JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BUSINESS & ECONOMICS

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF LOGISTICS & SUPPLY CHAIN MANAGEMENT

2ND YEAR 1ST SEMESTER 2019/2020 ACADEMIC YEAR

COURSE CODE: BBM 3111

COURSE TITLE: BUSINESS STATISTICS   II

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

DATE: **EXAM SESSION:**

TIME: 2   HOURS

Instructions:

1. **Answer questions ONE 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**

1. (a) Explain any five methods of primary data collection. (10mks)

   (b) Compute median from the following

      51, 65,40,44,46,55,48,62   (4mks)

   (c.) From the following observations find standard deviation

      7, 8, 10, 13,14,19,20,25,26,28   (6mks)

   (d.) Construct a consumer price index number from the table given below. (6mks)

Group	Index for 1996	Expenditure
Food	550	46%
Clothing	215	10%
Fuel and lighting	220	7%
House rent	150	12%
Miscellaneous	275	25%

   (f.) A problem in business statistics is given to five students A, B, C, D and E. Their chances of solving it are: ½, 1/3, 1/4 1/5 and 1/6. What is the probability that the problem will be solved? (4mks)

2. The data below shows the total number of KCPE subjects passed in two schools:

No. of subjects		0	1	2	3	4	5	6	7	8
No. of candidates	School A	1	1	1	10	12	15	12	7	3
	School B	3	2	3	5	6	9	13	12	7

   (a) On the same axes, draw frequency polygon for the two schools.   (12mks)
   (b) If anyone with 6 or more passes qualifies for higher education, how many candidates qualified in each school?   (4mks)
   (c) If anyone with 4 or more passes could be admitted to a training college, how many qualified for a place in training college from each school? (4mks)

3.(a) The distribution of weights measured to the nearest kilograms (kg) of 50 school boys

      Was as shown below:

Weight (kg)	Frequency
60.5 and under 62.5	1
62.5 and under 64.5	5
64.5 and under 66.5	11
66.5 and under 68.5	15
68.5 and under 70.5	10
70.5 and under 72.5	5
72.5 and under 74.5	2

Construct and estimate from the ogive (frequency cumulative curve) the number of boys who weighed.

    i.   Less than 6.5kg

   ii. Less than 73.5kg

  iii. Between 63.5 and 73.5kg

  iv. Estimate the weight below which 20 of the school boys lies. (10mks)

(b.) Compute harmonic mean from the following. (10mks)

4. The data below relates to the weekly maintenance cost (£) to the age (in months) of ten

    machines of similar type in manufacturing company. Find the least squares regression line of

    maintenance cost on age and use this to predict the maintenance cost for a machine of this

    type which is 40months old. (hint regression equation y=a+bx)

The age and weekly maintenance cost of 10 machines

Machine	1	2	3	4	5	6	7	8	9	10
Age(x)	5	10	15	20	30	30	30	50	50	60
Cost(g)	190	240	250	300	310	335	300	300	350	395

                                        (20mks)

5. (a) Draw Lorenz curve for comparison of profits of two groups A and B in business.(10mks)

Profit (sh.million)	No.of companies

	A	B
6	6	1
25	11	19
60	13	26
84	14	14
105	15	14
150	17	13
170	10	6
400	14	7

(b.) Calculate mean, median and standard deviation from the following data. (10mks)

Marks	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45
No. of students	5	6	15	10	5	4	2	2