JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BUSINESS & ECONOMICS

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF BUSINESS ADMINISTRATION WITH IT

2ND YEAR 2ND. SEMESTER 2016/2017 ACADEMIC YEAR

KISII CAMPUS-PART TIME

CODE: ABA 206

TITLE: BUSINESS STATISTICS

EXAM VENUE: LR 17   **STREAM: (BBA)**

DATE: 13/12/16   **EXAM SESSION: 2.00 – 4.00 PM**

TIME: 2 HOURS

Instructions:

1. Answer Question ONE (COMPULSORY) and ANY other 2 questions
2. Candidates are advised not to write on the question paper.
3. Candidates must hand in their answer booklets to the invigilator while in the examination room.

Question one

a) Distinguish between the following terms as used in business statistics

    i)   Qualitative and quantitative classification.   (2marks)
    ii)   Primary and secondary data.   (2marks)
    iii)   Permutation and combination.   (2marks)

b) Given the following

     15, 20, 35, 40, 41, 50

Calculate

    i)   Arithmetic mean.   (2marks)
    ii)   Standard deviation.   (3marks)

c) The marks given below belongs to a statistics class

12	36	40	30	28	20	19	10	10	16
19	27	15	26	20	19	7	45	33	21
26	37	6	20	11	17	37	30	20	5

i) Construct a frequency distribution table starting with 5-10, 10-15 (exclusive method)   (2marks)

ii) Calculate the mean and median.   (8marks)

d) Suppose we have 3 empty spaces on a bookshelf and that we have 7 different books available. In how many   ways may we fill the spaces?   (4marks)

Question two

a) The following calculations have been made for closing prices (x) of 12 shares on the NSE on a certain day with the volume of sales (Y) in thousands of shares.

$\sum X = 580$

$\sum Y = 370$

$\sum XY = 11494$

$\sum X^2 = 41658$

$\sum Y^2 = 17206$

Required

    i)   Find the regression equation of sales (Y) against (X).(4marks)
    ii)   Use the equation in (i) above to determine the sales when closing price of a share isk shs. 10.(2marks)
    iii)   Calculate and give an interpretation of the Pearson's coefficient of correlation for the data above.
        (4marks)

b) The salary per month obtained from the company XYZ ltd follow a normal distribution with a worker earning an average of ksh. 500 per month, with a standard deviation of shs. 60

Calculate the probability that

i)   The worker will earn more than shs. 560.   (2marks)
ii)   The worker will earn between kshs. 460 and 540 .   (3marks)

Question three

a) The table below shows prices and quantity of basic household commodities across the year.

Commodity	base year		current year	
	Price	quantity	price	quantity
A	10	50	12	60
B	8	30	9	32
C	5	35	7	40

Calculate the following price indices

i)   Laspeyre's index.   (2marks)
ii)   Paasches index.   (2marks)
iii)   Fisher's index.   (2marks)

b) The following data represents marks of 2 tests given to candidates for administration assistant job

Preliminary test	92	89	87	86	83	77	71	63	53	50
Final test	86	83	91	77	68	85	52	82	37	57

Determine the rank correlation coefficient.   (8marks)

Question four

a) The data below , plot a Lorenz curve.   (8marks)

Wage group ($)	number of people	total wages
Upto-80	205	10250
80-120	200	22,000
120-160	35	4,900
160-200	30	5,700
200-240	20	4,400
240-280	10	2,500

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b) What is the purpose of Lorenz curve. (2marks)

c) The data below shows the distribution of ages of workers in a project.

Age	no of workers
20-29	7
30-39	21
40-49	19
50-59	6
60-69	3
70-79	1

Required

i)   Compute the median age and the modal age. (3marks)
ii) Quartile deviation. (2marks)

Question five

The following report was prepared by the examination officer on the performance of a certain university in kenya. Out of 3,500 male candidates below 20 years of age, 500, passed and 3000 failed. Out of the 1,100 male candidates 20 years old and above over 200 passed and 900 failed. As regards the female candidates out of 500 , below 20 years of age , 100 passed and 400 failed. Of the 340 females 20 years and over, 80 passed 260 failed.

Required

a) Tabulate the above data. (10marks)
b) State and explain the main applications of statistics in business. (5marks)