

TECHNICAL UNIVERSITY OF MOMBASA
SCHOOL OF BUSINESS
DEPARTMENT OF MANAGEMENT SCIENCES

CERTIFICATE IN STORES MANAGEMENT
CERTIFICATE IN SALES MANAGEMENT
CERTIFICATE IN BUSINESS MANAGEMENT
CERTIFICATE IN FRONT OFFICE ORGANIZATION
CERTIFICATE IN HUMAN RESOURCE MANAGEMENT
(CSTM, CSM, CBM, CFOO, CHRM)

BAC 1103: BUSINESS CALCULATIONS

END OF SEMESTER EXAMINATIONS

SERIES: APRIL 2016

TIME: 2 HOURS

INSTRUCTIONS:

- This paper consists of Sections **A** and **B**.
- Section **A** is Compulsory. Answer any **TWO** questions in Section **B**.
- Mobile phones are not allowed into examination room.
- Cheating leads to disqualification.
- This paper consists of Four printed pages.*

Set B:

Question 1

a) Complete the following table:

Item	Cost per unit	Units	Total cost
A	102.3	700	-
B	65	1327	-
C	108.50	13.88	-
D	1064	91	-
E	82.70	-	1067
F	192.40	-	4389

(5mks)

b) Solve the following:-

(i) $6(13x - 5) = 9(x + 7)$ (2mks)

(ii) $4x^2 - x - 3 = 0$ by factorization (2mks)

(iii) $10x + 5y = 20$

$7x - 4y = 16$ by elimination (2mks)

by substitution (2mks)

(iv) If sh. 75,000 is lent at 12% simple interest p.a, after how many years will it earn interest of sh. 12,150? (2mks)

c) Simplify:

(i) $5(y^9 \div y^5)$ (2mks)

(ii) $125^{2/3}$ (2mks)

(iii) 5×5^3 (2mks)

(iv) $150 \div (6 + 3 \times 8) - 5$ (2mks)

(v) Kenga paid sh. 105,000 as a partner of XYZ Company. If this amount is $\frac{6}{8}$ of the total capital then find out the total capital. (2mks)

- d) Kavesi puts shs. 80,000 into a deposit account which pays interest at 8% p.a and makes no withdrawals until the end of the year 2, when he takes out sh. 10,000. Find out the balance in his deposit account at the end of 4 years (5mks)

Question Two

- a) A German Tourist arrived in Kenya with Euros 7,500. He changed all his Euros to Kenya shillings paying bank charges of 5%. He spent Kshs. 140,000 during his stay in Lamu and changed the remaining cash to Euros again. (1 Euro= Ksh. 97.68). How many Euros did he receive? (10mks)
- b) Find the average due date of the following bills:

Date on which the bill

Is drawn	Amount	Terms of credit
	Sh.	
4 th January	3500	3 months
17 th February	5000	4 months
26 th March	2500	1 month
7 th April	4000	2 months

(10mks)

Question Three

a) A Furniture shop makes tables and chairs. The cost of making 7 tables and 4 chairs is sh. 2400. The cost of making 2 tables and 6 chairs is sh. 830. The shop makes a profit of 30% and 25% on each table and chair respectively.

- (i) Express the above cost of making a table and a chair in form of simultaneous equation
- (ii) Calculate the cost of making a table and a chair
- (iii) Calculate the selling price of a table and a chair (10mks)

b) Simplify:

i. $\frac{x}{x-y} \div \frac{x^2}{x^2-y^2}$ (5mks)

ii. A motorist travels from Town X to Town Y, 390km apart at an average speed of n km/h. On his return journey he increases his speed so that average speed increases from Y to X by 13km/h. If he takes 1 hour less on his return, find the value of n.

(5mks)

Question Four

a) A machine costing sh. 200,000 is purchased by Aon Ltd. The expected useful life is 12 years. Calculate the annual depreciation in the following cases on fixed installation basis.

- i. its scrap value is nil
- ii. its scrap value is sh. 12,000 (5mks)

b) A building cost sh. 750,000 and it is expected to depreciate it at 12% p.a on the reducing balance method. What will be its written down value after 25years.

(5mks)

- c) Mwangiri deposits sh. 600,000 in Chase Bank Ltd. It earns 9% interest for 3 years and then 12% per annum in the subsequent years, what would be the total amount of deposit on the basis of compound interest at the end of 5 years. (10mks)

Question Five

- a. The deposit for a sofa set in a hire purchase shop is indicated sh. 1,410. The balance is payable in 15 annual installment of sh. 210. A customer who defaults on an installment is charged a penalty of $2\frac{1}{2}\%$ on the outstanding balance payable in the next month together with the installment due. Cash price is sh 3800 Rahma brought sofa set on hire purchase and paid the deposit.
- i. If Rahma defaulted once in the third month. What was the total cost of the sofa set?
 - ii. If Rahma had paid cash and was allowed a discount of 15% how much would he have saved? (10mks)
- b. Kirubi Estate Agency charges for the sale of property 5% on the first sh. 500,000 and 3% on the remainder. If the seller received sh. 766,000, what did the purchaser pay for a house? (10mks)