



MACHAKOS UNIVERSITY

DIPLOMA IN ICT, ACCOUNTANCY

QUANTITATIVE TECHNIQUES

Attempt any 5 questions

1. The cost of 6 tables and 5 chairs is Kshs 28,750 while the cost of 3 tables and 7 chairs is Kshs 21,350 determine the:

i) Price of **one** chair

ii) Price of **one** table

(14 marks)

2. The following set of data represents the distribution of annual salaries of a random sample of 100 managers in a large multinational company:

Salary Range (£ '000)	Managers
20 but under 25	5
25 but under 30	10
30 but under 35	25
35 but under 40	35
40 but under 45	25
45 but under 50	5

i) Calculate the mean and standard deviation

ii) The company chairman claims that the managers in the company earn on average annual salary in excess of £35500. Use the result in (i) to test the chairman's claim at 95% level of confidence.

(14 marks)

3. State **four** areas in business where quantitative techniques may be applied (4 marks)

Solve for x in the following expression. (3 marks)

$$\frac{2x-1}{5} + \frac{x}{10} = 20$$

4. Outline four factors that should be considered before using secondary data (4 marks)

b) State three factors that determine the accuracy of a sample (3 marks)

5a. Peter deposited Kshs 200,000 in a fixed deposit account that paid interest at a rate of 16% per annum. Determine:

i) The total amount in the account after 5 years

ii) Interest earned on deposit

(4 marks)

5b) A student scored 65, 47, 76 and 54 and x marks in five subjects. Given that his average mark was 60, determine the value of x (3 marks)

6 a) Outline **four** advantages of Mean as a measure of central tendency. (8 mks)

b) Solve the following simultaneous equations (6 mks)

$$2x - 3y = -4$$

$$X + 5y = 15$$

9. a) Explain **four** advantages of the interview method in a data collection (4mks)

b) The table below shows the distribution of monthly rent of 300 houses in an estate. (7mks)

Monthly rent (Kshs)

Number of houses

40,000 - 60,000	16
60,000 - 80,000	24
80,000 - 100,000	59
100,000 - 120,000	100
120,000 - 140,000	41
140,000 - 160,000	31
160,000 - 180,000	19
180,000 - 200,000	10

i) Draw a histogram to present the data above; (7mks)

ii) Using the histogram in (i) above, estimate the rent paid by the majority of the tenants . (3mks)