows;

24	8	10	12	15	18	20	14	16	24
32	28	46	20	16	16	16	16	34	36
28	42	46	15	44	42	18	20	24	25
26	26	26	26	23	11	9	16	16	37
44	40	16	26	10	32	23	38	28	28

- Tally the prices into class interval of 1-10, 11-20, 21-30, 31-40 & 41-50 and determine the modal class
 (6 Marks)
- ii. What advice would you give to the Manager of Madina Supermarket? (2Marks)

QUESTION TWO

(a) Discuss the following major methods of data collection

- i. Questionnaire
- ii. Interview scheduleiii. Focus Group
- (b) Discuss the uses and limitations of statistics (6marks)

QUESTION THREE

(a) Using the following information:

	X	Y
Mean	6	8
Standard deviation	5	40/3
r =8/15		

Required: Find

i.	There regressio	(3marks)						
ii.	The regression	(2marks						
iii.	The most likely	(2marks)						
(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								

(c) Distinguish between correlation and regression

(3marks)

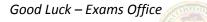
(9 marks)

QUESTION FOUR

Miss Atieno, a Diploma in Business Management student doing her field attachment at Afya Medical Clinic was investigating the association between gestational age at birth and birth weight of 17 infants which she recorded in the table below;

Infant No.	Age (in Weeks	Weight(in Grams)
1.	35	1,895
2.	36	2,030
3.	29	1,440
4.	40	2,836
5.	36	3,090
6.	42	3,827
7.	40	3,260
8.	37	2,690
9.	41	3,285
10.	38	2,920
11.	83	3,430
12.	41	3,657
13.	40	3,685
14.	40	3,345
15.	41	3,260
16.	38	2,680
17.	39	2,005

Supplementary / special exam_



Required:

(a) Sketch a scatter diagram	(4marks)	
(b) Explain the observation in the scatter diagram obtained in (a) above	(3 marks)	1
(c) Using the information provided, calculate the correlation coefficient (r) an	d comment	(8 marks)

QUESTION FIVE

The table below shows the number of minutes 80 students of Digital College spent on their smart phones while attending a 3-hour QT lecture.

Num	ber of minutes	1-5	6-10	11-15	16-20	21-25	26-30	31-35	
No o	f students	1	18	25	26	7	2	1	
Required:									
a) Calculate the modal minute						(3 marks)			
b)	b) The mean minutes						(3	3 marks)	
c) Median minute					(3	3 marks)			
d) Variance							(3	3 marks)	
e) The standard deviation of minutes						(3	marks)		

QUESTION SIX

(a) Outline the assumptions of Regression analysis	(6marks)
(b) Discuss the possible problems in the stages of statistical investigations	(9 marks)