JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BUSINESS

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF BUSINESS ADMINSTRATION SECOND YEAR SECOND SEMESTER

EVENING - MAIN CAMPUS

COURSE CODE: ABA 206

COURSE TITLE: **BUSINESS STATISTICS**

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

DATE: **EXAM SESSION:**

TIME: 2 HOURS

Instructions:

1. **Answer Question ONE and Any Other TWO Questions.**
2. **Candidates are advised not to write on question paper.**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room.**

QUESTION ONE (30 MARKS)

a) Explain why measures of central value cannot alone fully summarize frequency distribution of data.   (**2 Marks**)

b) The following data gives the distribution of wages of employees of Bondo Poultry Farm.

Wages (Kshs)	Number of Employees
500-599	8
600-699	10
700-799	16
800-899	14
900-999	10
1000-1099	5
1100-1199	2

REQUIRED:

(i)   Find the mean, median and mode wage of this distribution.   (**12Marks**)

(ii)   Calculate the standard deviation of the distribution in (i) above.   (**4Marks**)

(iii) Explain why standard deviation is preferred to variance.   (**2Marks**)

c) A survey of Undergraduate students in the Faculty of Business Administration at JOOUST University revealed the following gender and major of the subjects.

Gender	Accounting	Marketing	Finance	Total
Male	10	15	5	**30**
Female	10	5	5	**20**
Total	**20**	**20**	**10**	**50**

REQUIRED:

(i)   What is the probability of selecting a female student?   (**1Mark**)

(ii)   What is the probability of selecting a finance or accounting major?   (**2Marks**)

(iii) What is the probability of selecting an accounting major given that the person selected is a male?   (**1Mark**)

d) Explain the following terms giving examples where each can be used.

   (i) Systematic random sampling.   (**3 Marks**)

   (ii) Stratified random sampling   (**3 Marks**)

QUESTION TWO (20 MARKS)

a) What are the uses of index numbers (**4 Marks**)

b) A random sample of 100 households in Bondo Town has been selected in an attempt to establish a price index for households' basic needs. The following figures have been obtained.

Items	Prices (Kshs. Per Unit)		Quantities	
	2015	2016	2015	2016
Food	2.00	2.50	100	200
Clothing	3.00	3.60	50	60
Shelter	1.60	3.60	30	40
Utilities	10.00	11.00	20	20

REQUIRED:

(i) Calculate the Laspyre's Price Index for the year 2016. (**6 Marks**)

(ii) Calculate the Paasche's Price Index for the year 2016. (**6 Marks**)

(iii) Explain why Paasche's Price Index may be preferred to Laspyre's Price Index as a measure of change in the cost of living. (**4 Marks**)

QUESTION THREE (20 MARKS)

a) Explain the significance of classification and tabulation of raw data. (**6 Marks**)

b) The following refer to weekly earnings of casual employees of a certain manufacturing firm in Kisumu.

(Figure in Kshs.)

400	550	675	825	700	900	1900	1350
400	450	700	700	950	950	1240	1300
400	520	600	825	1000	1200	1300	1900
500	600	650	700	850	950	1900	1450
450	570	800	850	1150	1200	1400	1200

REQUIRED:

(i) Establish grouped frequency distribution table for the above earnings.   (**8 Marks**)

(ii) Draw a histogram and a frequency polygon for the distribution above and comment.
(**6 Marks**)

QUESTION FOUR (20 MARKS)

a) A manufacturing company wants to determine the intelligence levels of a sample of eight (8) of its employees in its production line by giving them an aptitude test. The test results with their subsequent average daily outputs were as follows:

Employee	No. of Units Produced (y)	Aptitude Test Results (x)
A	30	06
B	49	09
C	18	03
D	42	08
E	39	07
F	25	05
G	41	08
H	52	10
TOTAL	**296**	**56**

REQUIRED:

a) Determine its appropriate straight line regression equation. Interpret it. (**15 Marks**)

b) "Complete enumeration is always preferred to sample survey in management research". Comment. (**5 Marks**)

QUESTION FIVE (**20 MARKS**)

The heights (cm) and weights (kg) of a sample of six students were:

Heights (cm)	170	175	176	178	183	185
Weights (Kg)	57	64	70	76	71	82

REQUIRED

a) Establish the appropriate correlation from the rankings of the above record. (**10 Marks**)

b) What is statistical average? Mention different types of averages and state why arithmetic mean is the most commonly used among them. (**10 Marks**)