



**KIBABII UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**2022/2023 ACADEMIC YEAR**

**SECOND YEAR SECOND SEMESTER**

**MAIN EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF COMMERCE**

**COURSE CODE:BCO212**

**COURSE TITLE: BUSINESS STATISTICS**

**DATE:19<sup>TH</sup> APRIL, 2023**

**TIME: 9.00AM – 11.00AM**

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**INSTRUCTIONS TO CANDIDATES**

1. Answer a total of **three** questions; question **one** and any other **two** questions.
2. Question **one** carries **30 marks** and each of the other two questions carry **20** marks each.

**KIBU observes ZERO tolerance to examination cheating**

*This Paper Consists of 5 Printed Pages. Please Turn Over.*



**SECTION A**

**QUESTION ONE (30 Marks)**

- a. What is Business statistics? (2 marks)
- b. Differentiate between descriptive and inferential statistics. (2 marks)
- c. State Three reasons why a researcher may prefer to study a sample instead of the whole population. (3 marks)
- d. Give two important definitions of dispersion you know (4 Marks)
- e. Describe four main purposes of measuring variations (6 Marks)
- f. An investor is fond of investing in equity shares. During a period of falling prices in the stock exchange, a stock is sold at Shs.120 per share on one day, Shs.105 on the next and Shs.90 on the third day. The investor has purchased 50 shares on the first day, 80 shares on the second day and 100 shares on the third' day.

**Required;**

- What average price per share did the investor pay? (6 Marks)
- g. explain four characteristics of arithmetic mean (4 Marks)
- h. Find the range for the following three sets of data: (3 Marks)
  - Set 1: 05 15 15 05 15 05 15 15 15 15
  - Set 2: 8 7 15 11 12 5 13 11 15 9
  - Set 3: 5 5 5 5 5 5 5 5 5 5

**QUESTION TWO (20 Marks)**

- a. Briefly describe the merits and demerits of Quartile Deviation (8 Marks)
- b. The following distribution relating to marks obtained by students in an examination: Calculate the standard deviation. (12 Marks)

Marks	Number of Students
0- 10	1
10- 20	3
20- 30	6
30- 40	10
40- 50	12
50- 60	11
60- 70	6
70- 80	3
80- 90	2
90-100	1

**QUESTION THREE (20 MARKS)**

- a. Measurements obtained on interval and ratio scale are also known as high level measurements. Briefly explain the four level of measurements described under nonparametric tests. (8 Marks)
- b. The following table gives the marks of 58 students in Statistics. Calculate the average marks of this group. (6 Marks)



Marks	No. of Students
0-10	4
10-20	8
20-30	11
30-40	15
40-50	12
50-60	6
60-70	2
Total	58

c. Briefly explain the scope of statistics

(6 marks)

#### QUESTION FOUR (20 Marks)

- a. Discuss in detail, giving examples the ways of collecting statistical data for research in Kenya (16 Marks)
- b. Give four advantages of using questionnaires in data collection. (4 Marks)

#### QUESTION FIVE

- a. The following data give the savings bank accounts balances of nine sample households selected in a survey. The figures are in Shillings.

745    2,000    1,500    68,000    461    549    3750    1800    4795

#### Required

- i. Find the mean and the median for these data; (6 Marks)
- ii. Do these data contain an outlier? If so, exclude this value and recalculate the mean and median. Which of these summary measures has a greater change when an outlier is dropped? (6 Marks)
- iii. Which of these two summary measures is more appropriate for this series? (1 Marks)
- b. From the following frequency distribution. Calculate the Mode. (4 Marks)
- | Class intervals (1) | Frequency (2) |
|---------------------|---------------|
| 30-40               | 4             |
| 40-50               | 6             |
| 50-60               | 8             |
| 60-70               | 12            |
| 70-80               | 9             |
| 80-90               | 7             |
| 90-100              | 4             |

- c. A person has invested Shs.5, 000 in the stock market. At the end of the first year the amount has grown to Shs.6, 250; he has had a 25 percent profit. If at the end of the second year his principal has grown to Shs.8, 750, the rate of increase is 40 percent for the year. What is the average rate of increase of his investment during the two years? (3 Marks)