



(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

FIRST YEAR FIRST SEMESTER

MAIN EXAMINATION

FOR THE DIPLOMA IN BUSINESS MANAGEMENT

COURSE CODE: DIB 102

COURSE TITLE: QUANTITATIVE TECHNIQUES

DATE: 31ST AUGUST, 2022

TIME: 2.00PM – 4.00PM

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

KIBU observes ZERO tolerance to examination cheating

This Paper Consists of 6 Printed Pages. Please Turn Over.

QUESTION ONE

- a) Give six qualities of a good average. (6 marks)
- b) Find the mean of the following distribution:

x	5	14	22	18	16
f	6	10	8	8	8

(5 marks)

- c) 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)
- d) What is the probability of drawing a king, a queen, or a jack from a deck of playing cards? (4 marks)
- e) With examples explain the terms Union and Intersection (2 marks)

(Total 25 marks)

SECTION B

QUESTION TWO

- (a) A bag contains two red sweets and three green sweets. Jacques takes one sweet from the bag, notes its colour, and then eats it. He then takes another sweet from the bag. Draw a tree diagram to show all probabilities. (5 marks)
- (b) A box contains 5 white and 6 red marbles. What is the probability of successfully drawing, in order, a red marble and then a white marble? draw a tree diagram (5 marks)
- (c) A bag contains 3 red, 2 white, and 6 blue marbles. What is the probability of drawing, in order, 2 red, 1 blue, and 2 white marbles? Draw a tree diagram (5 marks)

(Total 15 marks)

QUESTION THREE

(d) Give some of the properties of standard deviation (5 marks)

(e) A hen lays eight eggs. Each egg was weighed and recorded as follows:

60 g, 56 g, 61 g, 68 g, 51 g, 53 g, 69 g, 54 g.

i. Calculate the mean:

ii. Find the standard deviation.

(10 marks)

(Total 15 marks)

QUESTION FOUR

a) Explain the Terms used in Equations

(6 marks)

b) Solve for x in the following equation;

(9 marks)

$$\frac{8x-9}{8} + \frac{5x-7}{7} = \frac{5x-63}{56}$$

$$8 \quad 7 \quad 56$$

(Total 15 marks)

QUESTION FIVE

a) Explain the meaning of the following terms

i) Complete utility

(3 marks)

ii) Transitive utility

(3 marks)

iii) Reflexive utility

(3 marks)

b) . Distinguish between cardinal and ordinal utility.

(6 marks)

(Total 15 marks)