THE KENYA NATIONAL EXAMINATIONS COUNCIL

CRAFT CERTIFICATE IN PROJECT MANAGEMENT
CRAFT CERTIFICATE IN SUPPLIES MANAGEMENT
CRAFT CERTIFICATE IN BUSINESS MANAGEMENT
CRAFT CERTIFICATE IN HUMAN RESOURCE MANAGEMENT

MODULE I

BUSINESS CALCULATIONS AND STATISTICS
3 hours

INSTRUCTIONS TO CANDIDATES

This paper consists of TWO sections; A and B.
Answer ALL questions in both sections, A and B, in the answer booklet provided.
Maximum marks for each part of a question are as shown.
Candidates should answer the questions in English.

This paper consists of 4 printed pages.

Candidates should check the question paper to ascertain that
all the pages are printed as indicated and that no questions are missing.

SECTION A: (40 marks)

Answer ALL questions from this section.

1. The cost of a trouser is 3 times that of a T-shirt. The total cost of both is Ksh.2,200. Determine the cost of a T-shirt. (2 marks)

2. Three business partners: S, R and T, are to share Ksh.12,000 in the ratio 5:6:9, respectively. If S received Ksh.4,000, determine the amount received by T. (2 marks)

3. State two methods used in construction of simple index numbers. (2 marks)

4. A businessman makes a profit of 20% when he sells a carpet for Ksh.36,000. He sold such carpet for Ksh.33,600. Determine the percentage profit made on the sale of the carpet. (2 marks)

5. A sewing machine costs Ksh. 8,500. A tailor bought it on hire purchase by paying a deposit of Ksh.2,250 and 15 equal monthly instalments of Ksh.650. Calculate the interest paid. (2 marks)

6. Distinguish between Gross income and Taxable income. (2 marks)

7. A student scored a mean of 68 marks in six subjects. If he scored 72, 44, 56, 74 and 81 in five subjects, determine the median mark. (2 marks)

8. A customer paid Ksh.5,880 for a suit after he was allowed a discount of 2% on the selling price. If the discount had not been allowed, the shopkeeper would have made a profit of 20% on the sale of the suit.

   Calculate the price at which the shopkeeper bought the suit. (2 marks)

9. Explain the meaning of Statistics as a science. (2 marks)

10. A bag contains 5 black balls and some brown balls. If a ball is picked at random, the probability that it is black is 0.25.

    Determine the number of brown balls. (2 marks)

11. A machine starts production of match boxes at the rate of 12,000 per hour. The rate of production is expected to decrease by 40% every hour.

    Calculate the total number of match boxes produced in the first two hours. (2 marks)

12. State two methods that may be used in data presentation. (2 marks)

13. The following data shows the marks obtained by students in a test: 32, 35, 40, 48, 52, 70, 68. Determine the co-efficient of range. (2 marks)

14. A business lady deposited Ksh 130,000 for 3 years in a bank that pays 15% per annum compound interest. Determine the total amount of money in her account after the 3 years.. (2 marks)

15. Highlight **two** reasons for data classification. (2 marks)

16. In the arithmetic series: 1, 4, 7, 10 ...., Determine the sum of the first 10 terms. (2 marks)

17. Distinguish between linear and non-linear, as used in correlation. (2 marks)

18. A tourist had 6,894 US dollars. He converted all the money into Kenyan shillings at a currency exchange rate of USD 1 = Ksh 125. He spent $\frac{7}{8}$ of the total amount. Calculate the balance he was left with, in Kenyan shillings. (2 marks)

19. State two disadvantages of using observation as a method of data collection. (2 marks)

20. Differentiate the following equation with respect to y:

$$y = x^2 + \frac{2}{x}.$$

(2 marks)

SECTION B: (60 marks)

Answer ALL questions from this section.

21. (a) Explain **four** uses of statistics in a business organisation. (8 marks)

    (b) The total weekly wages for 12 artisans and 4 apprentices is Ksh.5,600. If the number of artisans is increased by 3 and that of apprentices increased by 5, the total wages for a week is Ksh.7,800.
    Calculate the weekly wage for one:

    (i) artisan.
    (ii) apprentice.

    (7 marks)

22. (a) The cash price of a laptop computer is Ksh 60,000. When bought on hire purchase terms, a deposit of Ksh 7,500 is required, followed by 11 equal monthly instalments of Ksh 6,000.

   (i) Determine the:
   (I) cost of a laptop computer on hire purchase.
   (II) percentage hire purchase interest.

   (ii) An institution was offered a 5% discount when purchasing 25 such laptops on cash terms. Calculate the amount paid by the institution. (7 marks)

   (b) The following information shows the cost of advertisement and the sales of a particular company, in thousands of shillings.

Advertisement cost	36	62	59	87	79	72	22	95	33	75
Sales	44	50	55	83	59	63	57	88	49	81

   Using the above data, calculate the Spearman's rank correlation co-efficient.
   (8 Marks)

23. (a) Explain the significance of measuring dispersion. (8 marks)

   (b) An import company brought into the country 450 amplifiers which cost Ksh 3,750 each. The government imposed an import duty of 25% and sales tax of 20% on the merchandise. The amplifiers were all sold at a profit margin of 80%. Determine the selling price of each amplifier. (7 marks)

24. (a) An unbiased coin with two faces, Head (H) and Tail (T), is tossed three times. List all the possible outcomes. (8 marks)

   (b) A company employee earns a monthly basic salary of Ksh 30,000. He is also entitled to taxable allowances amounting to Ksh 10,480. He is given a personal tax relief of Ksh 1,408 per month.
   Using the table below; calculate the:

   (i) total income tax;
   (ii) net tax.

Monthly taxable pay	Rate %
1 - 4,305	10
4,306 - 8,700	15
8,701 - 13,086	20
13,087 - 17,482	25
17,482 and above	30

   (7 marks)

THIS IS THE LAST PRINTED PAGE.