SCOTT CHRISTIAN UNIVERSITY
SCHOOL OF PROFESSIONAL STUDIES
BBA104/MGT112: BUSINESS MATHEMATICS - EVENING
END OFSEMESTER EXAMINATION, APRIL 2016

TIME: 3 HOURS **LECTURER: JANE MAGEMBE**

Answer QUESTION ONE and ANY OTHER TWO Question

QUESTION ONE – 30 MARKS

a) Define the following terms.

i. Universal set (2 Marks)
ii. Null set (2 Marks)

b) Discuss the following types of matrices

i. Square matrix (2 Marks)
ii. Identity matrix (2 Marks)

c) Using the crammers rule solve the following

2x-y=7

X+3y=14 (5 Marks)

d) Discuss two advantages of observation as a method of data collection (4 Marks)

e) The following data relates to advertising expenditure in thousands and their corresponding sales

Advertising expenses	**10**	**12**	**15**	**23**	**30**
Sales	**14**	**17**	**23**	**25**	**21**

Estimate the sales corresponding to advertising expenditure of sh 3,000 and the advertising expenditure for a sales target of sh35,000 by use of a diagram. (7 Marks)

f) Discuss two methods used in the construction of weighted index numbers. (4 Marks)

QUESTION TWO-20 MARKS

a) Compute index numbers from the data given below given that 2013 is the base year by the use of the following methods. Laspeyres ,paasaches and fishers methods.

	2013		**2014**	
Commodity	**Price Sh**	**Quantity**	**Price sh**	**Quantity**
A	**8**	**80**	**10**	**110**
B	**10**	**90**	**12**	**108**

(10Marks)

b) The table below shows the distribution of wages of 40 employees in a certain factory.

No. of employees	5	7	8	6	10	3	1
Wages in shillings	20-29	30-39	40-49	50-59	60-69	70-79	80-89

Prepare a frequency distribution table and determine the following mean, median and mode (10 Marks)

QUESTION THREE -20 MARKS

A survey was conducted on three dailies. Nation daily, **(D),** Standard daily,**(S)** and the Kenya times **(K)**and the following data was obtained. Those that read **D&K=19, S&D=15,S&K=14,DS &K=4 only,S=45,K=39 and D=55**

Determine the number of people who read;

i) Daily nation only
ii) Standard or Kenya times but not daily nation
iii) The total number of people interviewed if 5 people read none of the papers.
iv) Demonstrate the above information by use of a Venn diagram. (20 Marks)

QUESTION FOUR- 20 MARKS

Discuss five methods of data collection highlighting three advantages and disadvantages for each.

(20 Marks)