(*Knowledge for Development*)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS

2022/2023 ACADEMIC YEAR

DIPLOMA FIRST YEARS SECOND SEMESTER

MAIN EXAMINATION

FOR THE DIPLOMA IN BUSINESS MANAGEMENT

COURSE CODE: DIB102

COURSE TITLE:QUANTITATIVE METHODS

DATE:21ST DECEMBER,2022 **TIME:** 9.00AM – 11.00AM

INSTRUCTIONS TO CANDIDATES

1.Answer Question One in Section A and Any other TWO (2) Questions in Section B

2.Question **one** carries **30**marks and each of the other two questions carry **20** marks each.

TIME: 2 Hours

QUESTION ONE

a) Write short notes on

    i.   A set

    ii.   Probability   (2 marks)

b) Give the Advantages of Linear Programming   (6 marks)

    (a) A box of chocolates is randomly selected from a production line to check to see if any of the chocolates are faulty. Each box contains 12 soft-centred and 8 hard-centred. Two chocolates are randomly selected from the box and are tested to see if they have any faults.

    i.   What is the probability of selecting two soft-centred chocolates?

    ii.   What is the probability of selecting a soft-centred and a hard-centred chocolate?

    iii.   Draw a tree diagram to show the probabilities   (9 marks)

QUESTION TWO

From the following data calculate the mean

Score	10-20	20-30	30-40	40-50	50-60	60-70	70-80
f	3	12	11	10	9	5	4

(5 Marks)

The weight of 75 pigs was tabulated as follows:

Weight of pig	0-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Over 100
No. Of pigs	1	7	8	11	19	10	7	5	4	3

Calculate the median weight.   (10 Marks)

QUESTION THREE

(a) Judy gets quiz grades of 85, 80, and 57. She gets a 74 on her final exam. Find the weighted mean if the quizzes each count for 10% and the final exam counts for 70% of the final grade (5 Marks)

(b) Calculate the arithmetic and Geometric mean of the following salaries: - in thousands of shillings per month
8, 10, 14, 16,16,18,20

QUESTION FOUR

(a) Define the following terms

    i.   Kurtosis   (2 Marks)

    ii.   Equation   (2 Marks)

(b) Predictor variables   (1 Mark)

(c) Explain five Properties of equality   (10 Marks)

QUESTION FIVE

a) (a) A city has three newspapers A, B and C. Of the adult population, 1% read none of these newspapers. 36% read A, 40% read B, 52% read C, 8% read A and B, 11% read B and C, 13% read A and C and 3% read all the three newspapers. What percent of the adult population read?

    (a) Newspaper A only

    (b) Newspaper B or Newspaper C

    (c) Newspaper A or B but not C   (8 marks)

b) Give six qualities of a good average.   (6 marks)