THE KENYA NATIONAL EXAMINATIONS COUNCIL

CRAFT CERTIFICATE IN SUPPLY CHAIN MANAGEMENT
CRAFT CERTIFICATE IN BUSINESS MANAGEMENT'
CRAFT CERTIFICATE IN PROJECT MANAGEMENT

MODULE I

BUSINESS CALCULATIONS AND STATISTICS

3 hours

INSTRUCTIONS TO CANDIDATES

This paper consists of TWO sections: A and B.
Answer ALL questions from both sections 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.

Turn over

SECTION A: (40 marks)

*Answer **ALL** questions from this section.*

1. A supplier allows a trade discount of 25% and a cash discount of 2%. A trader bought goods valued at Ksh. 57,000. Determine the amount paid by the trader. (2 marks)

2. A sum of money was invested at a compound interest rate of 12% per annum. The amount after 3 years was Ksh. 125,440. Determine the sum of money that was invested. (2 marks)

3. A furniture dealer reduced the price of a sofa set from Ksh. 54,600 in the ratio 11:13. Determine the selling price after the reduction. (2 marks)

4. Paddy is paid a monthly salary of Ksh. 22,160 for normal working hours, fie is paid overtime at the rate of Ksh. 225 per hour. He is charged income tax at the rate of 10%. Determine his net earnings in a month when he worked for 16 hours overtime. (2 marks)

5. The price relatives of milk for the years 2010 and 2013 were 175 and 225, respectively, with 2008 as the base period. The price of milk per litre in 2010 was Ksh. 31.50. Determine the price per litre in 2013. (2 marks)

6. An American tourist visiting Kenya converted ail the dollars that he had into Kenya shillings. He received Ksh. 546,480. Determine the sum of money that he had in US Dollars.

   Take 1 dollar - Ksh. 86.40 (2 marks)

7. Determine the 6$^{o'}$ term in the following sequence:

   9 | _1_ -1_ __   ..._ (2 marks)

8. The hire purchase price of a photocopier is 20% more than the cash price. The cash price Ksh. 180,000. Determine the hire purchase interest. (2 marks)

9. State **two** uses of statistics in a business organization. (2 marks)

10. The number of unskilled workers in a factory is five times the number of skilled workers. The total number of workers in the factory is 54. Calculate the number of skilled workers. (2 marks)

11. State two advantages of using a questionnaire as a method of data collection. (2 marks)

12. Differentiate between regression and correlation in data analysis. (2 marks)

13. Integrate $f (3x' \; T \; x) \, dx$. (2 marks)

14. In a job application, 18 women and 25 men applied. Among the women, 12 were skilled and among the men, 16 were unskilled. Present this information in a component bar chart.

(2 marks)

15. The monthly sales for six consecutive months of a firm in Kenya shillings were :

60200, 52030, 64050, 58200, 55800, and 62050.

Determine the median sales. (2 marks)

16. State **two** reasons for classifying data. (2 marks)

17. Production in a factory depends on two machines, A and B. The probability that machine A does not work is 0.2 and that of machine B not working is 0.1.

Determine the probability that there is production in the factory. (2 marks)

18. Highlight **two** advantages of standard deviation as a measure of dispersion. (2 marks)

19. A trader sold a radio for Ksh. 1,800 and incurred a loss of 10% on cost price. Determine the price at which the trader should sell the radio in order to make a profit of 20% on cost.(

2 marks)

20. Bahari earns a net salary of Ksh. 17,500. He spends his salary as follows:

$\frac{3}{5}$ on household costs, $-JQ$ on entertainment and saves the balance. Determine the amount that he saves. (2 marks)

SECTION B: (60 marks)

*Answer **ALL** questions from this section.*

21. (a) A man deposited Ksh. 20,000 in a fixed deposit account for his son's education. The money earns interest at the rate of 18% per annum and interest is paid every 4 months. Determine the:

    (i)   total savings after 5 years.
    (ii) time the total savings will take to amount to Ksh. 121,000.   (7 marks)

    (b) A cash discount of 10% is allowed on a car whose marked price is Ksh. 1,200,000. When the car is bought on hire purchase terms, an extra charge of 20% is required above the marked price and a deposit of Ksh. 300,000 is paid. The balance is to be paid in 24 equal monthly instalments.

Calculate the:

(i) amount of each monthly instalment.

(ii) difference between the cash price and the hire purchase price. (8 marks)

22. (a) Highlight **four** advantages of sampling over census, as methods of data collection in research. (8 marks)

(b) On 1⁵¹ January, 2010, a company had 50 employees, among them, 18 were women. During the year, 9 employees left and 5 of these were men. The total of the new employees in the year was 11, out of whom, 4 were women. During the year 2011, 2 men left employment and 14 men and 4 women joined the workforce.

Present this information in a tabular form. (7 Marks)

23. (a) The weekly total wage bill for 6 craftsmen and 3 apprentices is Ksh. 21,270. The weekly total wage bill for 3 craftsmen and 2 apprentices is Ksh. 12,350.

Determine the weekly wage bill for:

(i) one craftsman;

(ii) one apprentice. (7 marks)

(b) The marks awarded by two judges, A and B, to 8 men who were interviewed for a job in a company are shown in the table below.

Judge A	40	30	35	20	30	35	25	25
Judge B	54	45	45	36	40	50	30	40

Calculate:
(i) the product moment correlation coefficient.

(ii) comment on the result in (i) above. (8 marks)

24. (a) A salesman earns a basic monthly salary and commission based on sales. Tn the month of October 2013, the sales amounted to Ksh. 200,000 and he earned a total of Ksh. 17, 580. In the month of November 2013, he earned a total of Ksh. 21,330 and his sales amounted to Ksh. .350,000. Calculate his total earnings in a month when the total sales amount to Ksh. 560,000. (7 marks)

(b) Outline **four** characteristics of a normal distribution curve. (8 marks)

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