(UNIVERSITY OF CHOICE)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY

(MMUST)

UNIVERSITY EXAMINATIONS

2022/2023 ACADEMIC YEAR

FIRST YEAR SECOND SEMESTER EXAMINATIONS

UNIVERSITY WIDE EXAMINATION

COURSE CODE: ESM 104
COURSE TITLE: QUANTITATIVE SKILLS II

DATE: 18/04/2023   TIME: 3:00 - 5:00 PM

INSTRUCTIONS TO CANDIDATES
Answer Question ONE <u>compulsory</u> carrying 25 marks and any other THREE questions
each carrying 15 marks.

MMUST observes ZERO tolerance to examination cheating

QUESTION 1 (25 MARKS)

(a) Differentiate between:

    i)   Differed Annuity and Annuity Due   (2 marks)
    ii)   Ordinary shares and Preference shares   (2 marks)
    iii)   Accounts Receivable and Notes Receivable   (2 marks)

(b) Debra is faced with a decision to accept an offer of K.shs. 460,000 now or take the option of receiving K.shs. 100,000 at the end of year one, Kshs. 150,000 at the beginning of year two, K.shs. 120,000 at the end of year three and K.shs. 80,000 at the beginning of year four. Given a discount rate of 15% p.a, what option would you advise her to take?   (4 marks)

(c) Highlight any FOUR reasons for budgeting in Kenya.   (4 marks)

(d) Explain any TWO errors which may not affect a trial balance from balancing.   (2 marks)

(e) State any THREE factors that must be considered in the construction of index numbers.   (3marks)

(f) If in a geometric Progression a^4 is $= 96$ and a^5 is $= 192$, find the sum of the 1st five terms.
                                              (3 marks)

(g) State three factors that affect the growth rate of a population.   (3 marks)

QUESTION 2

a)   Mr. Ndegwa an employee of Central Board and Marketing receives a monthly   salary of K.shs. 180,000, house allowance of Kshs, 58,000, travelling allowance of K.shs.   15,000 (reimbursed on monthly basis) and entitled to a car allowance of K.shs. 15,500   which he has to account for, and a responsibility allowance of K.shs. 18,000/- per month.

Mr. Ndegwa was to pay the following from his monthly remuneration in the month of March 2023:

Kshs. 4000 pension scheme (registered)

Kshs. 520 N.H.I.F (National Hospital Insurance Fund)

Kshs. 6000 Life insurance scheme

Kshs.3000 Cooperative Society Shares

Kshs. 5000 House savings scheme

Tax Schedule

Monthly income (Kshs.)	Tax Rate(%)
First Kshs. 10,164	10
On the next K.shs. 9576	15
On the next K.shs. 9576	20
On the next K.shs. 9576	25
Excess and over Kshs. 38,892	30

Determine:

i)   The Gross income for the month of March 2023 (2 marks)
ii) The Tax Liability for the Month of March 2023 (personal tax relief being 1,162) (5 marks)
iii) The Net income per year (3 marks)

b) Explain any FIVE principles that guide government expenditure.   (5 marks)

QUESTION 3

a) The following Trial Balance was extracted from the books of James as at 31st December 2022:

Trial Balance as at 31st December 2022

	DR Kshs.	CR Kshs.
		67,000
Sales	42,600	
Purchases	1,900	
Lighting & heating expenses	2,400	
Rent	5,200	
Wages: Shop Assistant	700	
General expenses	1,100	
Carriage outwards	20,000	
Buildings	7,500	
Fixtures & Fittings	12,000	
Debtors		9,000
Creditors	1,200	
Bank	4,000	
Cash	9,000	
Drawings		31,000
Capital	3000	....
Stock (December 2022)	107,000	107,000

Additional Information

Closing stock was valued as Kshs. 5500 as at December 2021

Requirements:

1. Using the information from the Trial Balance, prepare James's Trading, Profit & Loss Account.
   (5 marks)

2. Prepare a Balance Sheet as at the last day of the business.
   (5 marks)

b) Murungi borrowed K.shs. 500/= from a financial institution which charges 10% interest per annum and is payable in five equal monthly installments.

Determine:
   i) The total interest paid on the loan borrowed. (2 marks)
   ii) The total amount of money repaid over the five year period. (3 marks)

QUESTION 4

The following data relates to the consumption of various commodities in a certain town. Using the information, calculate:

Commodity selected	2021			2022	
	Price	Expenditure on Quantity consumed		Price	Expenditure on Quantity consumed
A	8	400		65	2275
B	20	2400		30	1800
C	5	160		20	1800
D	10	360		15	600
E	27	2160		10	900

Using 2021 as the base, calculate:
   i) Laspeyre's Index (2marks)
   ii) Paasche's Index (2marks)
   iii) Marshal-Edge-Worth Index (3marks)
   iv) Fisher's ideal Price index (3 marks)

b) Moloi is planning to retire in 25 years time from now. His objective is to save Sh. 2,000,000 by the time of his retirement. He has decided to deposit KSh. 7,000 in a finance company each year beginning on his 40ᵗʰ birthday if the deposit will earn 20% compounded interest p.a.

Required:

Will he achieve his objective of Sh. 2,000,000, at his retirement age of 65 years?
Support your answer with appropriate calculations. (5 marks)

QUESTION 5

a) Explain any FOUR benefits that accrue to a company whose shares are quoted in stock market.
   (4 marks)

b) Describe any THREE circumstances under which a company may be deregistered from the stock market.
   (3 marks)

c) Explain any FOUR sources of government revenue. (4 marks)

d) Outline any FOUR principles that govern Public Expenditure. (4 marks)