CA ZAMBIA PROGRAMME EXAMINATIONS

CERTIFICATE IN ACCOUNTANCY

CA 1.1: FINANCIAL ACCOUNTING

MONDAY 11 DECEMBER 2023

TOTAL MARKS – 100: TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question.

2. This paper is divided into TWO (2) sections:
   Section A: Ten (10) compulsory multiple choice questions.
   Section B: One (1) compulsory scenario question plus Four (4) scenario questions. Attempt any Three (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Present legible and tidy work.

9. Graph paper (if required) is provided at the end of the answer booklet.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

SECTION A

Attempt all ten (10) multiple choice questions

Each of the following questions has only one (1) correct answer. Write the letter of the correct answer you have chosen in your answer booklet. Marks allocated are indicated against each question.

QUESTION ONE

1.1 Which of the following is not a book of prime entry?

A. Sales invoice.

B. Purchases day book.

C. Sales day book.

D. Journal.

(2 marks)

1.2 A business has a markup of 20% on cost of sales. During the year, its sales were K180,000. What was the cost of sales?

A. K30,000

B. K144,000

C. K36,000

D. K150,000

(2 marks)

1.3 What is included in the cost of purchases of inventories according to IAS 2?

A. Purchase price less trade discount.

B. Purchase price plus transport costs less trade discount.

C. Purchase price less import duties less trade discount.

D. Purchase price plus import duties plus transport costs less trade discount.

(2 marks)

1.4 A, B and C are in partnership sharing profits in the ratio 3:2:1. For the year ending 31 December 2021, the partnership profits were K54,000. What is B's share of profits?

A. K9,000

B. K18,000

C. K27,000

D. K54,000

(2 marks)

1.5 In the published accounts of Dada Co, the profits for the period is K7,000,000. The balance of retained earnings at the beginning of the year was K1,000,000. If dividends of K5,000,000 were paid, what is the closing balance of the retained earnings?

A. K8,000,000

B. K3,000,000

C. K1,000,000.

D. K2,000,000.

(2 marks)

1.6 The descending order in which current assets should be shown in the statement of financial position is

A. Inventory, Accounts receivables, Bank, Cash.

B. Cash, Bank, Accounts receivables, Inventory.

C. Accounts receivables, Inventory, Bank, Cash.

D. Inventory, Accounts receivables, Cash, Bank.

(2 marks)

1.7 Depreciation is defined as:

A. The amount spent to buy a non-current asset.

B. The salvage value of a non-current asset.

C. The part of the cost of the non-current asset consumed during its period of use by the firm.

D. The amount of money spent on replacing assets.

(2 marks)

1.8 What should happen if the balance on the Suspense Account is of a material amount?

A. Must be written off to the statement of financial position.

B. Must carry forward the balance to the next account period.

C. Must find the errors before publishing the final accounts.

D. Must write it off to statement of profit or loss.

(2 marks)

1.9 A transaction for K10,000 of sales offers 2% trade discount and a 5% cash discount. If both discounts are claimed, how much is the Cash discount?

A. K490

B. K690

C. K790

D. K465

(2 marks)

1.10 During a period, ABC company has the following transactions on trade receivables control account: Sales K125,000, cash received K50,000, irrecoverable debts written off K2,000. The balance carried forward is K95,000. What was the opening balance at the beginning of the period?

A. K22,000 debits.

B. K22,000 credits.

C. K18,000 debits.

D. K20,000 debits.

(2 marks)

[Total 20 Marks]

SECTION B

Question TWO (2) in this section is compulsory and must be attempted. Then attempt any THREE (3) questions from the remaining FOUR (4) questions.

QUESTION TWO – (COMPULSORY)

Zicamunobe, a limited liability company, produced the following trial balance at 31 December 2023:

	Dr K'000	Cr K'000
Long-term investments	10,000	
10% Preference shares, 50 ngwee each		1,000
Suspense		1,500
Share premium		1,000
Revaluation reserve as at 1 Jan. 2023		350
Ordinary shares of K1 each		21,000
12% Loan notes		2,500
Land at valuation	4,950	
Buildings at cost	3,500	
- depreciation to 1 January 2023		200
Plant and machinery at cost	2,200	
- depreciation to 1 January 2023		300
Inventory at 1 January 2023	2,100	
Receivables	8,750	
Cash in hand	4,520	
Payables		3,180
Bank		900
Administration expenses	2,640	
Selling and distribution expenses	2,920	
Dividends paid	350	
Loan note interest paid	150	
Sales revenue		36,000
Purchases	29,450	
Carriage inwards	150	
Carriage outwards	100	
Returns outwards		340
Discounts allowed and received	80	1,690
Retained earnings at 1 January 2023		1,900
	71, 860	**71, 860**

The following additional information at 31 December 2023 is available:

(1) One (1) million new ordinary shares were issued at a premium of K0.5 on 1 October 2023. The proceeds have been left in a suspense account.

(2) Prepaid administration expenses K120,000 and accrued selling and distribution expenses K170,000.

(3) Zicamunobe, uses revaluation model as allowed by IAS 16 Property, Plant and equipment. The independent specialists in land valuation based in Kawambwa, has advised that the land should be revalued to K6,000,000.

(4) Depreciation is to be provided as follows:

i. Buildings at 4% per annum on their original cost.
ii. Plant and machinery at 10% per annum of their carrying amount.

(5) Income tax of K1,080,000 is to be provided for the year.

(6) The 12% loan notes were acquired on the 1 of July 2023. K1,500,000 of the loan notes is redeemable by 31 December 2024 and K1,000,000 by 30 June 2040.

(7) A customer ceased trading owing the company K280,000; the debt is not expected to be recovered and an adjustment should be made.

(8) Inventory at the close of business has been valued at K1,940,000, while the net realisable value was K1,950,000.

(9) The preference shares are redeemable preference shares and preference dividends for the year, have not yet been accounted for.

(10) The long-term investments, earn an annual fixed rate of interest of 10%.

Required:

Prepare the following:

(a) Statement of profit or loss and other comprehensive income for the year ended 31 December 2023.

(10 marks)

(b) Statement of financial position as at 31 December 2023.

(10 marks)

[Total: 20 Marks]

QUESTION THREE

Assegai and Haggai formed a partnership business on 1 January 2020 for selling building materials. They started as equal partners, each contributing K30,000; without them agreeing on either drawings or any other benefits from the partnership.

On 1 April 2022, Haggai contributed an additional K20,000. Since then, their profit-sharing ratios were adjusted to be in proportion to the amount of capital each partner had contributed. Further, they agreed to be charging interest on capital of 8% per annum and on drawings of 5% per annum. Haggai would now be receiving an annual salary of K2,400.

The draft statement of profit and loss prepared for the year ended 31 December 2022 showed a profit of K24,000 and is deemed to accrue evenly throughout the year. The following matters were also brought to your attention:

1. Bank charges of K2,580 had not been taken into account as the bank reconciliation was yet to be done.
2. Some furniture was sold for K3,000. The cash received was entered in the cash book and proceeds taken to the sales account, and no other entries were made. The carrying amount of the furniture was K4,500. Depreciation is NOT charged on assets in the year of disposal.
3. The figure of purchases was overcast by K4,000.
4. The partners Current Account balances and drawings in the year are as follows:

	Current Accounts	***Drawings***	***Date Drawn***
Assegai	K6,000	K7,000	1 July 2022

Haggai	K4,000	K5,000	1 October 2022

Required:

(a) Calculate the adjusted profit for the year, taking into account matters from 1 – 3. (2 marks)

(b) Prepare the Partnership Appropriation account for the year ended 31 December 2022. (11 marks)

(c) Prepare the Partnership Current accounts for the year ended 31 December 2022. (7 marks)

[Total: 20 Marks]

QUESTION FOUR

The Statements of financial position of Munyunswa Co at 31 March 2022 and 2023 were as follows:

	Note	**2022**	**2023**
		K'000	**K'000**
Non-current assets:			
Tangible assets	1	730	1,100
Investment at cost	2	100	50
		830	1,150
Current assets:			
Inventory		80	110
Receivables		110	180
Cash at bank		20	30
Total current assets		210	320
Total assets		**1,040**	**1,470**
Equity and Liabilities:			
Share capital	4	300	380
Share premium		200	300
Revaluation reserve	5	100	200
Retained earnings		200	190
Shareholder's funds		800	1,070
Non-current liabilities:			
10% Loan notes	3	100	150
Current liabilities:			
Trade payables		100	120
Bank overdraft		40	130
		140	250

Total equity and liabilities	1,040	1,470

The following notes are relevant:

1. *Tangible assets*
   During the year, tangible assets with a net book value of K80,000 were sold for K60,000. The depreciation charge for the year on all tangible assets held at the end of the year was K100,000.

2. *Investments*
   Investments which cost K50,000 were sold during the year for K40,000.

3. *10% loan notes*
   K50,000 of the 10% loan notes were issued on 1 April 2022. All interest to 31 March 2023 has been paid.

4. *Equity share capital*
   The company's equity share capital at 31 March 2022 consisted of 300,000 ordinary shares at K1 each. Another 80,000 shares were issued during the year at a price of K2.25 per share.

5. *Revaluation reserve*
   The freehold land and buildings were revalued upwards by K100,000 during the year.

6. *Dividends*
   Munyunswa Co. paid dividends during the year amounting to K50,000

   Required:

   (a) Calculate the Profit before tax of Munyunswa Co. for the year ended 31 March 2023. (4 marks)

   (b) Prepare the Statement of cash flows for the year ended 31 March 2023 for Munyunswa Co. that complies with IAS 7 Statement of cash flows. Ignore taxation. (16 marks)

[Total: 20 Marks]

QUESTION FIVE

The following list of balances was extracted from the books of Mwalula at 30 April 2023.

	K
Sales	134,200
Purchases	62,300
Inventory at 1 May 2022	4,700
Discounts received	390
Discounts allowed	240
Wages and salaries	12,700
Rent and rates	8,100
Motor vehicle expenses	7,500
Machinery repairs	14,200
General expenses	2,600
Machinery at cost	45,000
Machinery accumulated depreciation at 1 May 2022	8,000
Motor vehicles at cost	30,000
Motor vehicles accumulated depreciation at 1 May 2022	6,000

Bank	4,400
Trade receivables	4,600
Trade payables	2,200
Capital at 1 May 2022	45,550

After extracting the above balances, the following errors and omissions were discovered:

(i) A sale on credit to Katungu of K800 had been entered in the Sales Journal as K80 and had also been posted to the Sales Ledger at the same amount of K80.
(ii) A new Motor Vehicle costing K15,000 bought during the year had been debited to the Purchases Account.
(iii) Purchase of goods on credit from Musukwa, amounting to K600, had been omitted from the books.
(iv) A cheque for K435 paid in respect of Motor Vehicle expenses was recorded in the Cash Book and the Motor Vehicle Expenses Account as K475.
(v) Sales of goods on credit to Simunthala, amounting to K1,000, had been omitted from the books.
(vi) A cheque in the sum of K689 paid for general expenses was recorded in the Cash Book and the General Expenses Account as K698.
(vii) The purchase of machinery for K8,500 had been debited to Machinery Repairs Account.

Required:

(a) Prepare journal entries with appropriate narratives to correct each of the errors and omissions in (i) to vii) above.

(7 marks)

(b) Prepare the Trial Balance of Mwalula as at 30 April 2023 after adjusting for the errors and omissions.

(9 marks)

(c) Explain four (4) types of errors which would not affect the balancing of a trial balance.

(4 marks)

[Total: 20 Marks]

QUESTION SIX

The Statement of financial position of Jack and Jill Co. as at 1 January 2022 shows Motor vehicles as follows:

- Motor vehicles at cost K151,500
- Allowance for Depreciation K35,500

Vehicles are depreciated on the straight line basis over a five-years lifespan. Depreciation is charged pro rata to time in the year of acquisition, but no charge is made in the year of disposal.

During 2022, the following vehicle transactions took place:

- Purchases of vehicles:

  April 30 Purchased tanker K42,000

  September 30 Purchased truck K32,500

(i) Sales of vehicles:

30 April – Fork lift truck K2,250, originally cost K17,500 on 31 March 2020

30 June – Saloon car K1,500, originally cost K4,750 on 30 June 2018

Required:

(a) The motor vehicle account at cost. (3 marks)

(b) The allowance for Depreciation on motor vehicles account. (8 marks)

(c) The disposal of motor vehicles account (9 marks)

[Total: 20 Marks]

END OF PAPER

CA 1.1: FINANCIAL ACCOUNTING SUGGESTED SOLUTIONS

SOLUTION ONE

1.1 A

1.2 D

1.3 D

1.4 B

1.5 B

1.6 A

1.7 C

1.8 C

1.9 A

1.10 A

SOLUTION TWO

(a) **Zicamunobe : Statement of profit or loss and other comprehensive income for the year ended to 31 December 2023**

		K'000	K,000
Sales			36,000
Less:	Cost of sales		
	Opening inventory	2,100	
	Purchases (29,450 + 150 – 340)	29,260	
	Closing inventory	(1,940)	
			(29,420)
Gross profit			6,580
Other income (1,690 +1,000 (10,000 LTI x 10%))			2 690
			9,270
Less	Expenses		
	Administration (2,640 - 120)	2,520	
	Selling and distribution (2,920 + 170)	3,090	
	Loan note interest (W2)	150	
	Preference dividends (10% x 1,000)	100	
	Carriage outwards	100	
	Depreciation (W1 140+190)	330	
	Irrecoverable debt	280	
	Discount allowed	80	
		(6,650)	
	Profit before tax	2,620	
	Income tax expense	(1,080)	
	Profit for the year	1,540	
	Other comprehensive income:		
	Gains on land revaluation (6,000 - 4,950)	1,050	
	Total comprehensive income for the year	**2,590**	

(b) **Statement of financial position as at 31 December 2023**

	Cost/valuations	Accumulated depreciation	Carrying amount
	K	**K**	**K**
Non-current assets			
Long-term investments	10,000	-	10,000
Land	6,000	-	6,000
Buildings (Acc. Dep. =200 + 140 w1)*	3,500	*(340)	3,160
Plant and mach. (Acc. Dep. 300+190 w1)**	2,200	**(490)	1,710
	21,700	830	20,870
Current assets			
Inventory		1,940	
Receivables (8, 750 - 280)		8,470	
Investment income receivable		1,000	
Prepaid administrative expenses		120	
Cash		4,520	
			16,050
Total Assets			**36,920**
Equity and Liabilities			
Equity			
Ordinary share capital (21,000 + 1,000)			22,000
Share premium (1,000 + 500)			1,500
Revaluation reserve (350 + 1,050 rev. gain)			1,400
Retained earnings(1,900 b/d+1, 540 profit – 350 div)			3,090
			27,990
Liabilities			
Non-current liabilities			
Preference share			1,000

12% Loan notes		1,000
Current liabilities		
Trade payables	3,180	
12% Loan notes	1,500	
Bank overdraft	900	
Preference dividends	100	
Selling & distribution expenses due	170	
Income tax	1,080	
		6,930
Total equity and liabilities		**36,920**

Workings

All workings are in K'000

(W1) Depreciation

	K
Buildings 4% x K3,500 =	140
Plant and machinery 10 % x (K2,200 – K300)	190
	330

(W2) Loan note interest

K2,500 @ 12% x 6/12= K150

(W3) To clear suspense account

Debit suspense by	K1,500
Credit Share capital by	K1,000
Credit Share premium by	K500

SOLUTION THREE

JOURNALS (for clarification only) **DEBIT** **CREDIT**

	K	**K**
Bank charges	2,580	
Bank account		2,580
Sales	3,000	
NCA Disposal		3,000
NCA Disposal	4,500	
Furniture account		4,500
Profit or Loss	1,500	
NCA Disposal		1,500
Suspense a/c	4,000	
Purchases account		4,000

(a) **ASSEGAI AND HAGGAI ADJUSTED NET PROFIT**

	K
Per draft accounts	**24,000**
Bank Charges	(2,580)
Furniture disposal a/c	(3,000)
Disposal Loss a/c	(1,500)
Overcast Purchases a/c	4,000
Adjusted Profit	**20,920**

(b) **ASSEGAI AND HAGGAI APPROPRIATION ACCOUNT**

For the year ended 31 December 2022		**K**
Per draft accounts		**20,920**
First three months' profit	20,920 / 12 x 3	(5,230)
Last Nine months' profit	20,920 / 12 x 9	(15,690)
Total Profit		(20,920)

Sharing the first quarter profits for the period ended 31 March 2022

		K	**K**
Per draft accounts			**5 230**
Assegai profit	K 5 230 x 30 / 60	(2 610)	

Haggai Profit K 5 230 x 30 / 60	(2 610)	
Total Profit		(5 230)
		Nil

Sharing the profit of the last three quarters ended 31 December 2022

	K	K
Per draft accounts (20 920-5 230)		**15,690**
Interest on Drawings:		
Assegai K 7 000 x 5% x 6 / 12	175	
Haggai K 5 000 x 5% x 3 / 12	63	
		238
		15,928
Interest on Capital:		
Assegai K 30 000 x 8% x 9 / 12	(1,800)	
Haggai K 50 000 x 8% x 9 / 12	(3,000)	
		(4,800)
Salary -Haggai K 2 400 x 9 / 12		(1,800)
		9,328
Share of Residue profit:		
Assegai K 9 327.5 x 3 / 8	(3,498)	
Haggai K 9 327.5 x 5 / 8	(5,830)	
		9,328

(c)

Current Account -Assegai

Interest on Drawings	175	Balance b/d	6,000
Drawings	7,000	Profit 1st Quart	5,230
		Int. on Capital	1,800
Balance b/d	9,353	Salary	-
		Share of Profits	3,498
	16,528		16,528
		Bal b/d	9,353

Current Account -Haggai

Interest on Drawings	63	Balance b/d	4,000
Drawings	5,000	Profit 1st Quart	5,230
		Int. on Capital	3,000
Balance b/d	14,798	Salary (2,400 x 9/12)	1,800
		Share of Profit	5,830
	19,860		19,860
		Bal b/d	14,798

SOLUTION FOUR

(a) **Computation of profit before tax:**

	K'000
Retained earnings for the current year	190
Less retained earnings b/f	(200)
Add dividends paid	50
Profit before tax	40

(b) **Munyunswa's statement of cash flows for the year ended 31 March 2023**

Cash flows from operating activities:	**K'000**	**K'000**
Profit before tax (answer **(a)**		40
Adjust for: depreciation expense		100
Loss on disposal of PPE **(W1)**		20
Loss on disposal of Investment **(W2)**		10
Finance cost (10% x 150,000)		15
Cash generated from operations before working capital movements		185
Increase in inventory (110-80)		(30)
Increase in receivables (180-110)		(70)
Increase in payables (120-100)		20
Cash generated from operations		105
Interest paid **(W3)**		(15)
Net cash inflow from operating activities		90
Cash flows from investing activities:		
Cash paid to acquire PPE **(W1)**	(450)	
Proceed from sell of PPE	60	
Proceed from sell of investment	40	
Net cash outflow on investing activities		(350)
Cash flows from financing activities:		
Proceed from loan received	50	
Proceed from issue of shares **(W4)**	180	
Dividends paid	(50)	
Net cash inflow from financing activities		180
Net decrease in cash and cash equivalents		(80)
Cash and cash equivalents at 1 April 2022 **(W5)**		(20)
Equals cash and cash equivalents at 31 March 2023 **(W5)**		(100)

WORKINGS (FIGURES IN K'000)

(1) Property, plant and equipment

Carrying amount c/f	1,100
Add CA of disposed asset	80
Add depreciation expense	100
Less CA b/f	(730)
Less increase in revaluation	(100)
Cash paid to acquire PPE	450

(2) Investment

Balance of cost b/f	100
Balance of cost c/f	(50)
Cost of disposed investment	50
Proceed from disposal	(40)
Loss on disposal	10

(3) Finance cost

10%* 150 = 15

(4) Proceeds from issue of equity shares

Total proceeds at 31 March 2023	(380+300)	680
Less total proceeds at 31 March 2022	(300+200)	(500)
Proceeds for the current year		180

(5) Cash and cash equivalents

	31 March 2022	31 March 2023
	K'000	**K'000**
Bank	20	30
Bank overdraft	(40)	(130)
Net cash and cash equivalents	(20)	(100)

Decrease in cash and cash equivalents in the period is K80,000

SOLUTION FIVE

(a) **Journal entries**

		Dr	Cr
		K	K
(i)	Katungu	720	
	Sales		720
	Being the correction of posting the wrong amount of a credit sale to the sales ledger.		
(ii)	Motor vehicle	15,000	
	Purchases		15,000
	Being the correction of a purchase of a motor vehicle wrongly debited to the purchases account.		
(iii)	Purchases	600	
	Musukwa		600
	Being the correction of error of omission.		
(iv)	Bank	40	
	Motor vehicle expenses		40
	Being the correction of a cheque of K435 paid recorded as K475		
(v)	Simunthala	1,000	
	Sales		1,000
	Being the correction of error of omission.		
(vi)	Cash Book/Bank	9	
	General expenses		9
	Being the correction of transposition error.		
vii)	Machinery	8,500	
	Machinery repairs		8,500
	Being the purchase of machinery wrongly debited to machinery repairs account.		

(b) **Mwalula**
Trial Balance as at 30 April 2023

	Dr	**Cr**
	K	**K**
Sales (134,200 + 720 + 1,000)		135,920
Purchases (62,300 – 15,000 + 600)	47,900	
Inventory at 1 May 2022	4,700	
Discounts received		390
Discounts allowed	240	

Salaries and wages	12,700	
Rent and rates	8,100	
Motor vehicle expenses (7,500 – 40)	7,460	
Machinery repairs (14,200 – 8,500)	5,700	
General expenses (2,600 – 9)	2,591	
Machinery at cost (45,000 + 8,500)	53,500	
Machinery accumulated depreciation at 1 May 2022		8,000
Motor vehicles at cost (30,000 + 15,000)	45,000	
Motor vehicles accumulated depreciation at 1 May 2022		6,000
Trade receivables (4,600 + 720 + 1,000)	6,320	
Trade payables (2,200 + 600)		2,800
Bank (4,400 + 40 + 9)	4,449	
Capital		45,550
	198,660	**198,660**

(c) **Types of errors**

Error of Omission:
Where a transaction has been completely omitted from the accounts, either a debit or a credit entry has been made.

Error of Commission:
This is where a transaction has been posted using the correct figure but to the wrong account.

Error of Principle:
Here. the correct figure could have been used but the transaction having been posted to the wrong class of account.

Error of Complete reversal:
The transaction has been posted at the correct value, but the debit has been posted as a credit and vice versa.

Error of original entry:
This is where the transaction has been incorrectly entered in the book of original entry. This generates an identical incorrect posting of the entry in the ledger accounts with both the debit and credit sides equally affected.

Compensating errors:

Errors totaling the same amount on the debit side are cancelled out by errors of the same value on the credit side of the accounts.

SOLUTION SIX

(a) **Motor vehicles account**

2022			K	2022			K
Jan. 1	Balance	b/f	151,500	April 30	Disposal		17,500
April 30	Bank – Tanker		42,000	June 30	Disposal		4,750
Sept. 30	Bank - Truck		32,500	Dec. 31	Balance	c/d	203,750
			226,000				226,000

(b) **Allowance for Depreciation on motor vehicles account**

2022				2022			
Dec. 31	Disposal (w4)		9,450	Jan. 1	Balance	b/f	35,500
Dec. 31	Balance	c/d	59,125	Dec. 31	Profit or Loss (w1)		33,075
			68,575				68,575

(c) **Disposal account**

April 30	Motor vehicles	17,500	April 30	Allowance for Depn. (w2)	6,125
June	Motor vehicles	4,750	April 30	Bank	2,250
30	Profit or Loss (w3)	75	April 30	Profit or Loss (w3)	9,125
			June 30	Allowance for Depn. (w2)	3,325
			June 30	Bank	1,500
		22,325			22,325

END OF SOLUTIONS

Zambia Institute of Chartered Accountants

CA ZAMBIA PROGRAMME EXAMINATIONS

CERTIFICATE IN ACCOUNTANCY

CA 1.2 BUSINESS STATISTICS

WEDNESDAY 13 DECEMBER 2023

TOTAL MARKS – 100: TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question.

2. This paper is divided into TWO (2) sections:
   Section A: Ten (10) compulsory multiple choice questions.
   Section B: One (1) compulsory scenario question.
   Plus Four (4) scenario questions. Attempt any Three (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Present legible and tidy work.

9. Graph paper (if required) is provided at the end of the answer booklet.

10. A mathematical standard formulae book must be provided to you. Request for one if not given by the invigilator.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

SECTION A – (COMPULSORY)

Attempt all ten (10) multiple choice questions

QUESTION ONE

Each of the following questions has only one (1) correct answer. Write the letter of the correct answer you have chosen in your answer booklet. Marks allocated are indicated against each question.

1.1 Which of the following types of data best describes the number of employees in all Government Ministries.

A. Discrete data

B. Continuous data

C. Random data

D. Probability data

(2 marks)

1.2 The mode of the following set of data 5, 0, 4, 3, 8, 6, 2, 0 11, 1, 7 is:

A. 11

B. 5

C. 0

D. None of them

(2 marks)

1.3 Which of the following is a data visualization method?

A. Pie chart and Bar chart

B. Line

C. Circle and Triangle

D. Hexagon

(2 marks)

1.4 Mr. Lombe is a liquor salesman. Let x be the number of contacts he visits his liquor store on a particular day. The following table gives the probability distribution of x:

X	1	2	3	4
P(X=x)	0.20	0.35	0.30	0.15

What is the probability that Mr Lombe visits at least three (3) times on a paticular day?

A. 0.85

B. 0.45

C. 0.30

D. 0.15

(2 marks)

1.5 The following data regarding the heights (y) and the weights (x) of six (6) college students are given:

$\sum X = 21,\quad \sum Y = 34 \quad \sum X^2 = 91 \quad \sum Y^2 = 246 \quad \sum XY = 141$

Find the Pearson's correlation coefficient, r between height and weight.

A. 0.84

B. 0.52

C. 0.72

D. 0.27

(2 marks)

1.6 When conducting a regression analysis to fit the equation $Y = A + BX$, the variable that is random is;

A. The dependent variable

B. The independent variable

C. Both the independent and dependent variable

D. The coefficient of X

(2 marks)

1.7 If a population of scores is normally distributed and has a mean of 300 and a standard deviation of 50. What proportion of scores would you expect to find between 250 and 350?

A. 0.34

B. 0.68

C. 0.95

D. 0.99

(2 marks)

1.8 A regression model shows a negative relationship between the price of a product on the market (x) and the level of supply of the product (y). Suppose the coefficient of determination of the regression model is 0.85, determine the coefficient of correlation of the model.

A. 0.72

B. -0.92

C. -0.72

D. 0.95

(2 marks)

1.9 Which of the following is not a component of time series:

A. Seasonal variation.

B. Trend.

C. Cyclical variation.

D. Seasonal index.

(2 marks)

1.10 What is the sum of mode and median of the data;

12, 15, 11, 15, 18, 11, 13, 12, 15

A. 13

B. 26

C. 28

D. 15

(2 marks)

[Total: 20 Marks]

SECTION B

Question Two (2) in this question paper is compulsory and must be attempted. Then attempt any three (3) questions from the remaining four questions (4).

<u>QUESTION TWO</u> - (COMPULSORY)

(a) For the weekend of 20 November, the wages earned by a sample of 70 operators employed in the machine shop of Mpongwe Ltd were as follow:

Wages	**Number of operative**
K50 and under K60	4
K60 and under K70	11
K70 and under K80	16
K80 and under K90	15
K90 and under K100	10
K100 and under K110	8
K110 and under K120	6

Required:

You are required to calculate the:

(i) Mean (5 marks)

(ii) Mode (3 marks)

(iii) Median (3 marks)

(b) A fireworks festival planner has scheduled a mode of distribution orders of fireworks to clients. A probability distribution was set up to indicate how many orders may be made per day. If x is the number of orders received per day and has been set as shown in the distribution below;

$\boldsymbol{X}$	1	2	3	4
$\boldsymbol{P(X)}$	0.13	0.24	0.55	0.08

Required:

(i) Determine the probability that the number of orders per day will exceed two (2). (2 marks)

(ii) Find the expected number of orders received. (3 marks)

(iii) Calculate the standard deviation of number of orders expected per day. (4 marks)

[Total: 20 Marks]

QUESTION THREE

(a) State the four (4) components of a time series data set.

(4 marks)

(b) The table below give the quarterly figures of the average percentage of unemployed building workers:

Year		**Quarter**		
	I	II	III	IV
2006	22.9	15.6	16.1	19.3
2007	21.2	14.2	14.1	16.5
2008	20.8	11.2	11.3	14.9

Required:

Obtain the average season variations assuming a multiplicative model. (12 marks)

(c) An investment broker has provided all clients with a list of several possible independent investments, each having a probability of 0.7 of yielding a substantial profit. A client decides to purchase four of the investments.

(i) What is the probability that all four (4) yield a profit? (2 marks)

(ii) What is the probability that the client's first four (4) investments are not profitable? (2 marks)

[Total: 20 Marks]

QUESTION FOUR

(a) Each year the faculty at a ZiCA affiliated Business College chooses 10 members from the current graduating class that they feel are most likely to succeed. The data below give the current monthly incomes (in thousands of Kwacha) of the 10 members of the class of 2021 who were voted most likely to succeed

29, 33, 24, 28, 30, 29, 32, 26, 34, 21

(i) Calculate the mean number of incomes. (3 marks)

(ii) Determine the median number of incomes.

(2 marks)

(iii) Calculate the standard deviation.

(5 marks)

(b) In a company survey of senior executives, 40% of the senior executives said that it is appropriate for job candidates to ask about compensation and benefits during the first interview. Suppose that this result holds true for the current population of senior executives in Zambia. A random sample of five senior executives is selected. Find the probability that:

Required:

(i) Exactly three (3) senior executives in this sample hold the said opinion.

(2 marks)

(ii) At most three (3) senior executives in this sample hold the said opinion.

(5 marks)

(iii) At least three (3) senior executives in this sample hold the said opinion.

(3 marks)

[Total: 20 Marks]

QUESTION FIVE

(a) The East Park Theatre chain has studied its movie customers to determine how much money they should spend on concessions. The study shows that the spending is normally distributed with mean K65.76 and a standard deviation of K21.92.

(i) What percentage of customers will spend less than K48.00 on concessions?

(4 marks)

(ii) What spending amount correspond to the top 88 percentile?

(6 marks)

(b) A research team at Zambia Institute of Chartered Accountants (ZICA) conducts weekly surveys of television viewing throughout Zambia. The ZICA statistical ratings indicate the size of the viewing audience for each major network television program. Rankings of the television program and of the viewing audience market shares for each network are published each week.

Required:

(i) What is the population of interest in this study?

(1 mark)

(ii) Is rankings of the television programs a qualitative or quantitative variable? Explain your answer.

(2 marks)

(iii) Is network television program a qualitative or quantitative variable? Explain your answer

(2 marks)

(iv) Does this study involve cross –sectional or time series data?

(2 marks)

(v) What is ZICA attempting to measure?

(2 marks)

(vi) Why would a sample be used for this situation?

(1 marks)

[Total: 20 Marks]

QUESTION SIX

(a) Nsotwe organizes a street collection for a health charity. The collection takes place in the central business center on a particular Saturday in Lusaka. Volunteers, with collecting tins, stand in busy places and ask passersby for donations. The following table shows, for twelve volunteers, the times, x, minutes they spent collecting together with the amounts, to the nearest, ngwee, y, they collected.

Collector	A	B	C	D	E	F	G	H	I
x	67	189	127	54	145	92	159	76	90
y	23	57	25	10	30	29	46	21	49

(i) Plot a scatter diagram of the data.

(3 marks)

(ii) Calculate the equation of the regression line.

(10 marks)

(iii) Chimuka, a new volunteer, collected for 115 minutes, use your regression equation to estimate the amount Chimuka collected.

(1 mark)

(b) The number of laptops sold by a store was recorded each month for a period of twenty six (26) months. The results are shown in the stem and leaf diagram.

Stem	Leaf
1	8
2	3 6 7 9 9
3	2 6 6 6 7 8 8
4	4 5 5 5 7 7 7 7 9
5	2 7 7 9

Required:

(i) Find the median

(2 marks)

(ii) Find the quartile deviation

(2 marks)

(iii) Identify any outliers in this dataset

(2 marks)

[Total: 20 Marks]

END OF PAPER

CA 1.2 BUSINESS STATISTICS SUGGESTED SOLUTIONS

SOLUTION ONE

1.1 A

1.2 C

1.3 A

1.4 B

1.5 C

1.6 B

1.7 B

1.8 B

1.9 D

1.10 C

SECTION B

SOLUTION TWO

(a)

For easy calculations construct the table below

Class interval	x	f	xf
K50 and under K60	55	4	220
60 and under 70	65	11	715
70 and under 80	75	16	1200
80 and under 90	85	15	1275
90 and under 100	95	10	950
100 and under 110	105	8	840
110 and under 120	115	6	690
Total		70	5890

(i) The mean is

$$\overline{x} = \frac{\sum xf}{\sum f} = \frac{5890}{70} \approx 84.14$$

(ii) The required mode is the highest frequency is given by 16. hence the modal class interval is 70 and under 80

Using the formula $M_o = L + \frac{(b-a)}{2b-a-c} \times C$

Where b is the highest frequency $b = 16$, a is the frequency below the highest frequency $a = 11$, c is the frequency above the highest frequency, L is the lower class boundary, $L = 69.5$ and C is the class width $C = 10$

$$M_o = 69.5 + \frac{(16-11)}{2(16) - 11 - 15} \times 10 = 69.5 + 8.33 = 77.3$$

Alternatively, one could use the lower - class limit, instead of the lower class boundary. Hence the mode would be,

$$M_o = 70 + \frac{(16-11)}{2(16) - 11 - 15} \times 10 = 70 + 8.33 = 78.3$$

(iii) The required median is found by finding the cumulative frequency which assists in getting the position of the median using the formula given below:

Class interval	f	F
50 and < 60	4	4
60 and < 70	11	15
70 and <80	16	31
80 and <90	15	46
90 and <100	10	56
100 and <110	8	64
110 and <120	6	70

$$M_d = L + \frac{(.5N - F_{i-1})}{f_i} \times C$$

The position of the median is given by $.5N = .5(70) = 35$th observation, the median class interval is 80 and 90.
Where L is the lower- class boundary alternatively, one could use the lower- class limit $L = 79.5$, F_{i-1} cumulative frequency below the median class interval $F_{i-1} = 31$, f_i is the frequency in the median class interval $f_i = 15$, C is the class width and $C = 10$.
Therefore, the $M_d = 79.5 + \frac{(35-31)}{15} \times (10) \approx 79.5 + 2.67 = 82.17$
alternatively, $M_d = 80 + 2.67 = 82.67$.

(b)

(i) $P(x > 2) = 0.55 + 0.08 = 0.63$

(ii) $\sum xP(x) = 1(0.13) + 2(0.24) + 3(0.55) + 4(0.08) = 2.58$

(iii) $V(x) = E(x^2) - [E(x)]^2$

$$\sum x^2P(x) = 1(0.13) + 2^2(0.24) + 3^2(0.55) + 4^2(0.08) = 7.32$$

$$V(x) = 7.32 - (2.58)^2 = 0.6636$$

Standard deviation $=\sqrt{0.6636} = 0.815$

SOLUTION THREE

(a) Components of a time series are:

(i) Trend component.
(ii) Seasonal component.
(iii) Cyclical component.
(iv) Irregular component.

(b) **Table 1**

1	22.9	Trend	Residual variation
2	15.6		
3	16.1	18.3	0.88
4	19.3	17.9	1.08
5	21.2	17.5	1.21
6	14.2	16.9	0.84
7	14.1	16.5	0.85
8	16.5	16.0	1.03
9	20.8	15.3	1.36
10	11.2	14.8	0.76
11	11.3		
12	14.9		

Table 2

22.9+15.6+16.1+19.3=73.9
18.3
15.6+16.1+19.3+21.2=72.2
17.9
16.1+19.3+21.2+14.2=70.8
17.5
19.3+21.2+14.2+14.1=68.8
16.9
21.2+14.2+14.1+16.5=66.0
16.5
14.2+14.1+16.5+20.8=65.6
16.0
14.1+16.5+20.8+11.2=62.6

15.3
16.5+20.8+11.2+11.3=59.8
14.8
20.8+11.2+11.3+14.9=58.2

Table 3

	I	II	III	IV	TOTAL
2016			0.88	1.08	
2018	1.21	0.84	0.85	1.03	
2019	1.36	0.76			
Average Seasonal variations	1.285	0.8	1.865	1.055	5.005

(c)
(i) Probability of making a profit $=(0.7)(0.7)(0.7)(0.7) = 0.2401$
(ii) Probability of making a loss = (0.3) (0.3) (0.3) (0.3) =0.0081

SOLUTION FOUR

(a)

(i)

$$\bar{X} = \frac{1}{n}\sum x = \frac{29 + 33 + 24 + 28 + 30 + 29 + 32 + 26 + 34 + 21}{10} = \frac{286}{10} = 28.6$$

(ii) Median

$$21, 24, 26, 28, 29, 29, 30, 32, 33, 34$$

$$Md = \frac{29 + 29}{2} = 29$$

(iii) Standard deviation

$$\boldsymbol{S} = \sqrt{\frac{\sum x^2 - f\bar{x}^2}{f - 1}}$$

$$S = \sqrt{\frac{8328 - 10(28.6)^2}{10 - 1}} = 4.06$$

(b) Let X denote of the number of senior executives who said that it is appropriate for job candidates to ask about compensation and benefits during the first interview.

Therefore, we have that;

$n = 5$, $P(success) = p = 0.4$ ($q = 1 - p = 0.6$) , So that $X \sim B(5, 0.4)$.

And we know that: $P(X = x) = \binom{n}{x} p^x q^{n-x} = \binom{n}{x} p^x (1 - p)^{n-x}$, $x = 0,1,2, \dots, 5$.

(i) $P(X = 3) = \binom{5}{3}(0.4)^3(1 - 0.4)^{5-3} = 0.2304$

(ii) $P(X \leq 3) = P(X = 0) + P(X = 1) + P(X = 2) + P(X = 3)$

$P(X = 0) = \binom{5}{0}(0.4)^0(1 - 0.4)^{5-0} = 0.07776$

$P(X = 1) = \binom{5}{1}(0.4)^1(1 - 0.4)^{5-1} = 0.2592$

$P(X = 2) = \binom{5}{2}(0.4)^2(1 - 0.4)^{5-2} = 0.3456$

$P(X = 3) = \binom{5}{3}(0.4)^3(1 - 0.4)^{5-3} = 0.2304$

Therefore;

$$P(X \leq 3) = 0.07776 + 0.2592 + 0.3456 + 0.2304 = 0.91296$$

(iii) $P(X \geq 3) = 1 - P(X < 3) = 1 - [P(X = 0) + P(X = 1) + P(X = 2)]$

$$P(X \geq 3) = 1 - [0.07776 + 0.2592 + 0.3456]$$

$$= 0.31744$$

SOLUTION FIVE

(a)

(i) Take down the most important information. The distribution is normally distributed with
$\mu = 65.76, \quad \sigma = 21.92$ given in the question. $Z = \frac{X - \mu}{\sigma}$ is required to find the percentage which is equal to $P(X < 48) = P\left(Z < \frac{48 - 65.76}{21.92}\right) = P(Z < 0.81)$. The probability is $.5 - .2910 = .209$. Hence the required percentage is 20.9%.

(ii) we are required to find the amount corresponding to 88th percentile
The 88th percentile which is equivalent to a probability of .88 of observing such an amount. We look for the Z value corresponding to obtaining probability of .88. The Z value is equal to 1.17, 1.18 or the average of these two values 1.175. using the later, have $1.175 = \frac{X - 65.76}{21.92}$. solving for x, we get $x - 65.76 = (9.175)(21.92)$. The required amount is K91.52.

(b)

(i) All households with televisions in Zambia.

(ii) Rankings of the television programs is a quantitative variable because it can be expressed numerically.

(iii) Network television program is a qualitative variable because it cannot be expressed numerically.

(iv) Time series data is collected over several time periods, while cross sectional data is collected at the same time or almost the same point in time. Therefore, the data in this study is time series data.

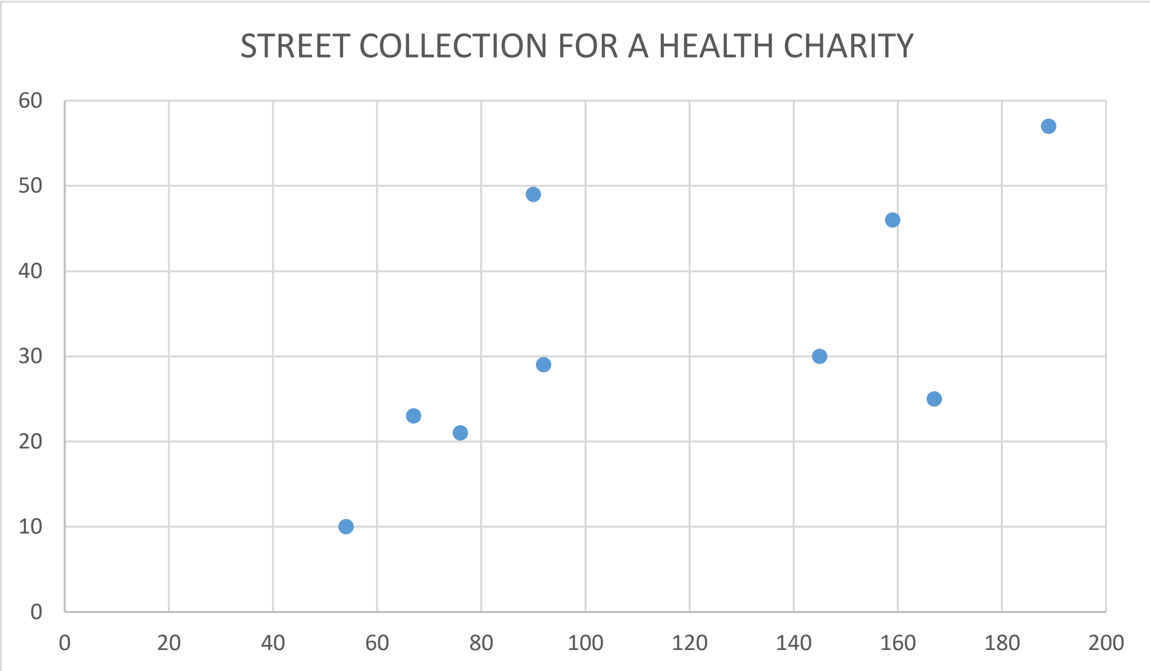
(v) ZICA is attempting to measure the percentage or proportion of households with television to watch a certain program.

(vi) A sample would be needed because the population is extremely large and it is nearly impossible to determine the required data.

SOLUTION SIX

(a)

(i)



(ii) The required summations are as follows; $\sum x = 999$, $\sum y = 290$, $\sum x^2 = 127\,901$, $\sum xy = 36\,367$

The required coefficients of regression are; $= 4.968$, $b = 0.2455$. Therefore, the equation of the regression line is $\hat{y} = 4.968 + 0.2455x$

(iii) $\hat{y} = 4.968 + 0.2455(115) = 33.20$

The new volunteer Chimuka collected an estimated amount of K32.19

(b)

(i)

$$Q_2 = \frac{1}{2}(n+1)^{th} \text{ value}$$

$$= \frac{1}{2}(26+1)^{th} \text{ value}$$

$$= 13.5^{th} \text{ value}$$

So, we pick the 14th value

$$\therefore Median = 44$$

(ii) $Q_1 = \frac{1}{4}(n+1)^{th}$ value

$= \frac{1}{4}(26+1)^{th}$ value

$= 6.75^{th}$ value

So, we pick the 7th value.

$\therefore Lower \quad quartile(Q_1) = 32$

$Q_3 = \frac{3}{4}(n+1)^{th}$ value

$= \frac{3}{4}(26+1)^{th}$ value

$= 20.25^{th}$ value

So, we pick the 20th value.

$\therefore Upper \quad quartile(Q_3) = 47$

Quartile Deviation $= \frac{Q_3 - Q_1}{2} = \frac{47-32}{2} = 7.5$

(iii) Upper fence $= Q_3 + 1.5(Q_3 - Q_1)$

$= 47 + 1.5(47-32)$

$= 47 + 22.5$

$= 69.5$

Lower fence $= Q_1 - 1.5(Q_3 - Q_1)$

$= 32 - 1.5(47-32)$

$= 32 - 22.5$

$= 9.5$

Any value which is bigger than the upper fence or smaller than the lower fence is considered to be an outlier. In this case, there is no value above 69.5 or below 9.5, so this data set does not contain any values which could be said to be outliers.

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CERTIFICATE IN ACCOUNTANCY

CA 1.3: BUSINESS ECONOMICS

TUESDAY 12 DECEMBER 2023

TOTAL MARKS – 100: TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

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SECTION A – (COMPULSORY)

Attempt all Ten (10) multiple choice questions.

QUESTION ONE

Each of the following questions has only one (1) correct answer. Write the letter of the correct answer you have chosen in your answer booklet. Marks allocated are indicated against each question.

1.1 In free market economies, goods are usually consumed by

A. Those who are willing to pay the most for them.
B. Those who work the hardest.
C. Those who are most deserving.
D. Those who are politically well connected.

(2 marks)

1.2 An increase in the number of restaurants serving fast-food leads to _______.

A. Growth in the demand of fast-food meals
B. Increase in the supply of fast-food meals
C. Increase in the price of fast-food meals
D. Growth in the demand for substitutes of fast-food meals

(2 marks)

1.3 When the elasticity of demand for a commodity is very low, it shows that the product ________.

A. Has little importance in the total budget
B. Is a luxury
C. Is a necessity
D. None of the above

(2 marks)

1.4 Suppose a firm sells its product at a price lower than the opportunity cost of the inputs used to produce it. Which is true?

A. The firm will earn accounting and economic profits.
B. The firm will face accounting and economic losses.
C. The firm will face an accounting loss, but earn economic profits.
D. The firm may earn accounting profits, but will face economic losses.

(2 marks)

1.5 One difference between perfect competition and monopolistic competition is that:

A. A perfectly competitive industry has fewer firms.

B. Monopolistic competition has barriers to entry.

C. Firms in monopolistic competition face a downward-sloping demand curve.

D. In perfect competition, firms produce slightly differentiated products

(2 marks)

1.6 Market failure is the inability of:

A. Some unregulated markets to allocate resources efficiently

B. A market to establish an equilibrium price

C. Buyers to place a value on the good or service

D. Buyers to interact harmoniously with sellers in the market

(2 marks)

1.7 Banks create money when they:

A. Make loans.

B. Take deposits.

C. Hold excess reserves.

D. Pay withdrawals to depositors.

(2 marks)

1.8 When tax revenues exceed expenditure, the Government has a ________, and when expenditure exceed tax revenues, the Government has a ________.

A. Budget surplus; budget debt

B. Budget deficit; budget surplus

C. Budget debt; budget surplus

D. Budget surplus; budget deficit

(2 marks)

1.9 The aggregate supply curve is:

A. The total quantity of raw materials offered for sale at different prices.

B. The total quantity of final goods and services offered for sale at the current price level.

C. The total quantity of final goods and services offered for sale at different price levels.

D. The total quantity of intermediate and final goods and service offered for sale at different price levels. (2 marks)

1.10 Comparative advantage is based on:

A. Dollar price

B. Labor cost

C. Capitol cost

D. Opportunity cost

(2 marks)

[Total: 20 Marks]

SECTION B

Question TWO (2) in this section is compulsory and must be attempted. Then attempt any THREE (3) form the remaining four (4) questions.

QUESTION TWO

Assume that the Football Association of Zambia (FAZ) is to host the Africa Cup of Nations tournament in 2024. Among the critical decision that the Association must make relates to how to price the tickets for various stands staring from the Open Wing to the VIP Wing. Once this is done, the next key decision deals with how the pre-tournament ticket sales will be conducted using various e-payment systems. In making the pricing decision, the Association must be cognizant of the responsiveness of the soccer fans to changes in the ticket price in relation to their substitute stands, as well as changes in their incomes. This to large extent will determine whether or not the Association can meet the target revenue or not.

Required:

(a) Outline the difference between substitution effect and income effect for a given good (4 marks)

(b) Judy has decided to allocate exactly K500 to attend matches, even though she knows that the prices are likely to increase by 5 to 10% per year and that she will be getting a substantial monetary gift from her grandparents in 2024.

Required:

(i) Explain Judy's price elasticity of demand for matches? (4 marks)

(ii) Explain Judy' Income elasticity of demand for matches? (3 marks)

(c) Explain what would happen to Total Revenue (TR) for gate takings when there is a reduction in the selling price, if demand is:

Required:

(i) Elastic (3 marks)

(ii) Unitary (3 marks)

(iii) Inelastic (3 marks)

[Total: 20 Marks]

QUESTION THREE

"Disposable Income Flat"; "Personal Consumption Surges"; "Domestic Investment Stagnates"; Zambia Suffers GDP Decline" GDP Deflator Rises Less Than CPI"; are typical headlines in the business and economic news. Unless one understands the language of macroeconomics and national income accounting, these sound gibberish. It is important to understand how government statisticians and accountants measure and record levels of domestic output, national income, and prices for the economy. Information supplied by national income accounts provides a basis for formulating and applying public policies to improve the performance of the economy. Without national accounts, economic policy would be based on guesswork. National income accounting helps us to keep tabs on the health of the economy and formulate policies which will maintain and improve that health.

Required:

(a) Define the output, income and expenditure approaches to measurement of Gross Domestic Product (GDP)

(6 marks)

(b) Explain how indirect taxes and subsidies are accounted for when calculating an economy's Gross Domestic Product (GDP) (at factor cost) from the component of total final expenditure

(5 marks)

(c) Explain how net property income is accounted for when calculating Gross National Product (GNP) from Gross Domestic Product (GDP).

(5 marks)

(d) Explain the difference between real and nominal measures of national income.

(4 marks)

[Total: 20 Marks]

QUESTION FOUR

The central economic problem that all economies face is condensed into three questions; (1) what to produce (2) how to produce and (3) for whom to produce? The first question of *what to produce* comes as a result of limited resources and the opportunity costs that arise out of the choices made. Given the choice between two goods, X and Y, a decision to produce more X, for example, has the opportunity cost of fewer units of good Y. the second question of *how to produce* arises because of factor endowments. For example, some countries have more labour and inadequate capital or vice versa. How to produce will depend on resources available to produce. Countries are endowed differently, hence, they may produce different goods. The third question of *for whom to produce* arises as a response to the question of distribution. This may be the most difficult question to address. Resources are allocated based on these decisions (what how and for whom). Three economic systems exist to answer these questions: Pure market economy, command economy and mixed economy.

Required:

(a) State any three (3) characteristics of price mechanism (Free market economy) and any three (3) characteristics for the command economy as means of dealing with the economic problem of resource allocation.

(12 arks)

(b) Explain the following concepts:

(i) Scarcity

(2 marks)

(ii) Opportunity cost.

(2 marks)

(c) Explain the term market failure.

(4 marks)

[Total: 20 Marks]

QUESTION FIVE

The money supply comprises of currency in circulation and deposits at banks. The monetary base, issued by the central bank, is held either as currency in circulation or as banks' cash reserves. Central banks control the money supply depending on the economic goals. According to the Bank of Zambia 2021 Annual Report, the monetary policy focused on containing escalating inflationary pressures and anchoring inflation expectations. In this regard, the Policy Rate was raised by 50 basis points to 8.5 percent in February 2021 to deal with heightened inflationary pressures while balancing risks to financial system stability…. The Monetary Policy Rate was maintained at 8.5 percent in May 2021 and August 2021 to allow for the earlier adjustment to take full effect on the economy. However, in November, the Policy Rate was raised by 50 basis points to 9.0 percent to steer inflation towards single digits by the end of 2022 and to within the 6-8 percent target range by mid-2023…..Further, contractionary open market operations were undertaken, particularly in the fourth quarter, to contain the overnight interbank rate—operating target—within the Policy Rate Corridor in line with the inflation objective.

BoZ 2021 Annual Report

(a) Explain why the Bank of Zambia focused on containing escalating inflationary pressures. (4 marks)

(b) Describe demand pull causes of inflation. (4 marks)

(c) Describe how contractionary open market operations work. (6 marks)

(d) Outline any other three (3) functions of the Bank of Zambia (6 marks)

[Total: 20 Marks]

QUESTION SIX

The foreign exchange market has performed impressively well in the third quarter under review for the Kwacha as considered by the Monetary Policy Committee with which appreciated by 3.4 per cent against the US dollar to an average of K16.31/US $. The Kwacha's strength rose mainly from increased supply of foreign exchange. Positive market sentiments arising from stronger prospects of securing the Extended Credit Facility following the meeting with the Official Creditor Committee on external debt restructuring under the G20 Common Framework also contributed to the observed appreciation of the Kwacha.

The total supply of foreign exchange to the market during the period under review stood at US$2,128.3 million of which the Bank of Zambia received US$494.0 million mainly through mining taxes. In order to manage foreign exchange volatility amidst increased petroleum prices the Bank of Zambia provided US$424 million back to commercial banks.

(a) Explain any five (5) sources of foreign exchange the Zambian economy. (5 marks)

(b) Using appropriately labelled demand-supply diagram for the foreign exchange market, discuss the dynamics of the action of the Bank of Zambia receipt US$494.0 million through mining taxes and subsequent provision of US$424 million back to commercial banks under Fixed exchange rate regime.

(9 marks)

(c) Parallel market for foreign exchange exists in which exchange and trade restrictions have failed to preserve foreign reserves in supporting exchange rate in developing countries such as Zambia. Explain how the following act as parallel sources of foreign exchange:

Required:

(i) Smuggling of exports.

(3 marks)

(iii) Under-invoicing of exports.

(3 marks)

[Total: 20 Marks]

END OF PAPER

CA 1.3: BUSINESS ECONOMICS SUGGESTED SOLUTIONS

SOLUTION ONE

1.1	A
1.2	B
1.3	C
1.4	D
1.5	C
1.6	A
1.7	A
1.8	D
1.9	C
1.10	D

SOLUTION TWO

(a)

(i) The substitution effect is the change in the quantity demanded of the good due to the price change, holding the consumer's utility constant.

(ii) The income effect is the change in the quantity demanded of the good due to the change in purchasing power brought about by the change in the good's price.

(b) Elasticity

(i) Judy will spend the same amount (K500) on matches even when prices increase. We know that total revenue (i.e., total spending on a good) remains constant when price changes only if demand is unit elastic. Therefore Judy's price elasticity of demand for matches is -1.

(ii) Her income elasticity must be zero because she does not plan to purchase more matches even though she expects a large monetary gift (i.e., an increase in income).

(c) The price elasticity of demand measures the responsiveness of the quantity demanded to changes in the price of the product, holding constant the values of all other variables in the demand function.

(i) With elastic demand, a decrease in price will raise total revenue.

(ii) Unitary elasticity describes a situation in which the effect of a price change is exactly offset by the effect of a change in quantity demanded. Total revenue, the product of price times quantity, remains constant.

(iii) With inelastic demand, a price decrease produces less than a proportionate increase in quantity demanded, so total revenue falls.

SOLUTION THREE

(a) The three approaches to measuring national income:
- The output approach measures GDP in terms of the value added of each sector's own contribution to total output.
- The expenditure approach measures the GDP in terms of the categories of expenditure required to purchase the total production.
- The income approach measures GDP in terms of the factor-income claims generated in the course of production the total output.

(b) Indirect taxes that are part of the sale price of goods do not create income since they are paid to the government. These taxes drive a wedge between the market value of goods produced and the factor incomes generated by their production. Indirect taxes must therefore be deducted from expenditure to obtain GDP at factor cost. The opposite applies in the case of subsidies which must be added to expenditure to obtain GDP at factor cost.

(c) Net property income measures income earned in a given country in return for contributions to current production. To obtain GNP we have to add receipts by domestic citizens of dividends, interest and profits from assets which they own but which are located overseas, and subtract dividends, interest and profits earned on assets located in the domestic country but owned abroad.

(d) Changes in real and nominal income are determined by changes in physical quantities and prices. Nominal national income refers to the current money value of this income. Real GDP (or GDP at constant prices), refers to the changes in the physical quantities of output produced.

SOLUTION FOUR

(a) (i)Free market

1. A free market is a system in which the prices of goods and services are determined by the buyers and sellers.
2. It is solely based on demand and supply; in the free market system, there is minor or no government regulation.
3. The buyers and sellers do their transactions freely according to the agreements which they have made freely on the price and quantity of a good or a service.

(ii) In a command economy,

1. The government has the power to control the pricing of goods and services, quantity of output, distribution of goods, labors, etc…
2. The command economy has state-owned entities as well as a few privately-owned entities, but government has a significant amount of control over their operations. People in power, such as politicians, give orders to buyers, sellers, and investors and the equilibrium will be determined by the government itself.
3. Customers have less choice in command economy as what to produce is purely a government decision.

(b)

(i) Scarcity exists when there are limited resources to satisfy unlimited human wants for goods and services.
(ii) The opportunity cost of a choice is the value of the best alternative given up.

(c) Market Failure

Inability of an unregulated market to achieve allocative efficiency (when a nation's productive resources are not wasted in any way).

SOLUTION FIVE

(a) **Why BoZ contains escalating inflation**

The main objective of the Bank of Zambia is to keep prices stable—that is, to keep prices from rising or falling too quickly. Inflation affects all aspects of the economy, from consumer spending, business investment and employment rates to government programs, tax policies, and interest rates. Persistent Inflation poses a threat to investors because it chips away at real savings and investment returns. Excessive inflation can rapidly shatter the benefits reaped in previous years of prosperity, erode the value of private savings and eat up the profits of private companies.

(b) **Demand-pull inflation**

Demand-pull inflation occurs when aggregate demand in an economy rises too quickly. This can occur if a central bank rapidly increases the money supply without a corresponding increase in the production of goods and service. Demand outstrips supply, leading to an increase in prices.

(c) **Open market operations**

When the central bank sells some of the government securities it holds, buyers will pay from their bank accounts. This shrinks the funds that banks have available to lend. That creates upward pressure on the central bank's funds rate, since banks have fewer reserves available to lend and will charge more to lend them. As the rate increases, so do other rates. Individuals and businesses are then less likely to borrow, since it's more expensive, and may be more likely to save their money and earn that higher interest.

(d) **Functions of BoZ**

(i) To provide banking services to Government , commercial banks and to act as Settlement Agent;
(ii) To license, regulate and supervise banks and financial service institutions;
(iii) To ensure a safe and sound financial system and;
(iv) To manage the banking, currency and payment systems operations of the Bank of Zambia.

SOLUTION SIX

(a) Sources of foreign exchange

(i) Foreign Direct Investment: This represents investment by foreigners in physical assets like plant. When foreigners invest in Zambia, we receive foreign currencies

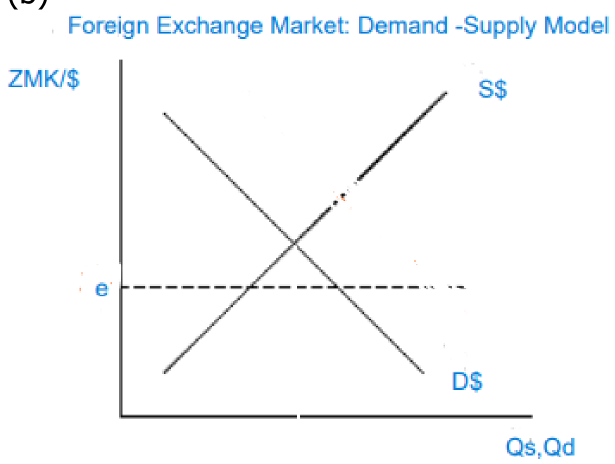
(ii) Foreign Grants: Grants represent money brought into the country for which there is no repayment. This is also an important source of foreign exchange

(iii) Exports: Exports of minerals such as copper has always been the main source of foreign exchange in Zambia

(iv) Expenditure by tourists: When foreign tourists visit Zambia, they need to buy kwachas to complete their business transactions. This is another source of foreign exchange in Zambia.

(v) External debt contractions such as IMF and African Development Bank: External debt is usually contracted in United States Dollars. Thus, when Zambia borrows from these international financial institutions, the supply of dollars increase in here.

(b)



Despite the injection of $424 into the market from the $494 received, the supply function (s$) was expected to shift rightwards.

However, fixed exchange rate regime sets the exchange rate at parity at (e) with the appreciation of the ZMK not allowed to fall below the parity value (e).

(a) Parallels:

(i) **Smuggling of exports**: When exports are smuggled, goods are exported without records in the BoP and when payment are made for such exports, the foreign currency supply increases in the foreign exchange market

(ii) **Under-invoicing of exports**: When exports are under-invoiced, the under-invoiced amount when receipted by the exporter, foreign exchange supply increases.

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CERTIFICATE IN ACCOUNTANCY

CA 1.4: COMMERCIAL AND CORPORATE LAW

FRIDAY 15 DECEMBER 2023

TOTAL MARKS – 100; TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question.

2. This paper is divided into TWO (2) sections:
   Section A: Ten (10) compulsory multiple choice questions.
   Section B: One (1) compulsory scenario question.
   Plus Four (4) scenario questions. Attempt any Three (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Present legible and tidy work.

9. Graph paper (if required) is provided at the end of the answer booklet.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

SECTION A – (COMPULSORY)

Attempt all Ten (10) multiple choice questions.

QUESTION ONE

Each of the following questions has only ONE (1) correct answer. Write the LETTER of the correct answer you have chosen in your answer booklet. Marks allocated are indicated against each question.

1.1 Which of the following is not an invitation to treat?

A. Auction sale

B. Prospectus

C. Display of goods

D. Reward

(2 marks)

1.2 Which of the following terms is not covered by statutory provisions under the Sale of Goods Act 1893?

A. Title

B. Sale by description

C. Sale by sample

D. Winding up

(2 marks)

1.3 Negligence in tort is best formed in?

A. Breach of an agreement and damage

B. Duty, breach of that duty and compensation for injury suffered

C. Duty and damage as a result of that duty.

D. Causation, remoteness and damage

(2 marks)

1.4 Which one is not a way in which agency is created?

A. Implied

B. Express

C. Necessity

D. Coercion

(2 marks)

1.5 Which of the following describes a partner who invests in the partnership, but does not take part in the day-to-day running of the business?

A. Unlimited liability partner

B. A sleeping partner

C. Limited liability partner

D. Limited partner

(2 marks)

1.6 In an action for negligence, there must be a close and direct connection between the parties. This refers to:

A. Proximity

B. Reasonable foreseeability

C. Policy grounds

D. The neighbor principle

(2 marks)

1.7 Which of the following defines common law best?

A. The legal system in which laws are based on precedent, i.e., the recorded reasons given by judges for their decisions, which are adopted by judges in later cases with similar facts.

B. The legal system derived from Roman law that focuses on the development of a comprehensive legislated code.

C. The rules of law administered by the courts of equity.

D. The rights and duties that each person has in society.

(2 marks)

1.8 An intention to create legal relations:

A. Is determined by a test of whether the parties themselves actually intended to enter into a contract.

B. Is determined by a test of whether a reasonable person would believe the parties intended to enter into a contract.

C. Is usually presumed in a family context but not a business context.

D. Both b and c.

(2 marks)

1.9 The maximum number of persons who are legally allowed to operate in a partnership is:

A. 2

B. 20

C. There is no limit

D. 100

(2 marks)

1.10 For an employment contract of six months or more, an employee is entitled to receive which of the following?

A. A written contract

B. A written statement of particulars

C. A written works handbook

D. A written personnel manual

(2 marks)

[Total: 20 Marks]

SECTION B

Question Two (2) in this Section is Compulsory and must be attempted.

Attempt any three (3) questions out of the remaining four (4).

QUESTION TWO - (COMPULSORY)

(a) Identify and discuss at least four (4) sources of law in Zambia.

(8 marks)

(b) Making reference to decided cases, explain how terms may be implied in a contract.

(6 marks)

(c) Identify and explain at least four (4) clauses of a partnership deed.

(4 marks)

(d) What does the term contract of sale mean?

(2 marks)

[Total: 20 Marks]

QUESTION THREE

(a) Making reference to relevant provisions of the law and decided cases, explain how a company registered as a private company limited by shares would expand beyond its original or initial capital.

(10 marks)

(b) A contract that is entered into on behalf of a company that has not yet been registered is known as pre-incorporation contract. Such contracts would have the person purporting to be contracting for and on behalf of the yet to be incorporated company, both liable or benefit from the contract while at the same time, the company on whose behalf purportedly the contract was entered, would enjoy the benefits and also liabilities arising from the contract.

Required:

Making reference to the statement above, discuss circumstances that would lead to the two (2) scenarios above.

(10 marks)

[Total: 20 Marks]

QUESTION FOUR

Kasuba bought a car from Motor-works which is a company in the business of selling good second hand vehicles. Kasuba and Motor-works had agreed on the specifics that Kasuba wanted the vehicle to have which were met. The vehicle looked as good as new when Kasuba bought it and it drove very well for the time being that Kasuba used it precisely for a month. There was no specific provision in the agreement made between Kasuba and Motor-works on the durability of the vehicle. A month after Kasuba had driven the vehicle, the engine ceased two kilometres away from his home as he was driving from work. Kasuba is sceptical which has broken down just a month after he bought it. He would want to return the vehicle so he can get a refund. He has approached Motor-works and informed them of the ordeal and that he would be seeking a refund and returning the vehicle. Motor-works have just informed him that they operate on a no-refund policy but that the vehicle is covered under the company's warranty policy. Kasuba is not really interested in the issue of warranty and simply wants to return the vehicle and get a refund as he does not think he can go far without problems with a vehicle that breaks only a month after purchase. He comes to you for legal advice on what a warranty is and the prospects of returning the vehicle and getting a refund.

Required:

(a) Advise him

(12 marks)

(b) Define a tort

(2 marks)

(c) Making reference to decided cases; explain what negligence is and what the elements that constitute negligence are.

(6 marks)

[Total 20 Marks]

QUESTION FIVE

(a) State any two (2) elements that make a contract valid.

(2 marks)

(b) A contract is said to be a binding agreement that parties enter into with the intention to create a legal relationship with obligations where one would be able to sue in the event of a breach. For there to be a breach however, certain factors must be present in a contract that would determine the existence of a breach. Explain what the determinants of the existence of a breach are in a contract.

(4 marks)

(c) Identify and explain four (4) ways in which a contract comes to an end.

(8 marks)

(d) Write brief notes on the following:

(i) Damages

(2 marks)

(ii) Specific performance

(2 marks)

(iii) Injunction

(2 marks)

[Total: 20 Marks]

<u>QUESTION SIX</u>

(a)

(i) Define employment

(2 marks)

(ii) Explain the difference between an employee and a private contractor

(4 marks)

(b)

(i) Explain the liability that arises on one for the torts of another

(2 marks)

(ii) Explain how the liability identified in b(i) above arise.

(4 marks)

(c) Define Agency

(2 marks)

(d) Explain three (3) ways in which an agency relationship is created

(6 marks)

[Total: 20 Marks]

END OF PAPER

CA 1.4: COMMERCIAL AND CORPORATE LAW SUGGESTED SOLUTIONS

SOLUTION ONE

1.1	D
1.2	D
1.3	B
1.4	D
1.5	B
1.6	A
1.7	A
1.8	B
1.9	B
1.10	A

SECTION B

SOLUTION TWO

(a)

(1) **Judicial Precedent**

Under the doctrine of judicial precedent (*stare decisis*) earlier decisions of higher courts are binding on lower courts dealing with a similar matter at a later date. When a dispute arises between two parties, lawyers on both sides will usually argue the matter in court before a judge. At the end of the arguments, the judge makes a decision usually resolving the matter in favour of the successful party. Before reaching his decision, the judge usually reviews all existing relevant law and then formulates and applies a legal principle to the facts before him. The principle laid down in the case may form a binding or persuasive precedent to be followed by courts in later disputes involving similar issues. This is how common law is created.

(2) **Common law** is the law as laid down by the judges in deciding cases, though it is always said that judges do not make law – they merely interpret it. The legal principle laid down in the case is known as the *ratio decidendi*. This is what binds later courts dealing with a similar matter. What the judge says in passing is known as *obiter dicta* and is strictly not binding.

(3) **Equity**

Citizens who could not obtained redress for grievances in the King's common law courts petitioned the King to obtain relief by direct royal intervention. These petitions came before the King in Council. Because the principles on which the Chancellor decided points were based on fair dealing between two individuals as equals, it became known as equity. The system of equity, developed and administered by the Court of Chancery, was not a complete alternative to the common law. It was a method of adding to and improving on the common law; it provided a gloss on the law.

(4) **Legislation**

Legislation (or statute law) refers to law passed by Parliament in the form of statutes or Acts of Parliament. The bulk of Zambian law is statutory.

(5) **The Constitution** is the supreme law of the land. It is another source of law. Any law not in line with the constitution is null and void.

(6) **Customary law**

Zambia is inhabited mainly by various ethnic groups. Each of these tribes has its own customs, traditions and political system. These customs and traditions form the customary law of these tribes. The Local Courts Act Chapter 29 of the Laws of establishes the Local Courts which administer customary law. Customary law is very important in areas such as marriage, succession and land law.

Any four of the above

(b) Implied terms, however, are not actually stated or expressed included in the contract, but are introduced into the contract by implication. In other words the exact meaning and thus the terms of the contract are inferred from its context. Implied terms can be divided into three types.

Terms implied by statute

In this instance a particular piece of legislation states that certain terms have to be taken as constituting part of an agreement, even where the contractual agreement between the parties be itself silent as to that particular provision. Some statutes provide that particular terms are to apply unless the contract in question specifically states otherwise. **Liverpool City Council v Irwin (1977),** it was held that where parts of a building have been let to different tenants and where rights of access over the parts of the building retained by the landlord, e.g. the stairs have been granted to these tenants, then a term could be implied that the landlord keep these parts reasonably safe.

Terms implied by custom or usage

An agreement may be subject to terms that are customarily found in such contracts within a particular market, trade or locality. Once again this is the case even where it is not actually specified by the parties. For example, in **Hutton v Warren (1836)**, it was held that customary usage permitted a farm tenant to claim an allowance for seed and labor on quitting his tenancy.

Terms implied by the courts

Generally it is a matter for the parties concerned to decide the terms of contract, but on occasion the court will presume that the parties intended to include a term which is not expressly stated. They will do so where it is necessary to give business efficacy to the contract. Whether a term may be implied can be decided on the basis of the officious bystander test. Imagine two parties, A and B, negotiating a contract. A third party, C, interrupts to suggest a particular provision. A and B reply that that particular term is understood. In just such a way, the court will decide that a term should be implied into a contract. In **The Moorcock (1889),** the appellants, owners of a wharf, contracted with the respondents to permit them to discharge their ship at the wharf. It was apparent to both parties that when the tide was out the ship would rest on the riverbed. When the tide was out, the ship sustained damage by settling on a ridge. It was held that there was an implied warranty in the contract that the place of anchorage should be safe for the ship. As a consequence, the ship owner was entitled to damages for breach of that term.

(c) The clauses are as follows:

(i) Name of the entity
(ii) Duration
(iii) Profit sharing
(iv) Management

(d) A contract of sale is defined as a sale where ownership of the goods is to be transferred immediately from the seller to the buyer.

SOLUTION THREE

(a) The amount of the authorized share capital contained in the application for incorporation sets a limit on the aggregate nominal value of the shares, which a company limited, by shares may issue. This value may not be altered without following the laid down procedures. The first requirement is that the articles of the company must allow for alteration i.e. to increase or decrease the share capital. Then the company can increase the share capital by holding a meeting at which a special resolution which requires 75% of the majority votes cast. Then the company can engage in any of the following methods to increase the share capital: Sell shares at a premium; introduce a new class of shares; or sell unissued shares.

(b) A promoter has been defined as 'one who undertakes to form a company with reference to a given project and to set it going and who takes the necessary steps to accomplish that purpose': Twycross v Grant 1877. A common way to avoid the problem concerning pre-incorporation contracts is to buy a company 'off the shelf'. Even if a person contracts on behalf of the new company before it is bought it should be possible for that company to ratify the contract since it existed 'on the shelf' at the time the contract was made. The promoter must have made it clear that he acted as a company's agent. It makes no difference that the name of the shelf company is changed once it is bought and ratifies in that name. At this point it may not be possible to avoid liability as she must have taken certain steps before entering into the transaction which she did not. *Kelner v Baxter (18660,* K wrote a letter to B, C and D as agents for a 'proposed' hotel company – K well knew that the company did not yet exist. The letter offered to sell a stock of wine. B, C and D accepted the offer 'on behalf of the company. The wine was delivered to the company was not liable but B, C and D must be presumed to have intended to make themselves personally liable must therefore pay.

SOLUTION FOUR

(d) Kasuba comes to you for legal advice on what a warranty is and the prospects of returning the vehicle and getting a refund. **Advise him**

Under section 53(i) of the Sale of Goods Act 1893, a buyer who elects or is compelled to treat a breach of a condition by the seller as a breach of warranty, is not entitled to reject the goods. Further, section 35 of the Acts explains what acceptance of the goods means which is, being with the goods for a certain period of time without intimating to the seller that the buyer has rejected the goods or treating the goods in a manner that is inconsistent with the rights of the seller. In *Bernstein v Pamson Motors (Golders Green) Ltd* QBD 1987, Rougier J stated that 14 days in which the plaintiff had been with the vehicle which developed a fault after purchase, was enough time to test the merchantability of the vehicle to reject which they did not do and therefore they had lost the right to reject the goods according to the meaning of section 35. Further, Rougier J stated that where a buyer has been with goods for a period within the meaning of section 35, where the goods develop a fault, they are not entitled to a rejection of the goods but are covered under a warranty and can therefore only claim breach of a warranty which does not entitle an aggrieved party to a repudiation of the contract and return of the goods. The claim failed. In like manner, based on the provisions of sections 35 and 53 of the Sale of Goods Act and the decision in *Bernstein v Pamson Motors*, Kasuba's claim to reject the vehicle and seek a refund would fail. Kasuba should have the car repaired as per the warrant policy in the contract, not entitled to a refund or exchange as it was not a guarantee.

(e) **Define a tort** – A tort is a civil wrong occasioned by one a tortfeasor against another by way of negligent conduct which is a breach of a duty of care leading to damage being suffered by the plaintiff and entitling the plaintiff to bring an action for a claim of damages.

Making reference to decided cases, explain what negligence is and the elements that constitute negligence:

Negligence is a wrongful action or omission of the defendant which is in breach of a duty of care primarily fixed by law leading to damage being suffered by the plaintiff.

The elements of negligence are:

(i) Duty of care - Owing a duty of care to a neighbour, i.e. a person affected by your actions.

(ii) Breach of duty of care - There must be a breach of that duty to the neighbour for negligence to occur.

(iii) Damage suffered by the plaintiff – The plaintiff or complainant should have suffered some dame as a result of the breach of the duty of care by the defendant.

SOLUTION FIVE

(a) A contract is defined as a legally binding and enforceable agreement made between two or more parties where one the offeror makes an offer to the offeree on a particular subject of the contract and the offeree accepts the offer as offered which acceptance is accompanied by a consideration to the offeror.

The following must exist for a contract to be valid:

(i) Offer
(ii) Acceptance
(iii) Consideration
(iv) Intention to create legal relations

(b) **Explain what the determinants of the existence of a breach are in a contract**. For a breach to arise in a contract, there must be factors that will determine the existence of such breaches. ***Terms and conditions*** therefore must exist to guide the operations of the contract. A term is a basis or provision on which the contract is entered and is to be performed. A ***condition*** is a qualified requirement that determines how the terms of the contract are to be performed. For example, it is a term of a contract that A is buying a car from B at XXXX amount. It is a condition of a contract that the sale shall be made in three instalments payable at specified times. Where there is a failure to meet the specified dates for payment, then there is a breach of a condition. The condition can be waived whereas the term may not.

(c) Identify and explain ways in which a contract is discharged.

A contract will be discharged through:

(i) **Performance** – that is, where both parties to the contract had performed their obligations accordingly. ***Cutter v Powell (1795) 6 Term Rep 320***

(ii) **Breach** – where there is a material breach to the contract rendering performance of the contract unlikely. ***Re Moore and Landauer* [1921] 2 KB 519**

(iii) **Frustration** – where it becomes impossible to perform the contract due to unforeseen events which are not the making of the parties to the contract, for example, market fluctuations thereby rendering the performance of a contract onerous on the parties or an act of God making the performance of the contract impossible. ***Taylor v Caldwell* (1863) 3 B&S 826.**

(iv) **Effluxion of time** – where a contract is time bound and the parties fail to perform their obligations within the stated time, the contract is discharged. *Richard Mwiinga v Public Pension Fund Board and Attorney General* CAZ/08/221/2019

(v) **By agreement** – parties to a contract can agree to waive their obligations to a contract thereby rendering the contract discharged.

(d) Write notes on the following:

(i) **Damages** – this is the compensation awarded to an aggrieved party to either a contract or a tort suit. Damages are awarded upon a successful claim for a damage that one might have suffered either in a breach of contract or a case of negligence in tort. Damages are awarded for the purpose of bringing the aggrieved party to where they were before suffering the damage in tort or where they ought to have been had there not been a breach in a contract.

(ii) **Specific performance** – this is a remedy found in the law of contract mainly. Specific performance is an equitable remedy meaning, it will only be awarded to a party if such award shall not create an injustice against the party against whom it has been ordered. The remedy compels a party to a contract to perform their obligation to the contract in the event that there is a failure to perform.

(iii) **Injunction –** this is another equitable remedy. An injunction can be found both in the law of torts and in law of contract. An injunction works as a restraining order to prevent a party from doing an act they ought not to be doing. In the law of torts, an injunction is especially common in defamation cases where a plaintiff does not need to wait to suffer damage from a defamatory statement about them. They can seek an injunction restraining the publication of a matter that is defamatory of them.

SOLUTION SIX

(a)

(i) **Employment has been defined by the Employment Code Act as**: – A relationship between employer and employee where work is carried out in accordance with instructions and under the control of an employer and is remunerated and constitutes the employee's sole or principal source of income.

(ii) **Explain the difference between an employee and a private contractor** – - - An employee is one who is engaged under a contract of services and in accordance with the definition of employment as contained under the Employment Code Act 2019.

Conversely, a private contractor is one who is engaged on a contract for service that is, they are self-employed and work independently of the employer. The Employment Code Act 2019 clearly outlines the factors that distinguish between an employee and a private contractor which includes, the integration of the employee in the organisation of the undertaking. Further, an employee's taxes are paid/deducted by the employer where as an independent contractor pays on his own, employee is controlled by the employer, a contractor is not, an employee uses the employer's tools, the contractor usually uses his own tools, etc.

(b) **Explain the liability that arise on one for the torts of another** –

(i) this liability is referred to as vicarious liability. Vicarious liability usually arise where there is a relationship of employer, employee or master and servant relationship. Where such a relationship exists, the employer would be held liable for the torts committed by the employee.

(ii) **Explain the circumstances that give rise to the liability identified in (i) above** – for vicarious liability to arise, the following must exist:

(i) There must be a master servant relationship.

(ii) The employee must have committed the wrong while in the course of employment and not on a frolic of his/her own.

The employee must be acting for and on behalf of the employer when the wrong was committed.

(c) **Define Agency** – Agency is defined as the relationship between two parties where one (principal) engages the other (agent) to act on their behalf and create legal relations with others known as third parties.

(d) **Explain three ways in which agency relationship is created** – Agency is created in the following way:

(i) **Agency by Necessity** - Agency of necessity arises when a person ("A") is faced with an emergency in which the property of another person ("B") is in imminent jeopardy and it becomes necessary, in order to preserve the property for A to act for and on behalf of B. In this case, A acts as an agent of necessity of B.

(ii) **Agency by Express Agreement** - An agency is created by express appointment when the principal appoints the agent by express agreement with the agent. This express agreement may be an oral or written agreement between the principal and the agent.

(iii) **Agency by Estoppel** - Agency by estoppel arises when A makes a representation to a third party, whether by words or conduct, that B is his agent, and subsequently that third party deals with B as A's agent in reliance on such representation. A will not be permitted (is estopped) to deny the existence of the agency if to do so would cause damage (usually financial loss) to that third party.

(iv) **Agency by Ratification** - Agency by ratification arises when a person (the principal) ratifies (that is, approves and adopts) an act which has already been done in his name and on his behalf by another person (the agent) who in fact, had no actual authority (whether express or implied) to act on his (the principal's) behalf when the act was done.

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA CERTIFICATE IN ACCOUNTANCY

CA 1.5: MANAGEMENT THEORY AND PRACTICE

MONDAY 11 DECEMBER 2023

TOTAL MARKS – 100; TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question.
2. This paper is divided into TWO (2) sections:
   Section A: Ten (10) compulsory multiple choice questions.
   Section B: One (1) compulsory scenario question, plus Four (4) scenario questions. Attempt any Three (3) questions.
3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.
4. Do **NOT** write in pencil (except for graphs and diagrams).
5. **Cell Phones** are **NOT** allowed in the Examination Room.
6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.
7. All workings must be done in the answer booklet.
8. Present legible and tidy work.
9. Graph paper (if required) is provided at the end of the answer booklet.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

SECTION A

Attempt all ten (10) multiple choice questions in this section.

QUESTION ONE

Each of the following questions has only one (1) correct answer. Write the letter of the correct answer you have chosen in your answer booklet. Marks allocated are indicated against each question.

1.1 ______________ is the adequacy of the resources and competences of an organisation for it to survive and prosper.

A. Strategic capability
B. Financial capability
C. Vertical integration
D. Horizontal integration

(2 marks)

1.2 Which of the following is NOT a source of Cost Efficiency?

A. Design of products and services
B. Economies of scale
C. Supply costs
D. Debt

(2 marks)

1.3 What is the advantage of being a first-mover into a new market?

A. You can choose the best location
B. You can create an experience-based cost advantage
C. You are the major supplier
D. Your product is always Best

(2 marks)

1.4 In most cases the main aim of company restructuring is

A. Increase morale
B. Employee Involvement
C. Increased number and organizational hierarchy
D. Cost Reduction.

(2 marks)

1.5 _______________ are the means by which a firm create value in its products.

A. Value activities
B. Supply activities
C. Research and Development activities
D. Packaging activities

(2 marks)

1.6 Vertical Integration means:

A. Going digital
B. When the company backwards or forwards within its existing value networks
C. Applying unrelated diversification
D. Expanding to foreign markets

(2 marks)

1.7 The TARA Model in Risk Management refers to:

A. Take, Avoid, Risk, Achieve
B. Transfer, Achieve, Reduce, Accept
C. Transport, avoid, Recycle, Aim
D. Transfer, Avoid, Reduce, Accept

(2 marks)

1.8 Organic growth is the primary method used by many firms to grow using:

A. Organic fertilizers
B. Proudly made in Zambia, Buy Zambian!
C. Development of internal resources
D. None of the above

(2 marks)

1.9 In distinguishing between the different aspects of the product in the Product Life Cycle,

Product Form refers to:

A. The stage of product in the Product Life Cycle
B. The type of Brand category
C. The different form that a product can take within the product class.
D. The different states of nature for the product e.g. Liquid, solid and vapour

(2 marks)

1.10 A _______ of a company is also called a statement of philosophy, a statement of beliefs,

and a statement of purpose.

A. Mission Statement
B. Values statement
C. Vision Statement
D. Moto

(2 marks)

[Total: 20 Marks]

SECTION B

Question TWO (2) in this section is compulsory and must be attempted.

Attempt any THREE (3) questions from the remaining FOUR (4) questions.

<u>QUESTION TWO</u> – (COMPULSORY)

The Zambian Government has in the recent past been in discussion with multilateral financial institutions like the World Bank and the International Monetary Fund (IMF) for Financial Assistance. Its functions and decisions affect the business environment and operations of participants.

Required:

(a) Describe the four (4) areas in which the IMF has been involved in the recent times in international and national economies.

(8 marks)

(b) The World Bank is made up of five (5) bodies. Explain briefly of any three (3) of these bodies.

(6 marks)

(c) The business environment is also affected by the Social and cultural aspects, list any six (6) elements of the social and cultural environment.

(6 marks)

[Total: 20 Marks]

<u>QUESTION THREE</u>

The "New Dawn" UPND government were elected on account of reforming the economic environment and were chiefly supported by the young generation that is mostly unemployed youths. To realise the aspirations of these youth and women, the government has encouraged them to form cooperatives and increased the Constituency Development Fund to help with equity at district level for business ventures for these cooperatives.

Required:

(a) Discuss any five (5) features of cooperatives.

(15 marks)

(b) Sole trader which is opposite of being part of a cooperative has disadvantages, briefly state any five (5) disadvantages of a Sole Trader.

(5 marks)

[Total: 20 Marks]

QUESTION FOUR

Imagine your friend owns a company called MJM and he is planning to expand his business internationally or simply put, to neighbouring countries.

Required:

(a) Identify and describe five (5) factors your friend will encounter as he/she ventures into the international market.

(10 marks)

(b) It is a known fact that business organizations operate in both external and internal environment.

(i) Highlight the six (6) factors of the external environment.

(6 marks)

(ii) Explain any two (2) factors of the internal environment that affects the performance or any business.

(4 marks)

[Total: 20 Marks]

QUESTION FIVE

Corporate Governance as a practice has been gaining importance ever since the economic turmoil caused by the bursting of the dot com bubble in 2002. Corporate Governance is basically a detailed disclosure of information and an account of an organization's financial situation, performance, ownership and governance, relationship with shareholders and commitment to business ethics and values. The relevance of corporate governance has increased several times since the concept was introduced. With the introduction of globalization and competition, managing shareholder expectations is no longer the mantra for success. The current economic crisis is often blamed at poor regulatory and check mechanisms for the business, which has led to ramifications which are far reaching both geographically and socially.

Required:

(a) From your knowledge of corporate governance, Explain the Five (5) Cs of moral duties according to the Kings report (1994).

(10 marks)

(b) List down Five (5) key ethical principles in management.

(10 marks)

[Total: 20 Marks]

QUESTION SIX

(a) Equity theory of motivation focuses on individual's perceptions of how fairly they are treated compared with others. Managers are therefore encouraged to avoid inequities so that no employee will feel demotivated.

Required:

What are the (4) most common methods a Manager can use to reduce a perceived inequity.

(8 marks)

(b) List four (4) reasons for poor selection in recruitment.

(4 marks)

(c) People and companies are facing a lot of challenges due to changes in the economics of the world, Covid 19 pandemic and other issues in the environment. It is therefore important to engage visionary leaders who will inspire and encourage people and companies to rise beyond the prevailing problems.

Required:

Explain any four (4) principles of a visionary leader and how they can encourage people and companies.

(8 marks)

[Total: 20 Marks]

END OF PAPER

CA 1.5: MANAGEMENT THEORY AND PRACTICE SUGGESTED SOLUTIONS

SECTION A

SOLUTION ONE

1.1 A

1.2 D

1.3 B

1.4 D

1.5 A

1.6 B

1.7 D

1.8 C

1.9 C

1.10 A

SECTION B

SOLUTION TWO

(a) In more recent times, the IMF has:

(i) Promotes financial cooperation

(ii) Established stable exchange rates and easily convertible currencies

(iii) Provided help and support for the nations with trade deficits in order to help them overcome theme.

(iv) Encourage international liquidity.

(b) The World Bank is made up of:

(i) The International Bank for Reconstruction and Development (IBRD) which provides loans to middle income and creditworthy low- income countries.

(ii) The International Development Association (IDA)which provides interest-free (or low rate) loans called credits and grants to the poorest countries

(iii) The International Finance Corporation (IFC) which provides loans, equity and technical assistance to stimulate private sector investment in developing countries.

(iv) The Multilateral Investment Guarantee Agency (MIGA) which provides guarantee against losses caused by non-commercial risks to investors in development countries.

(v) The International Centre for Settlement of Investments Disputes (ICSID) which provides international facilities for conciliations and arbitration of investments disputes.

(c) Elements of the Social and Cultural environment include:

(i) The attitudes and values of customers, employees and the general public

(ii) Attitudes to work and the length of the working week

(iii) Attitude to leisure and what people like to do with their Leisure time

(iv) The influence of religion and religious beliefs on social behaviour

(v) Tribal influence

(vi) Levels of Education

(vii) The Age distribution of the population, of young and old people

(viii) Women in employment and issues of gender equity

(ix) The impact of HIV and AIDS on the workforce and the society as a whole.

SOLUTION THREE

(a) The main features of co-operatives include the following:

(i) Members join a co-operative by buying shares in it.

(ii) Each co-operative sets bye laws or rules for its activities and there are regular members' meetings.

(iii) They are democratic organisations with equal membership vote irrespective of member's shareholding.

(iv) Co-operatives aim to make a profit, which is shared among members

(v) They are open organisations, and new members can join at any time by purchasing shares.

(vi) The members participate in the economic activities of the business.

(b) The disadvantages of a sole trader include the following:

(i) The business does not have limited liability.

(ii) The business can survive without the owner

(iii) It is difficult for the sole trader to borrow money

(iv) A sole trader becomes inefficient when the business become to large for one person to operate or manage it

(v) The sole trader is self - employed and hence do not social security or rest or leave.

SOLUTION FOUR

(a) The following are the factors to consider

(i) Country alliances. Trade alliances encourage and promotes trade between member countries providing a much larger market to sell goods to and make larger profits and also help to safeguard the industries of member countries.

(ii) Financial factors. This is an important factor for any organization that needs to have enough capital to be able to successfully invest it in another country's business market. Time and money are needed to take your business to the next level across geographical borders

(iii) Legal factors. Each government has its own set of rules and regulations that companies need to follow when they are importing their goods into a foreign country. There are tax laws and legal considerations that must be taken care of before the expansion and production process can go underway.

(iv) Culture / religions. Companies must be aware and research the culture and religions of the international territory they are trying to enter or consider

(v) Markets. This is about the demand for their products and services. It's Important that Companies consider international ventures should consider whether the product or service they produce has a demand in that targeted foreign market and strict adherence to the quality of their products and services. Factors such as the suitability of the product in the market and its demand and availability of similar products locally at cheaper rates could be considered.

(b) External environment

(i) External environment

(1) Political
(2) Economic
(3) Social and cultural
(4) Technological
(5) Legal
(6) Ecological or Environmental

(ii) Internal factors

(1) **Value System**: Value system can be defined as a set of rules and the logical and consistent values adopted by the firm, as a standard guide, so as to regulate the conduct in any type of circumstances.

(2) **Vision, Mission and Objectives**: Vision refers to the overall picture of what the enterprise wants to attain, whereas mission talks about the organization and its business, and the reason for its existence. Lastly, objectives refer to the basic milestones, which are set to be achieved within the specific period of time, with the available resources.

(3) **Management structure and Internal Power Relationship**: Management structure implies the organizational hierarchy, the way in which tasks are delegated and how they relate, a span of management, relationship amidst various functional areas, the composition of the board of directors, shareholding pattern and so forth. On the other hand, internal power relationship describes the relationship and cordiality between the CEO and board of directors. Further, the degree of support and contribution received from the employees and other members of the organization strengthens the organization's decision making power and its organization-wide implementation.

(4) **Financial factors**. Lack of money can determine whether your company survives or dies. When a company's cash resources are too limited, it affects the number of people it can hire, the quality of its equipment, and the amount of advertising it can buy

(5) **Human Resource**: Human resources are the most important asset of the organization, as they play a critical role in making or breaking the organization. The skills, competencies, attitude, dedication, morale and commitment, amounts to the company's strengths or weakness.

(6) **Tangible and Intangible Assets**: The tangible assets refers to the physical assets which are owned by the company such as land, building, machinery, stock etc. Intangible assets amount to the research and development, technological capabilities, marketing and financial resources etc.

SOLUTION FIVE

(a) Five Cs of moral duties according to the Kings report (1994)

(i) **Conscience-** intellectual honest and avoiding conflict of interest.

(ii) **Care-** Directors exercising care in the affairs of the company

(iii) **Competence-** Directors having the knowledge and skill required

(iv) **Commitment-** Directors should be diligent

(v) **Courage-** Directors should have the courage to take decisions regardless of the risk.

(b) Ten ethical Principles of Management

(i) Honesty

(ii) Fairness

(iii) Leadership

(iv) Integrity

(v) Compassion

(vi) Respect

(vii) Responsibility

(viii) Loyalty

(ix) Law-abiding

(x) Transparency

(xi) Environmental concerns.

SOLUTION SIX

(a) The following are the most common methods a manager can use to reduce perceived inequity:

(i) Change inputs: employee who feel underpaid may reduce on their efforts so and vice versa

(ii) Change outcomes: rewards, those underpaid will ask for a salary increase so you pay attention

(iii) Rationalize the inequity: avoid artificiality

(iv) Use different comparisons to others or quit

(b) The following are the reasons for poor selection in recruitments:

(i) Poorly designed application form

(ii) Use of wrong election devices that may be inappropriate

(iii) Use of untrained hiring personnel

(iv) Lack of periodic review of the selection process

(c) The following are the principles of a visionary leader:

(i) Challenge the process-be a pioneer-encourage innovation and people with ideas.

(ii) Be enthusiastic-inspire others through personal example to share in the common vision.

(iii) Help others to act: be a team player and support the efforts and talents of others.

(iv) Set the example. - Provide a consistent model of how others should act.

(v) Celebrate achievements. -bring emotion into the work place and rally hearts as well.

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CERTIFICATE IN ACCOUNTANCY

CA 1.6: BUSINESS COMMUNICATION

WEDNESDAY 13 DECEMBER 2023

TOTAL MARKS – 100; TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question.

2. This paper is divided into TWO (2) sections:
   Section A: Ten (10) compulsory multiple choice questions.
   Section B: One (1) compulsory scenario question.
   Plus Four (4) scenario questions. Attempt any Three (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Present legible and tidy work.

9. Graph paper (if required) is provided at the end of the answer booklet.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

SECTION A – (Compulsory)

Attempt all ten (10) multiple choice questions

QUESTION ONE

Each of the following sub questions has only one (1) correct answer. Write the letter of the correct answer you have chosen in your answer booklet. Marks are indicated against each question.

1.1 Password policies play an important role in the administration and utilization of information systems in the organization. The following are examples of guidelines you would find in a password policy except?

A. Mandatory periodic password resets for user accounts
B. Dictating the minimum length requirement for a password
C. Ban common passwords, to keep the most vulnerable passwords out of your system
D. Utilization of any choice of password that you are able to remember

(2 marks)

1.2 Which one of the following is **NOT** one of the elements of the of an information system?

A. People
B. Database
C. Controls
D. procedure

(2 marks)

1.3 Magnetic stripe technology is slowly being replaced in some areas by smart cards. The most common smart card applications include:

A. Voice recognition and printing
B. Credit and debit cards
C. Monitors and portable hard disks
D. Tape cartridges and door entry cards

(2 marks)

1.4 Which of the following specifies access rights and privileges to resources to determine whether the user should be granted access to data or make a specific transaction?

A. Identification
B. Authorization
C. Authentication
D. All of the given options

(2 marks)

1.5 Which of the following is **NOT** true about data reliability and/or data validity?

A. Valid data refers to data that is correctly formatted and stored.
B. Reliable data refers to data that can be a trusted basis for analysis and decision-making.
C. Reliability and validity are the same thing
D. Valid data is an important component of reliable data, but validity alone does not guarantee reliability.

(2 marks)

1.6 The ____________ of a message can either be a viewer, a listener or a reader.

A. Receiver
B. Sender
C. Encoder
D. All of the above

(2 marks)

1.7 Which of the following defines a quorum?

A. Minimum number of times meetings can be held
B. Minimum number of people required to hold a meeting
C. Minimum number of times one can vote
D. Minimum number of hours a meeting should last

(2 marks)

1.8 What does the abbreviation **PP** in a business document stand for?

A. Pages
B. Per person
C. Personal problem
D. Per procurationem

(2 marks)

1.9 Which of the following is **NOT** a factor to consider when choosing the medium of communication?

A. Status

B. Circumstances of the recipient.

C. Information overload

D. Emotions

(2 marks)

1.10 Which of the following sections of a report provides the interpretation of data?

A. Recommendations

B. Findings

C. Conclusion

D. Terms of reference

(2 marks)

[Total: 20 Marks]

SECTION B

Question TWO (2) in this section is compulsory and must be attempted.

Then attempt any three (3) questions from the remaining four (4).

<u>QUESTION TWO</u> – (COMPULSORY)

(a) State five (5) goals of the information framework that can be used in a business organization.

(10 marks)

(b) In most search engines, you are able to use special symbols called Boolean operators to help the search engines.

Explain the meaning of each of the following symbols in when searching for data.

(i) Plus sign (+)

(2 marks)

(ii) Minus sign (-)

(2 marks)

(iii) Quotation marks (")

(2 marks)

(c) Data mining is an analytical process that is designed to explore data usually large amounts for a business or market related.

Explain any four (4) analytical approaches that are applied in data mining related software.

(4 marks)

[Total: 20 Marks]

<u>QUESTION THREE</u>

(a) Describe three (3) types of information systems that can be used in any of the organization's functional area stating the level of the organization it is used at, and the purpose.

(9 marks)

(b) In an organization, there are different types of devices such as Input, Output and network that are used. For each, state at least two (2) examples of each.

(6 marks)

(c) Microsoft Word is popular word processing software. It offers several tools that one can use to create different types of business documents.

State what each of the following tools is used for.

(i) Format Painter.

(1 mark)

(ii) Equation.

(1 mark)

(iii) Start Mail Merge.

(1 mark)

(iv) Navigation Pane.

(1 mark)

(v) Increase indent.

(1 mark)

[Total: 20 Marks]

QUESTION FOUR

(a) Database technologies play a critical role amongst the set of technologies that support the contemporary information system. Organizations produce, collect, process and store huge amounts of data. This data is utilized for different purposes across the organization.

Required:

(i) Mention any four (4) types of data processing that is used in database technologies.

(4 marks)

(ii) Briefly explain what a data warehouse is and what it may be used for in an organization.

(4 marks)

(iii) Outline the relationship that exists between transactional databases and data warehouses as well as the one that exists between a data warehouse and a data mart.

(4 marks)

(b) Passwords remain one of the most important access security features.
State one (1) preventative measure that can be put in place to ensure that your password is secure.

(2 marks)

(c) There are three (3) types of application controls that can be implemented.
Mention each control giving an example of an actual control that falls in each type.

(6 marks)

[Total: 20 Marks]

QUESTION FIVE

You are a supervisor at Maliko Limited Company. You received a letter from another organization in which you were requested to make some recommendations on a job for one of your former staff who was very productive in your department.

Required:

(a) Write a letter of recommendation to another organization about your former staff. (15 marks)

(b) State any Three (3) documents that may accompany an application letter. (3 marks)

(c) Explain how the mnemonics **KISS** would be used when writing an application letter. (2 marks)

[Total: 20 Marks]

QUESTION SIX

You are the Finance Manager in a department of the organisation that you work for. Every time your employees give you a message, it is either delayed, lost, distorted, or just difficult to understand. You have decided to remind your subordinates through a memo about factors they should consider when choosing a medium of communication. Your desire is to have improved internal communication.

Required:

(a) Write a memo to your subordinates informing them about any five (5) factors they should consider when choosing a medium of communication. (14 marks)

(b) Explain the following components of an email:

(i) Cc (2 marks)

(ii) Bcc (2 marks)

(iii) Attachment (2 marks)

[Total: 20 Marks]

END OF PAPER

CA 1.6: BUSINESS COMMUNICATION SUGGESTED SOLUTIONS

SOLUTION ONE

1.1 B
1.2 A
1.3 B
1.4 D
1.5 C
1.6 B
1.7 B
1.8 D
1.9 A
1.10 D

SECTION B

SOLUTION TWO

(a) **Five (5) goals of information framework**

- (i) to acquire knowledge to model any aspect of corporate information
- (ii) to produce software solutions that are easier to develop and integrate
- (iii) to be designed for flexibility
- (iv) to focus on tasks more specific to their project
- (v) to reduce costs by shortening the amount of time a system developer spends programming the application

(b) **Explaining the symbols when searching for data**

(i) Plus sign (+)
Word must be present in all pages'

(ii) Minus sign (-)
Will ignore any documents that has the word

(iii) Quotation marks (")
Word in quotes is picked

(c) **The four analytical approaches that are applied in data mining related software**

- (i) Identifying – clusters of useful and significant data in the midst of a useless or irrelevant mass
- (ii) Summarizing – data to slow overall patterns that may be hidden if data involved at the detailed level
- (iii) Creating and learning – classification rules that can make sense of patterns in data
- (iv) Finding possible dependences – between apparently unrelated data sets using correlation and regression tool
- (v) Detecting anomalies – in patterns of data that may signify events or occurrences that are important to the decision makers

SOLUTION THREE

(a) **Transaction Processing System** – operations and service delivering - operatives

Office Automation System – Increasing productivity of employees – all levels

Management Information System – Facilitate operations management – Operations management

Decision Support System – Support and facilitate strategic decision making – Senior Management

Knowledge Management System – Specialized/skilled work – knowledge workers

(b) (i) Input devices: keyboard, mouse, bar code reader, joystick, microphone, monitor, scanner

(ii) Output devices: printers, monitor, speaker,

(iii) Networking devices: Switches, Ethernet cables, routers

(c) **Explaining the tools used in word processing software**

(i) **Format Painter** – Used to copy a set of formatting options that have been applied on a piece of text and apply it elsewhere in two clicks

(ii) **Equation** – Used to add a common mathematical equation to a word document

(iii)**Start mail merge** – Used to create one document and send it to multiple people

(iv)**Navigation Pane** – Used to create facilitate easy navigation of the document as it gives you a complete view of the document

(v) **Increase indent** – Used to move your paragraph further away from the margin

SOLUTION FOUR

(a)

(i) Transaction Processing, Distributed Processing, Real-time Processing, Online Processing, Batch Processing, Multiprocessing

(ii) A data warehouse is a central repository of integrated data and information from one or more sources i.e., systems outside and/or within the organization

It is used to store historical data about the organization that can be analyzed to make more informed decisions about the operations and business strategies.

(iii) Data flows into a data warehouse from transactional systems and database, and other sources, typically on a regular interval such as a month or per week.

Organizations often set up their data warehouse as a collection of data marts, which are smaller collections of data that focus on a particular subject or department

(b) **Preventive measure that can be put in place to ensure password is secure**

(i) Avoid writing them down

(ii) Mix-up letters with numbers

(c) **Types of application controls**

(i) **Input Controls** - Applications can include input controls around data editing, ensuring that **only certain** fields can be edited. Another control is **separating the functions** of each user, so unique users must initiate and authorize the action.

(ii) **Output Controls** - **Authentication** is an example of an output control, in which the system authenticates data before it leaves the system. **Authorization** is another tool that requires the application to confirm that the user has the approval to complete the action.

(iii) **Processing Controls** - **Validity** checks are a type of processing control that requires the application to confirm that all processed data is valid. It means ensuring that the data is in the required format or sent to the correct user.

SOLUTION FIVE

(a) AWJ Limited Company

Po. Box 31488

Lusaka

Any date during the examination time

Monde's Green Vegies Shop

Po.box 31725

Lusaka

Dear Sir

Re: Letter of Recommendation – Mr. Kabukabu

Following the letter from your organization in which you requested for information about Mr Kabukabu, we wish to confirm that he was indeed our former employee for the five years.

Mr, Kabukabu worked in our organization as an assistant accountant in the Finance department. We were consistently impressed about his work attitude and productivity during the time that he was with us.

Mr Kabukabu is both intelligent and self-motivated. I am confident that he will devote himself to a position with your organization with high level of diligence, commitment and hard work.

He is also a very quick learner and showed the ability to grasp large volumes of information at the time he worked with us.

Apart from that Mr Kabukabu demonstrated the ability to articulate information and ideas in both oral and written forms of communication.

I therefore recommend him for the job without any reservations. I am confident that he will establish productive relationships with management and staff in your organization.

You are free to contact us for any further information about Mr. Kabukabu

Yours faithfully

Sender's signature

Mr. Gilbert Mubita

Finance manager

(b) –Curriculum Vitae

- National Registration Card

-Academic qualifications (Certificates)

-Professional qualifications

(c) KISS stands for keep it short and simple. Therefore, it helps to maintain brief but informative texts. You can also use simple and straight forward sentences to achieve clarity and save time.

SOLUTION SIX

(a) **Memo**

Mays Tech Ltd
Memo

To: All members of staff
From: General Manager
Date: any date during examination time

Subject: Poor Communication

It has come to my attention that that there is poor communication between my office and the rest of the members of staff. This can be attributed to a number of things, but wrong choice of media seems to top the list. In order to ensure effective communication, management wishes to remind you on the importance of choosing the right medium.

Whenever you are sending a message please consider the following factors that affect the choice of medium:
- Urgency of the message
- Time of the day
- Confidentiality of the message
- Availability of resources
- Reliability of channel

In our quest to ensure effective communication, we urge each one of you to take the above suggested guidelines seriously.

Thank you.
[signature]
Name

(b) **Elements of an Email**

(i) Cc: courtesy copy (copies circulated) – email addresses of parties to whom the message was copied
(ii) Bcc: blind copy – email addresses of parties to whom the message was copied but are not disclosed
(iii) Attachments: Files/documents that accompany the message

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA APPLICATION ADVANCED DIPLOMA IN ACCOUNTANCY

CA 2.1: FINANCIAL REPORTING

MONDAY 11 DECEMBER 2023

TOTAL MARKS – 100: TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question. You will be told when to start writing.

2. This paper is divided into TWO (2) sections:

   Section A: ONE (1) **Compulsory** scenario question.
   Section B: FOUR (4) Optional scenario questions. Attempt any THREE (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Present legible and tidy work.

9. Graph paper (if required) is provided at the end of the answer booklet.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

SECTION A

This question is compulsory and must be attempted.

QUESTION ONE – (COMPULSORY)

Manyuzu Plc acquired 60% of Kapunda Plc's 200 million K1 equity shares on 1 April 2022 for an immediate exchange of two Manyuzu Plc K1 shares for every three (3) shares acquired in Kapunda Plc. Each Manyuzu Plc and Kapunda Plc equity share was trading at K6.00 and K4.00 respectively on 1 April 2022.

In addition, Manyuzu Plc agreed to pay further consideration in form of cash on 31 March 2023 dependant on the post-acquisition performance of Kapunda Plc. Based on their assessment of the likelihood of paying the cash consideration, the directors of Manyuzu had initially estimated the fair value of the cash consideration on 1 April 2022 at K25 million. Based on Kapunda's post acquisition performance to 31 December 2022, the Directors of Manyuzu Plc have reassessed the fair value of the cash consideration as at 31 December 2022 at K35 million.

Kapunda Plc's retained earnings and the revaluation reserves were K160 million and K140 million respectively on 1 January 2022.

The statements of profit or loss and other comprehensive income for the year ended 31 December 2022 for the companies are as follows:

	Manyuzu	**Kapunda**
	K'm	**K'm**
Revenue	600	400
Cost of Sales	(340)	(210)
Gross Profit	260	190
Distribution Costs	(60)	(40)
Administrative Expenses	(80)	(50)
Operating Profit	120	100
Investment Income	40	10
Finance Costs	(20)	(14)
Profit Before Tax	140	96
Income Tax Expense	(36)	(24)
Profit for the year	104	72
Other Comprehensive Income		
Gains on Properties	16	20
Losses on Financial assets	(12)	(10)
Other Comprehensive Income for the Year	4	10
Total Comprehensive Income for the Year	108	82

Further information:

(i) The Directors of Manyuzu Plc compiled the following information which may be relevant in measuring the fair value of identifiable net assets acquired in Kapunda Plc as at 1 April 2022:

- An item of plant whose remaining economic life on that date was 6 years (straight-line depreciation) had its fair value exceeding its carrying amount by K24m. Kapunda Plc has not incorporated fair value adjustments in its separate financial statements. Plant depreciation is charged to cost of sales.

- A customer sued Kapunda Plc for allegedly supplying faulty goods prior to 1 April 2022. Based on the lawyers' advice that the customer was unlikely to succeed in the court case, the directors of Kapunda Plc correctly accounted for the matter as a contingent liability in its individual entity financial statements in accordance with IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*. The directors of Manyuzu Plc successfully negotiated a reduction in the price on acquisition of Kapunda Plc amounting to K5 million on account of this matter. As at 31 December 2022, the case has been decided by the courts in favour of the customer who was awarded compensation amounting to K7 million. The amount is included in administrative expenses in Kapunda Plc's statement of profit or loss above.

(ii) Manyuzu Plc has chosen to initially measure non-controlling interests on acquisition of Kapunda Plc at the fair value of their shareholding.

(iii) The group reviewed the investment in Kapunda Plc for impairment on 31 December 2022 and as a result has concluded that 25% of the goodwill on acquisition of Kapunda Plc has been impaired. Goodwill impairment losses are to be charged as cost of sales.

(iv) On 1 July 2022, Manyuzu Plc acquired 25% of the equity shares of Dungu Plc at a cost of K100 million for immediate cash settlement. The interest gives Manyuzu Plc significant influence over Dungu Plc.Dungu Plc made a profit for the year to 31 December 2022 amounting to K58 million.

(v) Kapunda Plc made and recorded sales of trading inventory to Manyuzu Plc during the nine months to 31 December 2022 amounting to K80m. Manyuzu Plc has only recorded purchases from Kapunda Plc amounting to K60m as some goods have not yet been received by 31 December 2022. A third of the purchases recorded by Manyuzu Plc are still owned by Manyuzu Plc at 31 December 2022. Kapunda prices sales to Manyuzu Plc at a profit margin of 25%.

Manyuzu made sales of trading inventory to Dungu Plc amounting to K18 million in the last six months of the year to 31 December 2022 at a profit mark up of

20%. All the goods bought from Manyuzu are still owned by Dungu as at 31 December 2022.

(vi) Investment income of Manyuzu Plc includes dividends received from Kapunda Plc and Dungu Plc. During December 2022, Kapunda Plc and Dungu Plc made total dividend payments to their equity shareholders amounting to K20 million and K15 million respectively.

(vii) Unless otherwise stated, assume profits and losses and incomes and gains accrue evenly over the year.

Required:

(a) Compute the goodwill arising on Manyuzu's acquisition of Kapunda Plc. (6 marks)

(b) Prepare the Manyuzu Plc group statement of profit or loss and other comprehensive income for the year ended 31 December 2022. (34 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this Section.

Attempt any THREE (3) questions.

QUESTION TWO

The following trial balance relates to Zicamunobe plc as at 31 March 2023.

	K'000	K'000
Provision for legal costs		10,000.0
Revenue		5,160.0
Cost of sales	3, 343.2	
Distribution costs	60.8	
Administration expenses	10 158.4	
Loan interest paid	38.4	
Property:		
Cost	1, 600.0	
Accumulated depreciation at 1 April 2022		300.0
Plant and equipment:		
Cost	1, 348.8	
Accumulated depreciation at 1 April 2022		388.8
License:		
Cost	320.0	
Amortization at 1 April 2022		128.0
Trade receivables	345.6	
Cost of Inventory at 31 March 2023	150.4	
Bank		15.6
Trade payables		281.6
Equity shares of K1 per share		560.0
Share premium		100.0
Deferred tax		4.0
12% loan note (Issued 1 April 2022)		320.0
Current tax		16.0
Retained earnings at 1 April 2022		91.6
	17,365.60	17,365.60

Additional information:

1. On 1 April 2022, Zicamunobe plc revalued its property to K1,920,000, of which K480,000 relates to the land. The property's original cost on 1 April 2012 of K1,600,000 included K400,000 for the land.

The building had an estimated life of forty (40) years when it was acquired and this has not changed as a result of the revaluation exercise. Depreciation is charged on a straight line basis. The revaluation has not yet been recorded by Zicamunobe. Zicamunobe Plc has a policy of transferring any excess depreciation to retained earnings. There is no deferred tax effect on the revaluation.

2. Plant and equipment is to be depreciated on the reducing balance basis at a rate of 20% per annum. Zicamunobe plc charges a full year's depreciation in the year of acquisition and none in the year of disposal.

   During the year, Zicamunobe Plc sold some plant that cost K160,000 on 1 December 2020. The proceeds of this sale were K96,000 and these have been credited to cost of sales. No other entries have been made relating to the disposal.

   All depreciation and amortization are to be charged to cost of sales.

3. Administrative expenses include a provision of K10 million for the possible costs of a legal claim lodged against Zicamunobe Plc by one of its customers before 31 March 2023. The Directors of Zicamunobe Plc consider that it is probable that Zicamunobe Plc can successfully defend the case, but they are providing for the worst possible outcome on the grounds of prudence.

4. The provision of K10 million is for the amount sought by the customer (K9.5 million) plus the Directors' best estimate of the legal costs incurred in defending the case. If Zicamunobe Plc successfully defends the case, then based on the outcomes of similar cases in the past, it is likely (but not sure) that the customer will be required to reimburse Zicamunobe plc for its legal costs.

5. The Directors estimate that a provision for income tax for the year ended 31 March 2023 of K101,600 is required. The balance on current tax in the trial balance represents the under/over provision of the tax liability for the year ended 31 March 2022. At 31 March 2023, Zicamunobe Plc had taxable temporary differences of K25,000 requiring a provision for deferred tax. Any deferred tax movement should be reported in profit or loss. The income tax rate applicable to Zicamunobe Plc is 20%.

6. The licence is being amortised on the straight line basis at a rate of 20% per annum.

7. On 31 January 2023, Zicamunobe Plc made a bonus issue of 100, 000 shares, capitalising its share premium. This transaction had been correctly recorded.

8. Revenue includes an amount of K1,600,000 for a sale made on 1 April 2022. The sale relates to a single product and includes ongoing servicing from Mukupasa PLC for four years. The normal selling price of the product would be K1.8 million and for servicing would be K50,000 per annum.

9. Zicamunobe plc has not paid an ordinary dividend during the year, just before the year end the directors approved dividends and proposed dividends of K448,000 and K500,000 respectively.

10. The Net realizable value (NRV) of Inventory at 31 March 2023 was K666,000.

Required:

(a) Prepare the Zicamunobe Plc statement of profit or loss and other comprehensive income for the year ended 31 March 2023.
(8 marks)

(b) Prepare the Zicamunobe plc statement of changes in equity for the ended 31 March 2023; and
(4 marks)

(c) Prepare the Zicamunobe Plc statement of financial position as at 31 March 2023, in a form suitable for presentation to the shareholders and in accordance with the requirements of international accounting standards.
(8 marks)
[Total: 20 Marks]

QUESTION THREE

Thazo Ltd is a manufacturer of office furniture. The Chief Executive Officer (CEO) is pleased with the company's performance for the year ending 31 March 2023. There is massive and continuous improvement in performance in the recent past. However, the Chief Financial Officer (CFO) has advised the CEO that a better assessment of the company's performance would be achieved if its performance is compared to other companies in the sector. The CFO has since collected data on ratios of Thazo Ltd's business sector from the country's statistics office based on the year ending 31 March 2023 as follows:

Gross profit margin	22%
Operating profit margin	11%
Interest cover	1.6 times
Earnings Per Share (EPS)	K0.80
Gearing (Debt : Equity)	42%
Current ratio	1.6:1
Return on capital employed (ROCE)	17.9%
Net asset turnover	1.9 times

(For purposes of computing the gearing ratio, debt has been defined to include all interest bearing financial instruments, current and non current liabilities).

The summarized financial statements of Thazo Co. are as below:

Thazo Co.'s statement of profit or loss for the year ended 31 March 2023.

	K'000
Revenue	156,250
Cost of sales	(129,500)
Gross profit	26,750
Operating expenses	(14,500)
Finance costs	(4,500)
Profit before tax	7,750
Income tax expense	(2,500)
Profit for the year	5,250

Thazo Co.'s statement of financial position as at 31 March 2023.

Assets:	**K'000**
Non Current Assets:	
Property	20,250
Plant	62,000
Total non current assets	82,250
Current assets:	41,000
Total assets	123,250
Equity liabilities:	
Equity:	
Equity shares of K1 each	22,500
Revaluation surplus	10,000
Retained earnings	26,500
Total equity	59,000
Non Current Liabilities	
10% loan notes	25,000
Lease obligations	16,000
Total non current liabilities	41,000
Current liabilities:	
Trade payable	12,500
Lease obligations	5,250
Tax payable	5,500
Total current liabilities	23,250
Total equity and liabilities	123,250

Following additional information is relevant:

(i) Included in the cost of plant is leased plant to the value of K30.5 million. All lease obligations should be treated as debt in the calculations of Return on Capital Employed (ROCE) and that of gearing.

(ii) Revaluation surplus relates to property. New items of plant were acquired in October 2022.

(iii) Gearing to be calculated as debt\equity while capital employed for net assets turnover to be taken as: Total assets less current liabilities.

Required:

(a) Prepare the equivalent ratios for Thazo Ltd to those of its sector. (8 marks)

(b) Analyse the financial performance and position of Thazo Ltd for the Year ending 31 March 2023 in comparison to the sector averages. (12 marks)

[Total: 20 Marks]

QUESTION FOUR

IFRS 15 *Revenue from Contracts with Customers*, prescribes the revenue model in which the core principle is that an entity should recognize revenue to depict the transfer of promised goods or services to the customer in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services.

Sepiso Construction Ltd is a supplier of construction services for various clients and at its year end of 31 March 2023, had data on three (3) construction projects that were in progress as provided below:

The construction works for all three (3) projects commenced on 1 January 2022 and were expected to be completed by 31 December 2024. Each project represents a separate contract.

Sepiso Construction Ltd.'s policy is to measure satisfaction of performance obligation using an input method.

	Project 1	**Project 2**	**Project 3**
	K'000	**K'000**	**K'000**
Total contract price	52,500	129,500	31,500
Costs incurred todate	18,900	126,000	26,950
Estimated further costs to completion	23,100	17,500	11,550
Cash received to date	12,750	90,000	10,900
Progress billing to date	15,000	90,000	12,900

Required:

(a) Explain two (2) methods that can be used in the estimation of degree of satisfaction of performance obligation over time in accordance with IFRS 15 *Revenue from Contracts with Customers*.

(4 marks)

(b) Explain the effect of the above contracts on the financial statements of Sepiso Construction Ltd for the year ended 31 March 2023.

(10 marks)

(c) The objective of IAS 20 Accounting for Government Grant and Disclosure of Government Assistance, is to prescribe the accounting for, and disclosure of Government Grants and other forms of government assistance.

Sepiso Construction Ltd. received a government grant of K5 million on 1 April 2022 to cover 40% of the cost of a new item of machinery that cost K12.5 million. The machinery was bought on the same date the grant was received. The machinery had a useful economic life of 5 years at the time of purchase with nil residual value.

Sepiso Construction Ltd. uses deferred income method to account for capital grants.

Required:
Explain the required accounting treatment of these transactions in the financial statements of Sepiso Construction Ltd. for the year ended 31 March 2023.

(6 marks)
[Total: 20 Marks]

QUESTION FIVE

The new CEO for Acropolis Plc has the following issues to clarify with you as the Assistant to the CFO who is out of the country at the moment. He is aware that you would provide explanation based on content of the *Conceptual Framework for the Preparation of Financial Statements,* or the relevant applicable accounting standards.

Required:

(a) Discuss the argument that financial statements prepared on the basis of accruals provide more useful information than those prepared on a cash basis.

(4 marks)

(b) Describe the different types of Government grants and explain what is involved in accounting for Government grants, according to IAS 20 *Accounting for Government Grants and disclosure of Government Assistance*.

(4 marks)

(c) Explain 'provision' in accordance with IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*, and determine how the following events would be treated in the financial statement at the end of the year:

(2 marks)

(i) An insurance company had agreed to pay K35,000 for compensation on a claim filed after a road traffic accident involving an employee.

(2 marks)

(ii) Following a re-organization of the operations, there would be redundancies to be paid of K70,000 and remaining employees would have to be retrained at a cost of K25,000.

(2 marks)

(d) Acropolis Plc had sold a machine to Kansenshi Enterprises for K150,000 including technical support services. When sold separately by Acropolis Plc other technical support services attract a profit mark-up of 50%. It will cost Acropolis K40,000 to provide technical support services. The machine is normally sold for K130,000 without technical support.

Required:

Explain with supporting calculations how these transactions should be accounted for in the financial statements of Acropolis Plc for the years ended 31 December 2020, 2021, and 2022 in line with the requirements of in IFRS 15 *Revenue from Contracts with Customers.*

(6 marks)

[Total: 20 Marks]

END OF PAPER

CA 2.1: FINANCIAL REPORTING SUGGESTED SOLUTIONS

SOLUTION ONE

(a) goodwill arising on Manyuzu's acquisition of Kapunda Plc:

			K'm
Cost of acquisition:			
Issue of shares	60%X200X2/3X K 6.00		480
Contingent			25
NCI at acq.	40%X200X4		320
Kapunda's equity at acq.:			
Share capital		200	
Retained earnings	(160+3/12X[72+7])	179.8	
Revaluation reserve	(140+3/12X10)	142.5	
FV adjustments:			
- Gain on plant		24	
- Loss on contingency		5	
			(551.3)
Goodwill on acquisition of Kapunda			273.7

(b) Manyuzu Plc Group CSPLOCI for the year ended 31 December 2022.

			K'm
Revenue	(600+9/12X400-80)		820
400			
Cost of Sales	(W)		(498.9)
Gross Profit			321.1
Distribution Costs	(60+9/12X40)	(90)	
Administrative Expenses	(W)	(124.3)	(214.3)
Operating Profit			106.8
Investment Income	(40+9/12X10-60%X20-25%X15)		31.8
Finance Costs	(20+9/12X14)		(30.5)
Share of associate's profit	(58X6/12-18X20/120)X25%		6.5
Profit Before Tax			114.6
Income Tax Expense	(36+9/12X24)		(54)
Profit for the year			60.6
Other Comprehensive Income			
Gains on Properties	(16+9/12X20)		31
Losses on Financial assets	(12+9/12X10)		(19.5)

Other Comprehensive Income for the Year		50.5
Total Comprehensive Income for the Year		111.1
Profit for the year attributable to:		
NCI (W)		(9.7)
Owners of the parent	(balance)	70.3
		60.6
Total CI for the year attributable to:		
NCI (W)		(6.7)
Owners of the parent	(balance)	117.8
		111.1

Workings to the CSPLOCI:

1. Cost of sales:			K'm
Given amounts:	Manyuzu		340
	Kapunda	9/12X210	157.5
Adjustments:			
Intra group Purchases		(60+[80-60])	(80)
Purchases in transit			20
Closing inventory in transit			(20)
Unrealised profit in closing inventory 25/100X(1/3X60+20)			10
Depreciation charge on FV gain of plant 24/6X9/12			3
Goodwill impairment loss		25%X273.7	68.4
			498.9

2. Administrative expenses:			K'm
Given amounts:	Manyuzu		80
	Kapunda	9/12X(50-7)	32.3
Adjustments:			
Increase in contingency, court case (7-5)			2
Increase in contingent consideration (35-25)			10
			124.3

3. Profit and total CI for the year attributable to NCI		K'm
NCI's share of Kapunda's:		
Given PAT for last 9 months 40%X9/12X(72+7)		23.7
Increase in contingency, court case	40%X(7-5)	(0.8)
Unrealised profit made by Kapunda	40%X10	(4)

FV depreciation on plant	40%X3	(1.2)
Goodwill impairment loss	40%X68.4	(27.4)
Profit for the year attributable to NCI		(9.7)
NCI's share of OCI 40%X9/12(20-10)		3
Total CI attributable to NCI		(6.7)

SOLUTION TWO

(a) Statement of profit or loss and other Comprehensive Income for Zicamunobe plc for the year ended 31 march 2023.

	K'000
Revenue (5, 160 -120w6)	5, 040.00
Cost of sales (w1)	(3,729.12)
Gross profit	1,310.88
Distribution costs	(60.80)
Administrative expenses (10, 158.4 – 9,500)	(658.40)
Operating profit	591.68
Finance costs	(38.40)
Profit before tax	553.28
Income tax (101.6 – 16 +1)	(86.60)
Profit for the year	466.68
Other comprehensive income - revaluation surplus	620.00
Total comprehensive income	1, 086.68

(b) Zicamunobe plc

Statement of Changes in Equity for the year ended 31 March 2023

	Share capital	Share premium	Retained Earnings	Revaluation Reserve	Total
	K'm	K'm	K'm	K'm	K'm
Balances b/d	460*	200*	91.60	-	751.60
Profit for the year			466.68		966.68

Dividends			(448.00)		(448.00)
Revaluation gain				620	620
Bonus Issue	100	(100)			0
Reserves transfer	—	—	18	(18)	—
Balances c/d	560	100	128.28	602	1,890.28

*balancing figure.

(c) Zicamunobe plc

Statement of Financial Position as at 31 March 2023

	K'000
Non Current Assets	
Plant and Equipment (w2)	686.08
Property (w2)	1, 872
Licence (w2)	128.00
	2,686.08
Current Assets	
Inventory	150.40
Trade receivables	345.60
Total assets	**3,182.08**
Equity	
Share capital	560.00
Share premium	100.00
Revaluation reserve	602.00

Retained earnings	128.28
Shareholders' funds	**1,390.28**
Non Current liabilities	
12% loan notes	320.00
Deferred Tax (w7)	5.00
Deferred income (W6)	80.00
	405.00
Current liabilities	
Bank overdraft	15.60
Provision for legal costs	500
Trade payables	281.60
Dividends	448.00
Deferred income (W6)	40.00
Income tax	101.60
	1,386.8
Total equity and liabilities	**3,182.08**

Workings

(1)

Cost of sales	**K'000**
As per trial balance	3,343.20
NBV of disposal (w3) (CA, 96 + Profit, 6.4)	102.4
Plant and equipment –depreciation	171.52
Buildings – depreciation	48
Licence – amortization	64
	3,729.12

(2) Non Current Assets

	Property	Plant & Equip	Licence	Total
	K'000	K'000	K'000	K'000
Cost per T/B	1,600	1,348.80	320	3,268.80
Disposal		(160)		(160)
Revaluation	320		-	320
	1,920	1,188.8	320	3,428.80
Accumulated dep per T/B	(300)	(388.8)	(128)	
Revaluation	300			
Disposal		57.60		
Charge for the year				
20% x 320			(64)	
20% x (1,188.80) – (388.8 – 57.6)		(171.52)		
(1,920 – 480)/(40 – 10)yrs	(48)		-	
Carrying amount	1,872	686.08	128	

(3) Accumulated depreciation on disposal

	K'000
Cost at 1 December 2020	160
Dep for year ended 31 march 2021 (20% x 160)	(32)
	128

Dep for year ended 31 march 2022 (20% x 128)	<u>25.6</u>
	<u>102.40</u>
Accumulated dep at disposal (32 + 25.6)	57.60

(4) A loss on disposal of K6 400 arises (proceeds of K96, 000 – Carrying amount of K102, 400). However, the proceeds have already been credited to cost of sales and therefore it is only necessary to debit the carrying amount of asset to cost of sales in order to record this loss.

Adjustment:

Dr cost of sales K102,400

Dr accumulated dep K57,600

Cr Asset at cost K160,000

(5) Revaluation:

Initial accounting:	K'000
Valuation	1,920
CA at 1 April 2022 (1, 600 – 300)	1,300
Revaluation gain	620

Adjustment:

Dr Property (1,920 – 1, 600)	K320,000	
Dr Acc dep ($1{,}200/_{40\text{ yrs x }10\text{ yrs}}$)	K300,000	
Cr Revaluation reserve (320, + K300)		K620

Reserve transfer

New depreciation ($^{1{,}440}/_{30\text{yrs}}$)	K48,000
Old depreciation ($^{K1{,}200}/_{40\text{ yrs}}$)	K30,000

Transfer excess depreciation		K18,000

Adjustment

Dr Revaluation reserve	K18,000	
Cr Retained earnings		K18,000

(6) Product and servicing sale

Under IFRS 15 Revenue from Contracts with Customers, sales made which include revenue for on-going servicing work must have part of the revenue deferred and any discount offered to stand-alone selling prices must (normally) be allocated to each component pro rata to the stand-alone selling prices.

The stand-alone selling price of the product and the servicing work would be K2 000 000 (K1, 800 000 and K200 000 million (50, 000 x 4 years) respectively). The actual combined selling price of K1, 600, 000 represents a 20% discount on the stand-alone selling prices ((2,000,000 – 1, 600,000)/ (1,800,000 + 200,000)). Thus the sales revenue of K1, 600 000 would be allocated K1, 440 000 (1, 800 000 x 80%) to the product and K160, 000 million (2 000 000 x 80%) to the servicing. At 31 March 2023 there are three more years of servicing work, thus K120, 000 ((K160, 000 x 3 years/4 years) must be treated as deferred revenue, split K40, 000 as a current liability and K80,000 as a non-current liability.

(7) Income tax

Year end estimate	K101, 600
Increase in Deferred tax (0.2 x K25, 000 – K4,000)	1, 000
Over provision	(K16, 000)
Tax charge	K86, 600

Deferred tax at year end (0.2 x K25, 000) = K5, 000. .

(8) Provision for legal claim

Based on the scenario, only K500,000 should be provided and reimbursement should not be recognized since it was not virtually certain.

SOLUTION THREE

(a)

Ratio	Workings	Thazo Co.	Sector averages
Gross profit margin	(26,750/156,250) x100	17.1 %	22%
Operating profit margin	(26,750-14,500)/156,250 x 100	7.4%	11%
Interest cover	(26,750-14,500)/4,500	2.7 times	1.6 times
Earnings Per share	(K5,250/22,500 shares	K0.23/ share	K0.80/ share
Gearing	(25,000+16,000+5,250/59,000) x 100	78%	42%
Current ratio	41,000/23,250	1.8:1	1.6:1
Return on Capital Employed (ROCE)	26,750-14,500 /59,000 +25,000 +16,000+5,250 x 100	11.6%	17.9%
Net asset turnover	156,250/(123,250-23250)	1.6 times	1.9 times

(b) Analysis of comparative financial performance and position.

Financial performance

The primary profitability ratio ROCE for Thazo Co. does not compare well with its sector competitors as it is 35% lower for Thazo at 11.6% compared to 17.9% for sector companies (17.9% -11.6%/17.9). Extending the comparison to the component ratios of profitability, Thazo Co.'s gross profit margin is also lower than sector entities by 22% (22%-17%/22%). Operating profit margin is also lower than sector entities for, Thazo Co. by 33% (11%-7.4%/11%). Further, Thazo Co.'s net asset turnover is equally lower than that of sector by 16% (1.9%-1.6%/1.9). Of all the component ratios of profitability, the operating profit margin is the worst contributor as its underperformance is lowest of all compared to sector entities, at 33% lower . This entails that Thazo may have had volume of sales increase due to underpricing but operating expenses were not kept in check hence operating profit deteriorated too much compared to its competitors. Further, the lower ROCE may entail Thazo Co. manufacturing processes or methods are inefficient thereby bringing about increased operating expenses.

Thazo Co. is generating approximately 11% (1.8%-1.6%/1.8%) less revenue from its assets compared to the sector average which (as already noted) is contributing to overall low profitability through ROCE.

Besides evidence of asset underutilization, Thazo Co. has other factors affecting its poor performance, Thazo revalued its property whereas it is not known if its competitors did the same .This has artificial deteriorating effect on ROCE as it increases capital employed hence lowering ROCE. If its competitors have no revalued assets, the results are incomparable to those of Thazo Co. Additionally, Thazo Co. recently acquired some plant that may not be up to full production capacity. This means when the plant is fully utilized revenue and profit could improve.

Financial position

Thazo Co.'s gearing is very high at 78% compared to 42% for the sector entities .This increases finance costs and subjects the company to very high risks of bankruptcy if debt levels are too high during hard times. With interest cover of only 2.7 times, any downturn in profit may place Thazo Co. in a bad position as far as covering finance costs and making loan repayments is concerned. The finance cost on loan of 10% is slightly lower than Thazo's ROCE of 11.6%. Therefore shareholders are getting a slight benefit from the borrowing though at a considerable risk.

The current ratio shows that the liquidity of Thazo Co. is within expected norms and compares well with its competitors.

Earnings per Share (EPS) is much lower for Thazo Co. at K0.23 compared to the sector entities at K0.80 per share. This entails Thazo Co. did not realize much return for the shareholders' investment. This may be due to underperformance of assets and poor profitability with increased finance costs arising from higher debt for Thazo Co.

Conclusion

Thazo Co. is considerably underperforming compared to its sector entities and the CFO is correct to state that comparison with its sector competitors is the best way to assess its performance than looking at the past trend of its own performance. It is important to note that Thazo Co.'s performance may not outrightly be comparable if sector competitors use different accounting policies for similar transactions and are faced with different business risks in environments in which they operate.

Thazo Co. have immediate options to consider so as to improve performance. It may strategize on reducing gearing, check pricing policy and extent of asset utilization.

SOLUTION FOUR

(a) According to IFRS 15 Revenue from Contracts with Customers, there are two methods that are used to ascertain the degree of satisfaction of performance obligations in a contract namely: (i) input method and (ii) output method.
The input method is used to ascertain degree of satisfaction of performance obligation by calculating costs incurred at a particular date as a percentage of total estimated contract costs. The calculation is by the formular below:

Costs incurred todate/ total estimated contract costs x 100

The output method is used to ascertain degree of satisfaction of performance obligation by calculating the value of work certified as a percentage of total estimated contract revenue. The calculation is by the formular below:

Value of work certified todate/ contract price x 100

(b) At 31 March 2023, Sepiso's projects would not be complete yet hence the need to ascertain the extent of satisfaction of performance obligations of each project, to be used in the ascertainment of amounts attributable to current accounting period.

Below are the percentages of completion for each project:

FORMULAR	PROJECT 1	PROJECT 2	PROJECT 3
Costs incurred/total Estimated Costs x 100	K18,900,000/42,000,000 x 100	126,000,000/143,500,000 x 100	26,950,000/38,500,000 X 100
	45%	88%	70%

To calculate amounts attributable to the current year statement of profit or loss and statement of financial position, overall estimated profitability for the three (3) projects need to be ascertained as follows:

	PROJECT 1	PROJECT 2	PROJECT 3
	K'000	K'000	K'000
Total estimated contact revenue	52,500	129,500	31,500
Less costs to date	(18,900)	(126,000)	(26,950)

Less estimated costs to complete	(23,100)	(17,500)	(11,550)
Total estimated profit / (loss)	10,500	(14,000)	(6,950)

Project 1 is overall expected to be profitable and so amounts attributable to profit or loss for the year ending 31 March 2023 will be all calculated based on % completion.

Project 2 and project 3 are overall expected to be loss making when completed. This means the total estimated loss to be recognized immediately and only revenue will be recognized based on % completion while cost of sales will be balancing figures (difference between revenue and overall estimated losses).

The following are amounts to be taken to profit or loss for each project:

	P 1	P 2	P 3
	K'000	K'000	K'000
Revenue (45%*52,500)(88%*129,500)(70%*31,500)	23,625	113,960	22,050
Cost of sales (45%*10,500) (bal fig) (bal fig)	(18,900)	(127,960)	(29,000)
Total estimated profit / (loss)	4,725	(14,000)	(6,950)

The following amounts will be recognized in statement of financial position as at 31 March 2023:

	PROJECT 1	**PROJECT 2**	**PROJECT 3**
	K'000	K'000	K'000
Profit / (loss) recognized todate	4,725	(14,000)	(6,950)
Plus costs incurred todate	18,900	126,000	26,950
Invoiceable amounts	23,625	112,000	20,000
Less progress billing	(15,000)	(97,500)	(12,900)
Contract assets	8,625	14,500	7,100

At 31 March 2023, Sepiso will also recognize receivables under current assets from project 1 and project 3 as amounts received are less than those billed already as follows:

	Project 1	project 3
	K'000	K'000

Progress billing	15,000	12,900
Less cash received	(12,750)	(10,900)
Receivables	2,250	1,000

Contract assets to be shown under current assets are: project 1 K8.625 million; project 2 K14.5 million and project 3 K7.1 million. Further, amounts receivable from clients (difference between amounts billed and cash received) will be shown under current assets in statement of financial position for project 1 K2.25 million and project 3 K1 million. No amount receivable from project 2 as amount billed equals amount received.

(c) The method in use is deferred income/credit. This means that the grant would be recognized over the life of an asset as income in the statement of profit or loss. This amounts to K1 million (K5 million/ 5 years useful life of machinery) grant income credited to profit or loss for the year ending 31 March 2023. The depreciation expense for the same period will be K2.5 million (K12.5 million/5 years) debited to profit or loss.

In the statement of financial position, a non-current liability of k3 million and a current liability of k1 million will be recognized as at 31 March 2023.

SOLUTION FIVE

(a) Financial statements prepared on an accruals basis report transactions of credit sales rather than keeping them as notes only. Financial statements are comprehensive in that they provide balances of non-current assets, what customers owe and what the entity owes suppliers. Reported profit is from all activities captured throughout the organization, and so it is more representative of performance than cash and bank balances only.

Reports prepared on the cash basis fall short in all these areas, although they are administratively quicker, more objective and cheaper. They are easy to understand than those prepared on an accrual basis.

(c) IAS 20 Government grants and government assistance provides guidance on how grants should be accounted for. Government grants comes in the form of provision of cash, or other assets in exchange for compliance to stipulated conditions. They may be revenue grants which support operations, or capital grants intended to finance non current assets.
IAS 20 recommends that government grants be accounted for on an accruals basis. What is earned as income because performance obligations have been met will be reported as income in the current period. What has not been earned as income because performance obligations are yet to be met is deferred to a future period for recognition as income.

(d) A provision according to IAS 37 Provisions: Contingent liabilities and Contingent Assets, is a liability of an uncertain amount and timing. A liability is recognized when there is a present obligation or a constructive obligation and it is highly probable that an outflow of economic benefits will flow out of the entity. The following will be accounted for as follows:
(i) The amount of compensation from the insurance company is a receivable. It will be disclosed in a note, rather than being accrued as an asset, until the insurance company actually pays the amount of K 35 000
(ii) The amount of redundancies of K 70 000 will be accrued as a provision arising on the reorganization. The amount of K 25 000 to be spent on training will be charged as an expense when it is actually spent, since training can be done even when there is no reorganization.

(e) The revenue will be split as follows:
Cost of service plus markup 40 000 + 20 000 = 60 000

Standalone price plus fee for service 150 000 + 60 000 = 210 000

Revenue attributable to the machine alone

$$\frac{150\ 000 \times 130\ 000}{210\ 000} = 92\ 850$$

Revenue allocatable to the service

$$\frac{60\ 000 \times 130\ 000}{210\ 000} = 37\ 140$$

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

APPLICATION ADVANCED DIPLOMA IN ACCOUNTANCY

CA 2.2: MANAGEMENT ACCOUNTING

TUESDAY 12 DECEMBER 2023

TOTAL MARKS – 100; TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question. You will be told when to start writing.

2. This paper is divided into TWO (2) sections:

   Section A: One (1) Compulsory scenario question.
   Section B: Four (4) Optional scenario Questions. Attempt any Three (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Present legible and tidy work.

9. Graph paper (if required) is provided at the end of the answer booklet.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

SECTION A

This Question is compulsory and MUST be attempted.

<u>QUESTION ONE - (COMPULSORY)</u>

Timeline Ltd (T Ltd) manufactures three (3) products X, Y and Z. The selling prices and production cost details of the three products are as shown in the table below:

Product	**X**	**Y**	**Z**
Selling price/unit	K100	K125	K110
Direct materials	K40	K50	K60
Direct labour	K30	K35	K40
Variable production overheads	K10	K15	K20

The fixed production costs for the year 2023 were estimated to be at K4,200,000.

Due to the planned expansion in the coming two years, the company resolved during the 2023 budget meetings, to target a profit of K9,800,000 for the year 2023.

Based on the past records, the products are sold in the ratio 3:4:2. This is the product mix ratio that T Ltd has used in budgeting for its sales for the year 2023. However, latest market research show that T Ltd has an option to sell its products in the ratio 2:2:4

Required:

(a) Calculate T Ltd's breakeven point in terms of revenue per product and in total based on:

(i) the product mix of 3:4:2 for products X: Y: Z, respectively. (8 marks)

(ii) the product mix of 2:2:4 for products X: Y: Z, respectively. (5 marks)

(b) Based on the calculations in (a) above and ignoring other commercial considerations, which sales product mix option is preferable? Show workings and give reasons that support your answer of the preferred mix option. (5 marks)

(c) Given the annual target profit of K9,800,000, calculate T Ltd's budgeted sales in units by product for the year 2023 on the assumption that the budgeted sales mix is 3:4:2. (5 marks)

In July 2023, the Production Manager approached you as the Management Accountant for costing advice in relation to Product W. This was a one-off order which was received from a client. The Production Manager informed you that the Client is willing to pay up to a maximum of K88,000 and that a competitor is willing to take this order at this price. The Production Manager was considering charging a minimum of K100,000 as it was above the costs of the product. The costs associated with Product W were:

	K
Material R	12,000
Material Q	24,000
Direct Wages	18,000
Direct expenses	6,000
Supervision	10,000
Overheads	28,000

98,000

You establish the following from the Production Manager:

(i) Material R was in inventory and has no other use in the production department other than being used in making product W. Material R cost the company at the above stated amount. It would cost the company K7,000 to dispose of.

(ii) Material Q will have to be purchased at the price as stated above.

(iii) Direct wages related to wages for workers who will be transferred from other works to work on production of Product W. Extra workers will need to be recruited at a cost of K21,000 to replace the work force that will be transferred to production of Product W.

(iv) Direct expenses relate to the cost of hiring a special machinery that will specifically be used in production of product W.

(v) Supervision relates to the allocated cost to be carried out by existing staff within their normal duties.

(vi) Half of the overheads relate to the directly attributable overheads to product W. The rest of the overheads are committed costs.

(vii) T Ltd is operating above the breakeven point and has spare capacity to undertake additional works.

Required:

(d) Write a report to the Production Manager, in which you show him the costing for Product W, clearly stating why you have included those costs in the costing and why other costs have been excluded, if any. Further the report should advise the Production Manager on whether T Ltd should go ahead and tender for the one-off order at the price being offered by the client, giving reasons for the advice, and the minimum price that should accepted should there be a push back from the client.

(17 marks)

[Total: 40 Marks]

SECTION B

There are four (4) Optional scenario Questions in this section. Attempt any THREE (3) questions.

QUESTION TWO

Nchelenge Milling Company Ltd (NMC) was established in 2020. NMC produces maize meal for both domestic and commercial customers. The company packaging is in 5kgs, 10kgs and 25kgs. Since 2020, NMC has used variable (marginal) costing as the basis for its management accounts. During its last management meeting on 12 December 2022, the Managing Director suggested that it would be much simpler and more appropriate for the company to use absorption costing rather than variable (marginal) costing. He wondered how the change would affect profit.
Management accounts for the 5kg bag of maize meal for the month of December 2022, prepared using variable (marginal) costing, are shown below:

	K	K
Sales (see Note 1)		1,062,500
Cost of sales:		
Opening inventory (See Note 2)	44,800	
Production	672,000	
	716,800	
Closing inventory	(16,800)	
Cost of goods sold		(700,000)
Contribution		362,500
Fixed costs		
- Production overheads (see Note 4)		(153,000)
- Selling and administrative overheads		(50,000)
Profit		159,500

Notes:

1. Each bag has a selling price of K42.50
2. At 1 December, NMC had 1,600 bags in inventory.
3. The variable (marginal) cost per bag has remained at the same level since the company began operating.
4. Total fixed production overheads are budgeted to be K1,836,000 for this product for the year.
5. The Cost Accountant has suggested that fixed production overheads may be absorbed into production using budgeted production in units. Total budgeted production for the year is 216,000 bags to be split equally over the twelve-month period.
6. Assume that actual fixed production overheads are equal to budgeted one for the month of December.

Required:

(a) Calculate the product cost of 5kg bag of maize meal based on absorption costing. (3 marks)

(b) Prepare an income statement for the maize meal for the month of December using absorption costing. (12 marks)

(c) Reconcile the profit using marginal costing with the profit calculated using absorption costing in (b) above. (3 marks)

(d) Give two (2) reasons why a company may prefer to use absorption costing rather than marginal costing. (2 marks)

[Total: 20 Marks]

QUESTION THREE

(a) Bits Digital Tech Ltd is a computer accessories manufacturer. The products are assembled from various locations and the production operatives are paid on a piece work basis. However, the company is concerned with the high rates of rejects from the operatives and thus, has altered the piece work payment scheme by charging a penalty of 25% of the equivalent good unit production rate on rejects made by any of the operatives. This penalty is charged against an operative total earned income from good units produced.

The piece work scheme to be applied to all good products in a week is as follows:

0 – 50 units	K16.0 / unit
51 – 100 units	K19.2 / unit
101 – 150 units	K22.4 / unit
Over 150 units	K25.6 / unit

It should be noted that only additional units qualify for the higher rates in both cases (i.e. good units and rejects).

The following output was achieved by four operatives during the third week of April 2022:

Operative	**Abigail**	**Bernard**	**Cecilia**	**Daniel**
	units	units	units	units
Output (excluding Rejects)	260	300	240	280
Rejects	60	80	50	55

Required:

(i) Calculate separately the net earnings of each operative for the third week of April 2022. (8 marks)

(ii) Explain two (2) advantages and two (2) disadvantages of a high day rate scheme. (4 marks)

(b) The production manager has heard of the following inventory management terms:

- Just in time and
- economic order quantity.

Required:

(i) Explain two (2) problems associated with Just-in-time inventory system. (4 marks)

(ii) Explain two (2) principles of the Economic Order Quantity (EOQ) inventory control system. (4 marks)

[Total: 20 Marks]

QUESTION FOUR

Xie Yang Ltd (XY Ltd), a company in the Kabwe economic zone, produces plastic bottles made from recycled plastic materials. XY Ltd has developed a new process to manufacture the plastic bottles with minimal environmental impact. At the peak of covid-19 in 2021, the manufacturing process was filmed by the company's marketing staff and uploaded to social media sites. This resulted in a substantial increase in sales in 2022. The Managing Director of XY Ltd is delighted with the increased sales and keen to see how this compares to the budgeted figures for 2022. Budgeted and actual information for the month of October 2022 is presented below.

Budgeted information:

Production and sales in units	33,600
Selling price per bottle	K4.50
Direct materials: recycled plastic – 2,520kgs	K8,064
Direct labour – 1,680 hours	K81,984
Variable production overhead	K8,064
Fixed production overhead	K21,504

All budgeted production overheads are based on direct labour hours.

Actual information:

Production and sales in units	42,000
Selling price per bottle	K4.70
Direct materials: recycled plastic	K10,920
Direct labour	K113,022
Variable production overhead	K9,072
Fixed production overhead	K25,326

Required:

(a) Prepare a budgetary control statement for the month of October 2022. (12 marks)

(b) Describe four (4) types of responsibility centres. (8 marks)

Total 20 Marks]

QUESTION FIVE

A Sugarcane Company has three (3) production departments, A, B and C and two s(2) ervice departments, Accounts and Stores**.** The analysis of overheads for March 2023 were as follows:

Description	Total cost	Dept. A	Dept. B	Dept. C	Accounts	Stores
	K	K	K	K	K	K
Rent	25,000	-	-	-	-	-
Power	15,000	-	-	-	-	-
Light	10,000	-	-	-	-	-
Advertising	-	15,000	18,000	12,000	8,000	6,000
Maintenance	-	2,500	3,300	2,200	1,800	2,000
Indirect labour	-	6,000	7,000	3,000	5,000	4,000
Depreciation – Building	30,000	-	-	-	-	-

Depreciation – Motor Vehicle	15,000	-	-	-	-	-
Insurance -Building	12,000	-	-	-	-	-
Insurance – Motor vehicle	5,000	-	-	-	-	-
Total	**112,000**	**23,500**	**28,300**	**17,200**	**14,800**	**12,000**

Additional Information:

Description	**Dept. A**	**Dept. B**	**Dept. C**	**Accounts**	**Stores**
Floor area (m^2)	3,500	2,000	2,000	1,500	1,000
Buildings (K)	50,000	16,000	12,000	10,000	8,000
Motor vehicles (K)	2,000	1,500	2,000	1,000	1,800
Horse power (%)	50	20	15	5	10
Accounts (%)	20	50	20	-	10
Stores (%)	20	60	10	10	-

Required:

(a) Calculate the overheads cost for each department. (10 marks)

(b) Calculate the total cost of re-apportioning service costs using the **reciprocal** method. (5 marks)

(c) Explain five (5) examples of cost classification by function. (5 marks)

[Total: 20 Marks]

END OF PAPER

CA 2.2: MANAGEMENT ACCOUNTING SUGGESTED SOLUTIONS

SOLUTION ONE

(a)

i) **T Ltd breakeven point in terms of revenue by product and in total (3:4:2)**

1. Product

Product	X	Y	Z
	K	K	K
Selling price	100	125	110
Variable cost:			
Direct materials	(40)	(50)	(60)
Direct labour	(30)	(35)	(40)
Variable production overheads	(10)	(15)	(20)
Contribution per unit	20	25	(10)

2. Contribution per mix = 3:4:2

   Contribution per mix = (K20 × 3) + (K25 × 4) + (-K10 × 2) = K140

3. Breakeven point in terms of the number of mixes
   = fixed costs/contribution per mix
   = K4,200,000/K140
   = 30,000 mixes

4. Breakeven point in terms of units, revenue by products and in total

Product	Units	Selling price/Unit	Total Revenue
		K	K
X (30,000 × 3)	90,000	100	9,000,000
Y (30,000 × 4)	120,000	125	15,000,000
Z (30,000 × 2)	60,000	110	6,600,000
TOTAL			30,600,000

(ii) **Timeline Ltd breakeven point in terms of revenue by product and in total (2:2:4)**

1. Contribution per mix = 2:2:4

   Contribution per mix = (K20 × 2) + (K25 × 2) + (-K10 × 4) = K50

1

2. Breakeven point in terms of the number of mixes
   = fixed costs/contribution per mix
   = K4,200 000/K50
   = 84,000 mixes

3. Breakeven point in terms of units, revenue by products and in total

Product	Units	Selling price/Unit	Total Revenue
		K	K
X (84,000 × 2)	168,000	100	16,800 000
Y (84,000 × 2)	168,000	125	21,000,000
Z (84,000 × 4)	336,000	110	36,960,000
TOTAL			74,760,000

(b) **Preferred Sales Product Mix**

The preferred sales product mix is the one that has the highest average contribution per unit sold.

The average contribution for first mix (3:4:2 = 9 products) is K140 ÷ 9 = K15.56.
The average contribution for second Mix (2:2:4 = 8 products) is K50 ÷ 8 = K6.25.

On the basis of the above workings, the first mix is preferable to the second mix.

This is because it results in a lower level of sales to break even at K30,600,000 as compared to K74,760,000 for the second mix. Further, the first mix contains a higher proportion at 44.44% (4/9) of the more profitable product in comparison to 25% (2/8) of the more profitable product in the second mix.

(i) **T Ltd budgeted sales in terms of units by product for the year 2023**

Calculation of the required number of mixes.
= (fixed costs+ target Profit)/contribution per mix
= (K4,200,000+ K9,800,000)/K140
= K14,000,000/K140
= 100,000 mixes

(ii) Budgeted sales in terms of the number of units of the products

Product X = (100,000 × 3) = 300,000 units
1

Product Y = (100,000 × 4) = 400,000 units
1

Product Z = (100,000 × 2) = 200,000 units

(c) **Report to the Production Manager**

To: Production Manager

From: Management Accountant

Date: xxxxxxx

Subject: Costing of One-Off Order

Following your request for the costing of a one-off order of product W from a client, I wish to advise that the relevant costs for the costing of a one-off order for the client are the incremental costs. Non-incremental costs are irrelevant in the costings.

On that basis, the costing of the one-off order is as follows:

	K	
Material R (Note 1) - saving		(7,000)
Material Q (note 2)	24,000	
Direct Wages (Note 3)	21,000	
Direct expense (Note 4)	6,000	
Supervision (Note 5)		0
Overheads (50% x 28,000) (note 6)		14,000
Total relevant cost	58,000	
Contract Price		88,000
Production cost of Product W		58,000
Contribution	30,000	

Notes:

1. The K12,000 cost of material is irrelevant as the materials has no other use in the production department. However, the cost of disposing of material R is a saving if the material is used in production of product W, hence relevant.
2. The cost of purchasing material Q is the incremental cost and hence relevant
3. The cost of recruiting additional workers to replace those that will work on Product W is an additional cost and hence relevant to the order. The wages of the existing workers are irrelevant to the costing.
4. The hiring of a special machine represents an additional cost and hence relevant to the costing of the product
5. Supervision costs will still be incurred even if the one-off order is not accepted and hence irrelevant.
6. Half of the overheads are directly attributable to production of Product W and hence relevant.

Since the company is operating above the breakeven point, any additional contribution from the one-off order will result in an increase in profits. Given that the

K88,000 price offered by the client results in a contribution of K30,000, and that the company has spare capacity, it should tender for the product. The minimum price that it should accept should there be a push back from the client is any price above the relevant cost of the producing Product W of K58,000.

Signed by:

Management Accountant

SOLUTION TWO

(a) **Calculation of product cost using absorption costing**

Variable product cost *	K28.00
Fixed production overhead **	K8.50
Total product cost per bag	K36.50

Workings:
* Variable product cost
Opening inventory value = opening inventory in units x variable production cost per unit
=> variable production cost per unit = opening inventory value/opening inventory in units
=> variable production cost per unit * = K44,800/1,600 = **K28**
** Fixed production overheads per year K1,836,000.
Normal production capacity per year 216,000 bags
Fixed production overhead absorption rate per unit (K1,836,000/216,000) = **K8.5**

(b) **Income statement for NMC for the month of December 2022 using Absorption costing**

	K	K
Sales		1,062,500
Cost of Sales:		
Opening Inventory (1,600 x K36.50)	58,400	
Production (24,000 x K36.50)	876,000	
	934,400	
Closing Inventory (see W1) (600 x K36.50)	(21,900)	
	912,500	
Over absorbed overhead (see W2)	(51,000)	(861,500)
Gross profit		201,000
Selling and administrative overheads		(50,000)
Profit		151,000

Workings
1. Calculation of changes in inventory bags

Opening inventory	1,600
Production (K672,000/28 (see above))	24,000
Total inventory available	25,600
Sales (K1,062,500/K42.50)	25,000
Closing inventory	600

W2 Calculation of Under/Over absorbed overhead

Actual fixed production overhead	153,000

Absorbed fixed production overhead (24,000 units x K8.5)	204,000
Over absorbed overhead	51,000

(c) **Reconciliation of absorption and marginal costing profit figures**

	K
Profit per marginal costing	159,500
Adjustment for fixed production overhead absorbed in inventory (1,600 – 600) x K8.5	(8,500)
Profit per absorption costing	151,000

(d) **TWO reasons why a company may prefer absorption costing to marginal costing**

Any TWO of the following reasons:

- Financial accounting requires that absorption costing is used to cost products.
- Absorption costing avoids having to separate costs into their fixed and variable elements.
- Absorption costing does not underestimate the importance of fixed production overheads.
- By calculating and analysing the under/over absorbed overheads in absorption costing, inefficient utilisation of resources may be revealed.
- Absorption or full costing is a better basis for calculating selling prices.

SOLUTION THREE

(a) Labour

(i) Net earnings

Operatives	Abigail	Bernard	Cecilia	Daniel
Good units	260	300	240	280
	K	K	K	K
0 - 50	800	800	800	800
51 - 100	960	960	960	960
101 - 150	1,120	1,120	1,120	1,120
Above 150	2,816	3,840	2,304	3,328
Gross wages	5,696	6,720	5,184	6,208
Rejects	60	80	50	55
	K	K	K	K
0 - 50	800	800	800	800
25% X K16 X 50	200	200	200	200
25% x K19.2 x 10/30/5	48	144	-	24
Total penalty	248	344	200	224
Net wages	**5,448**	**6,376**	**4,984**	**5,984**

(ii) High day rate scheme

Advantages

1. It is simple to calculate and easy to understand
2. It guarantees the employee a consistently high wage

Disadvantages

1. Employees cannot earn more than the fixed hourly rate for their extra effort.
2. There is no guarantee that the scheme will work consistently.
3. Employees may prefer to work at a normal rate of output, even if this entails accepting the lower wage paid by comparable employers.

(b) Inventory management

(i) JIT might not be appropriate in all circumstances.

1. A supplier that does not deliver goods to the company exactly on time and in the correct amounts could seriously impact the production process.
2. A natural disaster could interfere with the flow of goods to the company from suppliers, which could halt production almost at once.
3. A company may not be able to immediately meet the requirements of a massive and unexpected order, since it has few or no stocks of finished goods.

(ii) The economic order quantity (EOQ) is the order quantity which minimises inventory costs. A fixed quantity is ordered at variable intervals of time. EOQ theory assumes that the average inventory held is equal to one half of the reorder quantity. The EOQ is used as part of a continuous review inventory system in which the level of inventory is monitored at all times and a fixed quantity is ordered each time the inventory level reaches a specific reorder point. The EOQ provides a model for calculating the appropriate reorder point and the optimal reorder quantity to ensure the instantaneous replenishment of inventory with no shortages. The EOQ model assumes that demand is constant, and that inventory is depleted at a fixed rate until it reaches zero. At that point, a specific number of items arrive to return the inventory to its beginning level. Since the model assumes instantaneous replenishment, there are no inventory shortages or associated costs. Therefore, the cost of inventory under the EOQ model involves a tradeoff between inventory holding costs (the cost of storage, as well as the cost of tying up capital in inventory rather than investing it or using it for other purposes) and order costs (any fees associated with placing orders, such as delivery charges). Ordering a large amount at one time will increase a small business's holding costs, while making more frequent orders of fewer items will reduce holding costs but increase order costs. The EOQ model finds the quantity that minimizes the sum of these costs.

$$\textbf{EOQ} = \sqrt{\frac{2C_0D}{C_H}}$$

where C_H = cost of holding one unit of inventory for one time period

C_0 = cost of ordering a consignment from a supplier

D = demand during the time

SOLUTION FOUR

(a) **Profit statement**

Budgetary control statement

	Flexed Budget	Actual results	Variances
Production and sales in units	42,000	42,000	-
	K	K	K
Sales	189,000	197,400	8,400(F)
Direct materials	10,080	10,920	840(A)
Direct labour	102,480	113,022	10,542(A)
Variable production overhead	10,080	9,072	1,008(F)
Fixed production overhead	21,504	25,326	3,822(A)
Profit	44,856	39,060	5,796(A)

Workings

Standard cost card Per unit

	K/unit
Direct materials (2,520Kgs/33,600 units) = 0.075 Kgs x (K8,064/2,520 Kgs)	0.24
Direct labour (1,680 hrs/33,600 units) = 0.05 hr x (K81,984/1,680 hrs)	2.44
Variable production overhead 0.05 hr x (K8,064/1,680 hrs)	0.24
Fixed production overhead 0.05 hr x (K21,504/1,680 hrs)	0.64
Total product cost	3.56
Selling price	4.50
Standard profit margin	0.94

(b) **Responsibility centres**

A **cost centre** is an area of the business for which costs can be ascertained. This may be an entire factory or a smaller area such as a single machine. The manager responsible for a cost centre has authority regarding the costs incurred by his/her area of responsibility and should be held responsible for controlling the costs.

A **revenue centre** is an area of the business for which revenues can be ascertained. The revenue centre manager will be responsible for revenue.

A **profit centre** is an area of the business for which both revenues and costs can be ascertained and therefore a profit or loss for a period can be determined. Often profit centres are larger areas of the business such as an entire division or geographical sales area. The manager of the profit centre has authority over both costs and income and is responsible for the profit and thereby variances for both costs and revenues.

An **investment centre** is similar to a profit centre, the difference being that the manager of an investment centre is responsible not only for the profit that is earned by the area of the business but also the net assets of the area of the business. Investment centres will often be entire divisions. The manager of an investment centre not only has authority over the costs and income of the centre but also over its assets and liabilities. A measure called 'return on capital employed' is calculated to determine how well the manager of an investment centre is performing.

SOLUTION FIVE

(a)	Overheads	Basis	Dept A	Dept B	Dept C	Accounts Dept.	Stores Dept.	Total
	Advertising Costs	Allocated	15,000	18,000	12,000	8,000	6,000	**59,000**
	Maintenance	Allocated	2,500	3,300	2,200	1,800	2,000	**11,800**
	Indirect Labour:	Allocated	6,000	7,000	3,000	5,000	4,000	**25,000**
	Apportionment							**-**
	Rent	Floor Area	8,750	5,000	5,000	3,750	2,500	**25,000**
	Power	Horse Power	7,500	3,000	2,250	750	1,500	**15,000**
	Light	Floor Area	3,500	2,000	2,000	1,500	1,000	**10,000**
	Building Depreciation	Building Value	15,625	5,000	3,750	3,125	2,500	**30,000**
	M/V Depreciation	M/V Value	3,615	2,711	3,614	1,807	3,253	**15,000**
	Building Insurance	Building Value	6,250	2000	1,500	1250	1000	**12,000**
	M/V Insurance	M/V Value	1,205	904	1,205	602	1,084	**5,000**
	Total		**69,945**	**48,915**	**36,519**	**27,584**	**24,837**	**207,800**

(b)	Overheads	Basis	Dept A	Dept B	Dept C	Accounts Dept.	Stores Dept.	Total
	Apportionment of O/H		**69,945**	**48,915**	**36,519**	**27,584**	**24,837**	

	Accounts Dept	%	5,517	13,792	5,517	(27,584)	2,758	
	Stores Dept	%	5,519	16,557	2,759	2,760	(27,595)	
	Accounts Dept	%	552	1,380	552	(2,760)	276	
	Stores Dept	%	55	166	27	28	(276)	
	Accounts Dept	%	6	14	5	(28)	3	
	Stores Dept	%	1	2	0	0	(3)	
	Total		**81,595**	**80,826**	**45,379**	**0**	**0**	**207,800**

(c) **Classification by Function Examples**

(i) **Production costs:** These are costs incurred by the sequence of operations beginning with the supply of raw materials and ending with the completion of products ready for warehousing as finished goods items.
(ii) **Administrative Costs:** These are costs of managing an organization, that is, planning and controlling its operations.
(iii) **Selling or marketing costs:** These are costs of creating demand for products and securing firm orders from customers.
(iv) **Distribution Cost:** These are costs of the sequence of operations with the receipt of finished goods from production department and making them ready for dispatch and ending with the reconditioning for reuse of empty containers.
(v) **Research Cost:** These are costs incurred in the searching for new or improved products.
(vi) **Financing Costs:** These are costs incurred in financing the business such as loan interest.

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

APPLICATION ADVANCED DIPLOMA IN ACCOUNTANCY

CA 2.3: AUDITING PRINCIPLES AND PRACTICE

THURSDAY 14 DECEMBER 2023

TOTAL MARKS – 100; TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question. You will be told when to start writing.

2. This paper is divided into TWO (2) sections:
   Section A: One (1) Compulsory scenario question.
   Section B: Four (4) Optional Questions. Attempt any Three (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Present legible and tidy work.

9. Graph paper (if required) is provided at the end of the answer booklet.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

SECTION A

This question is compulsory and must be attempted.

<u>QUESTION ONE – COMPULSORY</u>

Your firm of Chartered Accountants has been appointed auditor of Quality Blocks Ltd of the financial statements for the year ended 31 December 2022. Quality Blocks Ltd is involved in the manufacturing of various types of blocks and pavers. This is the first time your firm will audit financial statements of a company in this industry. Fortunately, Rose who was the Financial Accountant for Quality Blocks Ltd resigned and joined your firm as Senior Auditor.

Quality Blocks Ltd requested your firm to assist in recruiting a replacement Financial Accountant. The company acquired a new accounting package in the year under review and parallel running with the existing system was successfully completed. There has been no replacement to Rose and the company requested your firm to help finalize the preparation of the financial statements in readiness for the audit. You plan to include Rose in the audit team in view of the relevant experience she has in the operations of Quality Blocks Ltd.

Competition in this industry has increased in the last three (3) years resulting in the company coming up with new strategies to increase sales. In the current year, the company negotiated one (1) month credit sales of blocks to four (4) construction companies. The age analysis shows that credit days have increased from 40 days in the past to 90 days at the year end and this is attributed to customers delaying in paying because of delays by their clients paying them. Another strategy adopted by Quality Blocks Ltd is that of allowing customers to pay for purchases over a three (3) months period and collect the blocks or pavers after full payment has been received. This strategy is aimed at improving the poor liquidity position of the company.

Quality Blocks Ltd. resolved to diversify its operations into the sales of cement and excess quarry that it does not require for its own use. At the year end, the company holds large stocks of quarry, cement and finished stocks.

The Plant and Equipment of Quality Blocks Ltd is old resulting in frequent break-downs and is operating below capacity. The company is experiencing difficulties in meeting customer demands. In June 2022 management decided to carry out refurbishments and repairs of equipment.

You have been assigned Audit Manager on the audit of the financial statements of Quality Blocks Ltd for the year ended 31 December 2022. You do not expect to have problems undertaking this audit because of Rose who will be part of the audit team and the knowledge that you have in this industry being a member of the Board of Directors of United Blocks Ltd a company in the same industry. Your, wife who is a supplier of cement, is the major supplier of cement to Quality Blocks Ltd.

As part of planning the audit, you wish to carry out a risk assessment of Quality Blocks Ltd and if the internal controls will be found to be operating effectively during the period under review this will limit the nature and extent of substantive tests that you will perform. You will be required at the planning stage to compute the materiality level for the financial statements as a whole and that for any other items with different risk characteristics.

The Directors of Quality Blocks Ltd would like the audit to be completed three (3) weeks before the planned date. This is because the major shareholder who is based overseas will be in the country at that time and he would like to examine the audited financial statements. The Directors offered to pay allowances to the audit team members for working late and that if the audit is completed in time all audit team members would be sponsored for dinner at a leading hotel.

Required:

(a) Identify and explain six (6) audit risks at the planning stage of the audit of the financial statements of Quality Blocks Ltd. (9 marks)

(b) Suggest a suitable response for each of the audit risks identified in (a) above. (6 marks)

(c) Discuss five (5) ethical issues in the audit of the financial statements of Quality Blocks Ltd. and suggest suitable safeguards that should be put in place. (10 marks)

(d) State five (5) areas where professional judgment can be applied in the audit of the financial statements of Quality Blocks Ltd. (5 marks)

(e) (i) Explain the firm's response if audit risk is assessed as being higher than the acceptable level of risk in *accepting* and *continuing* with audit engagements. (6 marks)

(ii) Explain the relationship between audit risk and the materiality level set at the planning stage of the audit. (4 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any THREE (3) questions.

QUESTION TWO

You work for King & Bruce Chartered Accountants as an Audit Senior. Your firm has been in existence for five (5) years.

You are planning the audit of the financial statements of Kalomo Transport Ltd. for the year ended 31 December 2022. As part of assessing the risk of misstatement through understanding the entity and its environment, you wish to identify the internal control activities of Kalomo Transport Ltd. You assigned one (1) of the Audit Assistants to do this and you requested him to record the internal control systems of stores and goods received using Internal Control Questionnaires (ICQs) or Internal Control Evaluation Questionnaires (ICEQs). The Audit Assistant is wondering why you wish to evaluate the internal control activities when the results of the tests of controls will still perform substantive procedures.

Kalomo Transport Ltd has a stores department that receives goods purchased and is responsible for storage and issue of the goods. On receipt of goods, the Stores Officer checks the goods to ensure that they are the correct goods and ensure they are not damaged. If all is well, a Goods Received Note (GRN) is raised and the receipt is recorded on the stock card. The issuing of goods out of stores is based on authorized Stores Requisitions. A Goods Issue Note (GIN) is raised and this is signed by the recipient as evidence of receipt of the goods.

The company has a significant number of slow-moving items which have no alternative use and provision for obsolesces has been made in the year under review. Kalomo Transport Ltd has a large fleet of heavy-duty trucks and disposes large quantities of used oil every month. The environmental legislation is strict on violations of the laws relating to wrong disposal of hazardous substances. On inquiring of the system used for the disposal of used oil, management assured the audit team that this is done within the provisions of the law. There was no written evidence to show the system in use for the disposal of the used oil.

You requested management to give you written representations on its assessment of Kalomo Transport Ltd.'s ability to continue as a going concern. Management was of the view that the company is a going concern. You are concerned about the indebtedness of the company and its poor liquidity. The company has a loan secured on the fleet of vehicles which the company is failing to service in accordance with the loan agreement. At your request, management gave you a cash flow forecast for the next twelve (12) months which shows positive cash position during this period.

Before you concluded the risk assessment, the Audit Manager called you for a meeting that was called by the Engagement Partner. This follows the receipt of an email by the Engagement Partner of a planned visit by the Zambia Institute of Chartered Accountants (ZICA) Practice Review Directorate staff. This will be the first time that the firm will be subject to a ZICA review of its operations. You have been asked to go through the Accountants Act of 2008 and summarize for the Engagement Partner the purpose of the visit.

Required:

(a) Identify and explain four (4) areas in which the audit team should be skeptical about in the conduct of the audit of the financial statements of Kalomo Transport Ltd. (4 marks)

(b) Explain four (4) ways in which the Zambia Institute of Chartered Accountants (ZICA) regulates auditors in Zambia. (4 marks)

(c) (i) Explain how internal controls can impact the work of King & Bruce Chartered Accountants. (2 marks)

(ii) Explain two (2) reasons why external auditors require to perform substantive audit procedures despite placing reliance on internal controls. (4 marks)

(d) (i) Explain the objectives of Internal Control Questionnaires (ICQs) and Internal Control Evaluation Questionnaires (ICEQs). (4 marks)

(ii) Design one (1) suitable question each related to goods received that can be included in the Internal Control Questionnaire (ICQ) and Internal Control Evaluation Questionnaire (ICEQ). (2 marks)

[Total: 20 Marks]

QUESTION THREE

(a) Your Audit Manager, has requested you to provide training to New Audit trainees on "professional skepticism", "reasonable assurance" and "limited assurance".

Required:

(i) Explain the importance of "professional skepticism" when performing an audit. (2 marks)

(ii) Explain the difference between "reasonable assurance" and "limited assurance". (3 marks)

(b) Kings Co (Kings) is a producer of mojo drink. The company's year-end is 31 March 2023. You are an Audit Supervisor of Nganga & Co. and are currently reviewing extracts of documentation of Kings internal control systems.

Production raw materials are purchased from different suppliers. Due to employees' resignations in the creditors department, suppliers' accounts reconciliations are no longer performed. Credit customers undergo credit checks prior to being accepted and credit limits are set by a senior sales ledger clerk. Customers place their orders through the sales supervisor, who decides on sales discount levels.

The Human Resources department has been very busy and to ensure operational efficiency, the payroll department has helped by setting up any new employees who have joined. On 1 January 2023, employees' salaries were increased by 5% by the Finance Director and he directed the payroll accountant to make changes to the payroll details in the payroll master file. The changes were done as directed.

In order to prudently manage cash flows, Kings has a policy of delaying payments to all suppliers for four (4) months. Suppliers are paid using on-line payments and the Finance Director is given the total amount of the payments list, which he authorises and then processes the on-line bank payments.

Required:

(i) Identify and explain five (5) deficiencies in the internal control systems of Kings Co, and suggest a recommendation to overcome each deficiency. (10 marks)

(ii) State five (5) elements of an assurance engagement. (5 marks)

[Total: 20 Marks]

QUESTION FOUR

Bonde Ltd sells cleaning chemicals it imports from Europe. Mr. Mambwe is the Managing Director and Chairman whiles his nephew and son as co-directors. The son supervises an accounting staff of four (4) employees.

The company opened four (4) branches in Lusaka, Kitwe, Kabwe and Chingola. This necessitated the need to recruit more accounting staff as current workforce was overwhelmed with work and at times errors and omissions occur when recording transactions in the books of account. The company has not appointed external auditors and most of the internal audits are done by the son to the Managing Director who has little knowledge of accounting.

The Managing Director single handedly appointed ZET Chartered Accountants as external auditors. He justified the appointment as quicker and cost effective and that it is important to provide checks and balances on accounting staff in the shortest possible time.

The Managing Director has been reading and attending workshops on Corporate Governance. Some of the recommendations he came across included the need of appointing a Board of Directors with committees such as nominations, risk, audit and remuneration committees. These are needed in order to strengthen governance structure and avoid mismanaging of the company.

ZET Chartered Accountants begun the audit of the financial statements of Bonde Ltd and the audit team discovered that a lot of supporting documents for transactions had gone missing especially those involving large amounts of money. Some of the cash receipts that were recorded did not have supporting documents. The accountant who is in charge of receivables and payables was dismissed from employment after being suspected of fraudulent activities. ZET Chartered Accountants assessed the risks as significant and were planning to respond to them.

Bonde Ltd pays its casual workers on cash basis according to an hourly rate and the hours worked. All related benefits are checked to the statutory documents before they are deducted and remitted to the Zambia Revenue Authority (ZRA).The details of all employees who resign and newly employed are sent to the payroll department and a copy is retained by the Human Resources department. For wages paid on cash basis, the cashier withdraws cash from the bank and the payroll clerk effects the payments to casual workers in pay packets.

Required:

(a) (i) Explain why the appointment ZET Chartered Accountants is not valid.

(2 marks)

(ii) Suggest how the appointment of ZET Chartered Accountants can be regularized. (2 marks)

(iii) Explain the functions of the following board committees:

1. Nomination committee (1 mark)
2. Risk committee (1 mark)
3. Audit committee (2 marks)
4. Remuneration committee (1 mark)

(b) Explain five (5) ways in which external auditors can respond to assessed risks of Misstatements in Bonde Ltd, accordance with ISA 330 *the auditor's responses to Assessed risks.* (5 marks)

(c) State and explain two (2) audit procedures for each of the following assertions on the payroll of Bonde Ltd:

1. Completeness (2 marks)
2. Cut-off (2 marks)
3. Accuracy (2 marks)

[Total: 20 Marks]

QUESTION FIVE

Nshimbi Hardware was established in 2015 and is involved in the purchase and sales of a wide range of hardware. It was started by Phiri who used his retirement benefits as capital.

Your firm of Chartered Accountants was engaged as the first auditors of Nshimbi Hardware. In line with the firm's procedures, you prepared a letter of engagement a copy of which was given to Phiri.

Nshimbi Hardware has grown in the last three (3) years and expanded its business to the Copperbelt and opened another branch in Lusaka. It became increasingly difficult for Phiri to manage the company. In January 2022 Phiri decided to incorporate his business and the shares were held equally by Phiri and three (3) other shareholders. Nshimbi Hardware was incorporated as Nshimbi Hardware Ltd.

At the first meeting of the shareholders, it was resolved that the company should change its way of doing business. In view of the fact that only Phiri was involved in the day to day running of the business, it was agreed that management be put in place to run the company and immediately put in place systems for procurement and sales. It was further agreed that instead of a review of the financial statements, an audit giving reasonable assurance should be conducted annually. In view of the changed status of the company the financial statements would require to be prepared in accordance with the regulations for incorporated organizations.

You have been appointed Audit Senior on the audit of the financial statements of Nshimbi Hardware Ltd for the year ending 31 December 2022. You called for a pre-audit meeting with the audit team members. Among other matters discussed at this meeting is the need for the audit team to obtain sufficient appropriate audit evidence of the transactions and balances in the financial statements. This will require that the audit tests that will be conducted should be designed in such a way that they test the financial statement assertions contained in the financial statements. At the time of incorporating the company, there were two (2) motor vehicles with net book values of K340,000 and K450,000 respectively. These motor vehicles were replaced by new ones and were sold for K410,000 and K310,000 respectively.

Required:

(a) (i) Explain the meaning and purpose of a letter of engagement. (2 marks)

(ii) Evaluate and explain four (4) matters that may necessitate revisions in the terms of the engagement with Nshimbi Hardware Ltd. (8 marks)

(b) Suggest five (5) audit procedures that should be performed on the disposal of motor vehicles stating the relevant financial statements assertion in each case. (10 marks)

[Total: 20 Marks]

END OF PAPER

CA 2.3 AUDITING PRINCIPLES AND PRACTICE SUGGESTED SOLUTIONS

SOLUTION ONE

(a)/ (b) Audit risks in the audit of financial statements of Quality Block Ltd:

(a) Audit risk	(b) Suitable response
1.First time audit in this industry: The firm will be auditing a client in this industry for the first time. It is likely that the firm does not poses the necessary skills to undertake the audit. Detection risk that the auditors may not detect material misstatements is high.	Emphasize to the audit team the need to apply professional skepticism throughout the audit. Close supervision of the work being done will also be necessary.
2.Opening balances: Since the previous year financial statements were audited by different auditors, there is a risk that opening balances may be materially misstated which could result in the misstatement of current year financial statements.	Specific audit procedures should be performed on opening balances. Further, during the audit of the current year financial statements look out for any evidence that could confirm opening balances.
3.Extended credit: There is a risk that receivables will be irrecoverable due to the extended credit that has been given to the contractors.	Review the allowances for receivables at the period end and ensure determined in accordance with the provisions of relevant accounting standards. Seek third party confirmation of selected receivables to confirm recoverability.
4.Valuation of inventory: The company has large stocks of quarry at the end of the accounting period. Inventory is a material figure in the financial statements of manufacturing companies. The firm may not have the skills to determine the quantity and value of quarry and there is a risk that inventory many be misstated.	Consider engaging the services of an auditor expert to help determine the quantity and value of the quarry at the period end.

5.Advance payments for products: The advance payment for products paid for in advance of collection may be classified as revenue at the year end. Revenue should only be recognized when full payment is received and goods delivered. There is a risk that revenue in the financial statements may be overstated.	Review all advance payments made in the last three months of year and ensure that those for which goods have not been supplied are classified as a liability rather than revenue.
6.Impairment of plant & equipment: It is clear that the equipment used by Quality Blocks Ltd is impaired and should be written down to recoverable amounts. There is a risk that management has not performed an impairment review resulting in plant & equipment being overstated.	Inquire from management whether an impairment review has been done and if so perform audit procedures on the impairment. If nor done request management to perform an impairment review of plant and equipment.
7.Repair costs classification: Substantial amounts spent on repairs and refurbishment could be mis-allocated between revenue and capital expenditure resulting in the financial statements being misstated.	Select samples of repairs and refurbishment done and inspect the supporting documentation and ensure correctly classified as either revenue or capital expenditure.

(c) Ethical issues in the audit of the financial statements of Quality Blocks Ltd:

Ethical issue:	**Suitable safeguard:**
1.Assignment of Rose as Senior Auditor The proposal that Rose should be assigned to the audit of the financial statements of Quality Blocks Ltd is not	Rose should not be assigned to the audit of the financial statements of Quality

correct. She recently joined the firm from Quality Blocks Ltd where she held a senior position. Assigning her to this audit will create a self-review threat and impact her objectivity.	Blocks Ltd. A different person should be assigned to this audit.
2.Request to prepare financial statements: The request for the firm to assist in the preparation of the financial statements of Quality Blocks Ltd could result in a self-review threat since the firm is required to offer assurance services.	The offer of accounting services should be by a different team and not any of those who will be assigned to perform the audit.
3.Wife of Audit Manager supplying cement: The fact that the wife of the Audit Manager is the major supplier of cement to Quality Blocks Ltd creates a self-interest threat to the Audit manager. Neither he nor a close family member should have a financial interest in a client company.	A different person should be assigned Audit Manager. Alternatively the wife of the Audit Manager should cease being a supplier of cement to Quality Blocks Ltd and have no other interest in the company.
4.Payment of allowances and dinner invitation: The offer for payment of allowances and dinner by the proprietors of Quality Blocks Ltd will give rise to a self interest on the part of the audit team members. This will affect the objectivity of the audit team members.	Unless the amounts involved are clearly insignificant, the offer for allowances and dinner should be declined by the audit team members.
5.Request for assistance in recruiting Financial Accountant: The request for the firm to help in the recruitment of a Financial Accountant for	The firm should end at shortlisting a number of possible candidates from which

Quality Blocks Ltd gives rise to a self-interest threat. This would result in the firm taking a management role.	the company should select one to employ as Financial Accountant. The firm should not take management responsibilities.

(d) Areas professional judgment should be applied:

(i) Deciding on the sample sizes to test in obtaining sufficient appropriate audit evidence.
(ii) Determining materiality at the planning stage of the audit.
(iii) Nature and extend of audit procedures to obtain sufficient appropriate audit evidence.
(iv) Determining whether sufficient appropriate evidence which will form the basis of the audit opinion has been obtained.
(v) Drawing conclusions based on work evidence obtained.
(vi) Evaluating audit risk and designing suitable responses for a client company.

(e)(i) **Accepting/continuing audit engagements when risk assessed as high:**

Auditors require to assess the risk of material misstatement both when in the process of accepting appointment as auditors and also as part of annual evaluation of existing clients.

The response of the auditors when risk is assessed as high in either situation is as follows:

In accepting engagements:

1. Consider if it is possible to reduce the audit risk to acceptable levels. The auditors may wish to consider whether they can **reduce** significantly the **detection risk.** By reducing detection risk then overall audit risk will be reduced. This can be done by the auditors testing larger number of samples in order to reduce sampling risk.
2. If the auditors conclude that audit risk cannot be reduced to acceptable levels the nomination/appointment as auditors should be **declined.**

In continuing with engagement:

1. The auditors should consider reducing audit risk by performing **more substantive** tests on higher sample sizes.
2. If the auditors consider that risk cannot be reduced to acceptable levels then they should consider **resigning** from the engagement.

(ii) **Relationship between audit risk and materiality:**

There is a direct relationship between audit risk and the materiality level set by auditors at the planning stage of an audit.

If the risk of material misstatement is assessed as high at the planning stage of the audit, the materiality level will be set at a lower level.

If on the other hand the audit risk is assessed as low at the planning stage, materiality level will be higher.

SOLUTION TWO

(a) **Areas in which the audit team should be skeptical about:**

The audit team of Kalomo Transport Ltd should apply professional skepticism in obtaining evidence in the following areas:

1. The determination of the provision for obsolescence because this is an accounting estimate and could be subject to management bias.
2. The representation by management that the company complied with the legislation with regards the disposal of hazardous materials. Non adherence with regulations could result in the withdrawal of the operating license.
3. The representations by management that Kalomo Transport Ltd is a going concern and confirmation that the assumptions made are reasonable.
4. The reliability of the cash flow forecasts given by management. Need to review assumptions made and management's ability to implement what is in the forecast.

(b) Regulation of auditors by the Zambia Institute of Chartered Accountants:

1. The issue of auditing standards which auditors are required to follow when performing audits of financial statements. ZiCA adopted the International Standards on Auditing.
2. Inspecting licensed audit firms for adherence with the auditing standards and meeting requirements to practice as auditors.
3. Registering practicing members and all accountants in Zambia.
4. Issuing audit practicing licenses and annual renewal licenses without which members cannot practice as auditors.
5. Displining erring members of the institute.

(c) (i) Impact of internal controls on an audit:

- If the results of the tests of controls conducted by the auditors show that the internal controls are not operating as expected, the auditors will not place any reliance on the internal controls and will perform and rely on substantive audit procedures.
- If the results of the tests of controls show that the internal controls are operating as expected, the auditors will use a combined approach and rely on the controls and also perform substantive audit procedures. In this case the auditors will not perform as much of

substantive audit procedures compared to when no reliance on controls is put.

(ii) Reasons why substantive tests performed:
- Auditors cannot carry out audits by simply performing tests of controls. They are required to perform substantive audit procedures for all material amounts in the financial statements.
- Tests of controls are not designed to detect material misstatements in the figures contained in the financial statements.
- Substantive tests are designed to detect material misstatements in the figures contained in the financial statements.
- Internal controls have inherent limitations such as being overridden by management and so cannot fully be relied upon in the prevention and detection of fraud and errors which could impact the financial statements.

(d) (i)/(ii) **ICQs & ICEQs**

Internal Control Questionnaire (ICQ) – Goods inwards

The objective of the Internal Control Questionnaire is to establish whether or not desirable controls exist in a given system.

For example in relation to goods received, one desirable control is that goods are inspected for quality before being accepted into stores.

The question could be phrased as follows:
Are goods examined on arrival as to quantity and quality?

Internal Control Evaluation Questionnaire (ICEQ) – Good inwards

ICEQs are designed with a view to establish whether specific errors (fraud) are possible rather than whether desirable controls exist.

For example is it possible that payment for goods/services not received be made?

The question could be phrased as:
Is there reasonable assurance that no payment can be made for goods/services not received.

SOLUTION THREE

(a) (i) **Importance of professional skepticism in auditing:**

It is important because it helps auditors to have a questioning (enquiring) mind and to be alert:

- That the financial statements may be materially misstated due to frauds or errors.
- That it is possible for management to override internal controls.
- To the audit evidence that contradicts the other audit evidence obtained.
- To questionable documents, information and responses to enquiries.

(ii) **Differences between reasonable and limited assurance:**

Reasonable assurance

- This provides high level assurance,
- Which is expressed in a positive form.
- Arises from a significant amount of work done.
- An external audit is an example of an assignment that results gives a reasonable assurance.

Limited assurance

- This provides lower level assurance,
- Resulting from lesser work compared with a reasonable assurance engagement and
- It is expressed in a negative form.
- A review engagement provides limited assurance.

(b) **(i)Deficiencies and recommendations in the internal control system:**

Deficiencies (i)	Recommendations
(1) Suppliers' accounts reconciliations Suppliers' accounts reconciliations are no longer performed. There is a risk that errors and frauds may be committed and go unnoticed and undetected, leading to loss of goodwill or funds.	Suppliers accounts reconciliations should be done regularly (e.g. monthly) by the responsible official and reviewed and signed monthly by someone senior (e.g. finance manager).

Credit limits (2) These are set by a senior sales ledger clerk. There is a risk of setting too high or too low credit limits by a relatively junior officer, which may lead to loss of revenue or irrecoverable debts (bad debts).	The credit limits should be set by someone senior (e.g. the sales manager) and these credit limits should be reviewed regularly and signed (e.g. by sales director) to minimise bad debts and loss of sales/revenue.
(3) Sales discounts The sales supervisor decides on sales discount levels. There is a risk wrong or to high discounts may be set, because the supervisor my not have the necessary skills and experience to set appropriate discounts.	The sales discounts should be set by someone senior (e.g. the sales manager) and these sales discounts should be reviewed regularly and signed (e.g. by sales director) to minimise bad debts and loss of sales/revenue.
(4) New employees The payroll department has helped by setting up any new employees who have joined. There is a risk of payroll frauds because ghost employees may be set up.	Someone senior (e.g. HR manager) should be setting up new employees, and it should be reviewed by an independent responsible official (e.g. HR director) and the review evidenced by signature.
(5) Salary increment The finance director increased employees' salaries by 5%, without the board approval and directed the payroll accountant to change payroll data. There is a risk the finance director may give more than 5% to some employees.	Any salary increment should be approved by the board to ensure that only approved salary increment is given to employees. HR and payroll departments should update the employees and payroll records accordingly.
(6) Payroll master file The payroll accountant made changes to the payroll details in the payroll master file. There is a risk of payroll frauds because ghost employees may be set up. Also wrong amendments may be done, due to lack of skills and experience.	Someone senior (e.g. finance manager) should be amending payroll data in the payroll master file, and it should be reviewed by an independent responsible official (e.g. finance director) and the review evidenced by signature.
(7) Payments policy Delaying suppliers payments for 4 months, may lead to a risk of missing out on early	Cash flow forecasting/budgeting should be done regularly. The policy of delaying payment should be reviewed or revised,

settlement discounts. Also, this can lead to a loss of supplier goodwill as well as the risk that suppliers may refuse to supply goods.	and suppliers should be paid in timely, such that supplier goodwill is not lost.
(8) Bank transfer payments The finance director only authorizes the total amount of payments to be made. There is a risk that suppliers could be paid an incorrect amount, or that sums are being paid to fictitious suppliers.	The finance director should review the whole payments list and supporting documents before authorizing. He should also agree the amounts to be paid to supporting documentation. He should evidence his approval by signing the bank transfer list.

(b)(ii) **Elements of assurance engagements**

1. Criteria
2. Responsible party
3. Evidence
4. Subject matter
5. Three party relationship

SOLUTION FOUR

(a) **Validity of the appointment of Zet Chartered Accountants:**

(i) **The appointment of auditor Zet Auditors:**
This appointment was not valid as the auditor was single handedly picked. The due process of appointing an auditor was not followed.
There are professional ethics that must be followed when being appointed as auditors.

(ii) Formalization of appointment of Zet Chartered Accountants:
The appointment of Zet Chartered Accountants may be formalized by requiring that the firm be appointment by members at a general meeting.
Once the appointment is made by the shareholders, then Zet Chartered Accountants will require communicating with the previous auditors before accepting nomination.

(iii) **The roles and functions of the following committees:**

1. **Nomination committee** – the committee is in charge of recommending appointments for directors and board members of Bonde Ltd.

2. **Risk committee** – the committee is in charge of examining risk management policies of the entity.

3. **The audit committee** is responsible for appointment of auditors and reviewing of financial statements.

4. **Remuneration committee**-this is the committee that is responsible for developing a policy for remunerations of Directors and Board members.

(b) **External auditors can respond to assessed risks in the following ways:**

- The engagement team at Zet Chartered Accountants needs to emphasize that auditors need to observe professional skepticism throughout the audit of Bonde Ltd
- More additional staff should be included on the audit team so that a thorough audit is being performed.
- Zet Chartered Accountants senior auditors need to be on the ground and ensure that proper supervision is carried during the audit.
- Auditors from Zet need to be unpredictable when performing audit procedures.

- The audit team should make changes to scope, timing and extent of their audit procedures

(c) **Audit procedures for the following assertions**:

(i) **Completeness** –

- There will be a need to review the numerical sequence of clock cards. Attend the payment of cash wages to employees in order to confirm if the right procedures are being followed.

- Before wages are paid, compare payroll with wage packet to confirm if all employees have a wage packet.

(ii) **Cut –off –**

- Obtain a sample of employee payments and agree whether they were recorded in the current accounting year.
- Obtain the company policies and procedures and review for any reporting changes to the payroll department.

(iii) **Accuracy**-

- Recalculate benefits and deductions for a sample of employees.
- Review reconciliations of payroll before and after payments have been made**.**

SOLUTION FIVE

(a) (i) **Meaning & purpose of the engagement letter:**

This is a contract with written terms of the engagement entered into with a client company. The purpose of the engagement letter is to avoid misunderstanding regarding the audit by clearly explaining the terms of the engagement.

(ii) **Need to revise engagement letter:**

- The change in the terms of the engagement from the auditors performing a review of the financial statements to an audit will necessitate a revision of the terms of the engagement.
- The change in ownership of the company from being a sole trader to an incorporated company.
- The rapid growth in the company requiring change in the way it operates and the responsibilities of management and the auditors to be clearly spelt out.
- A change in terms of the engagement and the contents of the engagement letter may need to be made when there is a misunderstanding between management and the auditors. In this case there is a misunderstanding on the roles of management and the auditors regarding internal controls.

(b) **Audit procedures for disposal of motor vehicles:**

1. Verify that the disposals to relevant supporting documents checking the transfer of title, sales price and dates of payment.
2. Recalculate the profit or loss on disposal.
3. Inspect the supporting documents and confirm that the disposals have been authorized.
4. Consider the sales proceeds are reasonable and confirm receipt of the proceeds.
5. If the motor vehicles were used as collateral confirm release of the collateral.
6. Confirm that the non-current asset register has been updated and the vehicles disposed of removed from the asset register.

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

APPLICATION ADVANCED DIPLOMA IN ACCOUNTANCY

CA 2.4: TAXATION

THURSDAY 14 DECEMBER 2023

TOTAL MARKS – 100: TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question. You will be told when to start writing.

2. This paper is divided into TWO (2) sections:

   Section A: ONE (1) **Compulsory** scenario question.
   Section B: FOUR (4) Optional scenario questions. Attempt any THREE (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Present legible and tidy work.

9. Graph paper (if required) is provided at the end of the answer booklet.

10. A Taxation table is provided from page 2 to page 6 of the question paper.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

TAXATION TABLE
Income Tax

Standard personal income tax rates

Income band	Taxable amount	Rate
K0.01 to K57,600	first K57,600	0%
K57,601 to K81,600	next K24,000	20%
K81,601 to K106,800	next K25,200	30%
Over K106,800		37.5%

Income from farming for individuals

K0.01 to K57,600	first K57,600	0%
Over K57,600		10%

Company income tax rates

On income from manufacturing and other	30%
On income from farming	10%
On income from mineral processing	30%
On income from mining operations	30%
On income of Banks and other Financial Institutions	30%

Mineral Royalty

Mineral Royalty on Copper

Norm price range	Incremental value	Mineral Royalty rate
Less than US$4,000	First $3,999	4.0% of norm value
From US$4,000 but less than US$5,000	Next $1,000	6.5% of norm value
From US$5,000 but less than US$7,000	Next $2,000	8.5% of norm value
US$7,000 and above	Over $7,000	10% of norm value

Mineral Royalty on other minerals

Type of mineral	Mineral Royalty Rate
Cobalt and Vanadium	8% of norm value
Base Metals (Other than Copper, Cobalt and Vanadium)	5% of norm value
Energy and Industrial Minerals	5% of gross value
Gemstones	6% of gross value
Precious Metals	6% of norm value

Capital Allowances

Implements, plant and machinery and commercial vehicles:

Wear and Tear Allowance –	Standard wear and tear allowance	25%
	Used in manufacturing and leasing	50%
	Used in farming and agro-processing	100%
	Used in mining operations	20%

Non- commercial vehicles

Wear and Tear Allowance	20%

Industrial Buildings:

Wear and Tear Allowance	5%

Initial Allowance	10%
Investment Allowance	10%

Low Cost Housing **(Cost up to K100,000)**

Wear and Tear Allowance	10%
Initial Allowance	10%

Commercial Buildings

Wear and Tear Allowance	2%

Farming Allowances

Development Allowance	10%
Farm Works Allowance	100%
Farm Improvement Allowance	100%

Presumptive Taxes

Turnover Tax

Annual Turnover

K0.01 to K12,000	0%
K12,001 to K800,000	4%

Rental income Tax

K0.01 to K12,000	0%
K12,001 to K800,000	4%
On income above K800,000	12.5%

Presumptive tax for transporters

Seating capacity	Tax per annum	Tax per quarter
	K	K
Less than 12 passengers and taxis	1,080	270
From 12 to 17 passengers	2,160	540
From 18 to 21 passengers	4,320	1,080
From 22 to 35 passengers	6,480	1,620
From 36 to 49 passengers	8,640	2,160
From 50 to 63 passengers	10,800	2,700
From 64 passengers and over	12,960	3,240

Property transfer tax

Rate of tax on realised value of land, buildings and shares	5%
Rate on realised value of intellectual property	5%
Rate on realised value of mining right for an exploration licence	5%
Rate of tax on realised value of a mining right for a mining licence	10%
Rate of tax on realised value on a mineral processing licence	10%

Value Added Tax

Registration threshold	K800,000
Standard Value Added Tax Rate (on VAT exclusive turnover)	16%

Customs and Excise duties on used motor vehicles

	Aged 2 to 5 years		Aged above 5 years	
Motor vehicles for the transport of ten or more persons, including the driver	**Customs duty**	**Excise duty**	**Customs duty**	**Excise duty**
	K	**K**	**K**	**K**
Sitting capacity of 10 but not exceeding 14 persons including the driver	17,778	22,223	8,889	11,112
Sitting capacity exceeding 14 but not exceeding 32 persons	38,924	0	13,840	0
Sitting capacity of 33 but not exceeding 44 persons	86,497	0	19,462	0
Sitting capacity exceeding 44 persons	108,121	0	43,248	0

	Aged 2 to 5 years		Aged above 5 years	
Motor cars and other motor vehicles principally designed for the transport of persons including station wagons and racing cars	**Customs duty**	**Excise duty**	**Customs duty**	**Excise duty**
	K	**K**	**K**	**K**
Sedans				
cylinder capacity not exceeding 1000 cc	12,490	10,824	7,136	6,185
Cylinder capacity exceeding 1000 cc but not exceeding 1500 cc	16,058	13,917	8,564	7,422
Cylinder capacity exceeding 1500 cc but not exceeding 2500 cc	16,545	21,508	8,423	10,950
Cylinder capacity exceeding 2500 cc but not exceeding 3000 cc	18,049	23,463	10,528	13,687
Cylinder capacity exceeding 3000 cc	22,561	29,329	12,032	15,642

Hatchbacks				
cylinder capacity not exceeding 1000 cc	10,705	9,278	7,136	6,185
Cylinder capacity exceeding 1000 cc but not exceeding 1500 cc	14,274	12,371	8,564	7,422
Cylinder capacity exceeding 1500 cc but not exceeding 2500 cc	15,041	19,553	8,423	10,950
Cylinder capacity exceeding 2500 cc but not exceeding 3000 cc	16,545	21,508	10,523	13,687
Cylinder capacity exceeding 3000 cc	19,553	25,419	12,032	15,642
Station wagons				
cylinder capacity not exceeding 2500 cc	16,545	21,508	9,024	11,731
Cylinder capacity exceeding 2500 cc but not exceeding 3000 cc	18,049	23,463	13,357	17,598
Cylinder capacity exceeding 3000 cc	22,561	29,329	18,049	23,463
SUVs				
Cylinder capacity not exceeding 2500 cc	21,057	27,374	9,024	11,732
Cylinder capacity exceeding 2500 cc but not exceeding 3000 cc	24,065	31,284	13,357	17,598
Cylinder capacity exceeding 3000 cc	28,577	37,150	18,049	23,463

	Aged 2 to 5 years		**Aged above 5 years**	
Motor vehicles for the transport of goods - with compression-ignition internal combustion piston engine (diesel or semi-diesel):	**Customs duty**	**Excise duty**	**Customs duty**	**Excise duty**
	K	**K**	**K**	**K**
Single cab				
GVW exceeding 1.0 tonne but not exceeding 1.5 tonnes	21,926	9,501	8,770	3,801

GVW exceeding 1.5 tonnes but not exceeding 3.0 tonnes	26,311	11,402	15,348	6,651
GVW exceeding 3.0 tonnes but not exceeding 5.0 tonnes	30,697	13,302	17,541	7,601
Double cabs				
GVW exceeding 3 tonnes but not exceeding 5 tonnes	30,697	13,302	24,119	10,452
Double cabs GVW exceeding 3.0 tonnes but not exceeding 5.0 tonnes, **with spark ignition internal combustion piston engine**	33,766	14,632	26,531	11,497
Panel Vans				
GVW not exceeding 1.0 tonne	13,353	5,786	7,630	3,061
GVW exceeding 1.0 tonne but not exceeding 1.5 tonnes	15,348	6,651	8,770	3,801
GVW exceeding 1.5 tonnes but not exceeding 3.0 tonnes	17,541	7,601	15,348	6,651
GVW exceeding 3.0 tonnes but not exceeding 5.0 tonnes	21,926	9,501	17,541	7,601
Trucks				
GVW up to 2 tonnes	13,907	10,662	6,413	4,916
GVW exceeding 2.0 tonnes but not exceeding 5.0 tonnes	15,453	11,847	7,726	5,923
GVW exceeding 5.0 tonnes but not exceeding 10.0 tonnes	24,724	18,955	9,272	7,108
GVW exceeding 10.0 tonnes but not exceeding 20.0 tonnes	30,905	23,694	11,744	9,004
GVW exceeding 20 tonnes	51,898	0	19,462	0
GVW exceeding 20 tonnes, **with spark ignition internal combustion piston engine**	37,086	28,432	13,907	10,662

Surtax

On all motor vehicles aged more than five (5) years from year of manufacture K2,000

Customs and Excise on New Motor vehicles

Duty rates on:

1. Motor cars and other motor vehicles (including station wagons) principally designed for the transport of less than ten persons, including the driver:

Customs Duty:

Percentage of Value for Duty Purposes	30%
Minimum Specific Customs Duty	K6,000

Excise Duty:

Percentage of Value for Duty Purposes for Excise Duty Purposes	
Cylinder capacity of 1500 cc and less	20%
Cylinder Capacity of more than 1500 cc	30%

2. Pick-ups and trucks/lorries with gross weight not exceeding 20 tones:

Customs Duty

Percentage of Value for Duty Purposes	15%
Minimum specific Customs Duty	K6,000

Excise Duty:

Percentage of Value for Duty Purposes for Excise Duty Purposes	10%

3. Buses/coaches for the transport of more than ten persons

Customs Duty:

Percentage of Value for Duty Purposes	15%
Minimum Specific Customs Duty	K6,000

Excise Duty:

Percentage of Value for Duty Purposes for Excise Duty Purposes	
Seating Capacity of 16 persons and less	25%
Seating Capacity of 16 persons and more	0%

4. **Trucks/lorries with gross weight exceeding 20 tonnes**

Customs Duty:

Percentage of Value for Duty Purposes	15%

Excise Duty:

Percentage of Value for Duty Purposes for Excise Duty Purposes	0%

SECTION A

This question is compulsory and must be attempted.

QUESTION ONE - (COMPULSORY)

Mweemba and Mpemba are in partnership running a manufacturing business. They have always shared profits and losses in the ratio 2: 3 respectively after allowing for annual partnership salaries of K492,000 and K456,000 for Mweemba and Mpemba respectively. The partners estimated the taxable business profit for the year ended 31 December 2023 to be K2,280,000. Provisional income tax was calculated correctly on this profit and paid on the appropriate due date.
On 1 May 2023, Mumba was admitted to the partnership and with effect from that date the partnership agreement was changed. Profits and losses were to be shared as shown below:

	Mweemba	Mpemba	Mumba
Profit and loss sharing ratio	3:	4:	3
Annual salaries	K336,000	K312,000	K324,000

The actual net profit before tax for the year ended 31 December 2023 was K1,800,000. This profit figure was arrived at after taking into account of the following:

(1) Salaries and wages of K3,400,000. This figure included partners' salaries of K621,000, employer's NAPSA contributions of K90,000, and partners' contributions into a personal pension scheme of K168,000. The balance comprises of salaries and wages paid to the employees.

(2) Legal and professional fees of K600,000. This figure was made up of the following:

	K
Legal fees in connection with defending title to business assets	80,000
Defending partners in a fast-track court for breaking traffic rules	13,800
Accountancy fees	180,000
Personal tax planning advice for partners	56,000
Legal fees incurred in drafting staff contracts	98,000
Other revenue allowable legal & profession fees	172,200
	600,000

(3) Rent and rates expenses amounting to K1,300,000. The rent and rates include rentals paid for partners' houses amounting to K67,000, K61,000 and K32,000 for Mweemba, Mpemba and Mumba respectively. The balance of the rentals relates to rentals paid for the factory and business administrative offices.

(4) Irrecoverable debts expenses amounting to K320,000. This figure was made up of loans to former employees written off K110,000, increase in general allowance for receivables K36,000, trade debts written off K180,000, increase in specific allowance for receivables K44,000 and loans to former employees previously written off now recovered of K50,000.

(5) General expenses amounting to K3,900,000. This figure was made up of the following:

	K
Employees' Christmas party	221,000
Staff refreshments	102,000
Staff canteen expenses	193,000
Entertaining suppliers and customers	218,400
Donations to political parties	69,800
Gifts to customers of business branded calendars each costing K80	80,000
Profit on sale of old manufacturing equipment	(101,000)
Free trade samples of a new product given out on sales promotion	156,000
Other revenue allowable expenses	2,960,800
	3,900,000

Additional information

(1) At 1 January 2023, the implements, plant & machinery qualifying for capital allowances were as follows:

Asset	Income Tax Value	Original cost
	K	K
Office equipment	135,000	180,000
Delivery motor vans	100,000	400,000
Pool cars	180,000	300,000
Old manufacturing equipment	Nil	500,000

(2) The following capital transactions took place during the year ended 31 December 2023:

Date	Transaction	Cost/(proceeds)
		K
14 March 2023	Bought new manufacturing equipment	1,000,000
20 March 2023	Bought fixtures & fittings	420,000
10 June 2023	Office furniture	64,000
11 July 2023	Sold old manufacturing equipment	(209,000)

(3) The partners use their privately owned motor vehicles partly for business purposes.

It has been agreed with the Commissioner General that Mweemba has business use of 55% of his motor car, Mpemba's business use of his car is 60% and Mumba's business use of his motor car is 40%.

Information relating to these cars for each partner, including the motor car running expenses incurred during the year ended 31 December 2023, is as shown below:

Partner	***Type of vehicle***	***Date of purchase***	***Original cost***	***Motoring expenses***
Mweemba	Toyota Prado Car	1 January 2021	K280,000	K66,000
Mpemba	Toyota Mark-X Car	30 November 2021	K170,000	K41,000
Mumba	Range Rover Car	30 April 2023	K300,000	K30,000

The motor car running expenses shown above were paid for by each partner and have not been included in the statement of profit or loss for the year ended 31 December 2023.

(4) The amount of provisional income tax paid was K282,510, K338,010 and K151,410 for Mweemba, Mpemba and Mumba respectively.

Required:

(a) Calculate the amount of capital allowances claimable by the partnership for the tax year 2023. (7 marks)

(b) Calculate the tax adjusted business profit for the partnership business for the year ended 31 December 2023. (9 marks)

(c) Calculate the amount of profit on which each partner will be assessed for the year ended 31 December 2023. (15 marks)

(d) Calculate the amount of income tax payable by each partner for the tax year 2023. (9 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section. Attempt any THREE (3) questions.

QUESTION TWO

James Nkhata, has been employed as an electrical engineer at Lombe Plc for many years. On 1 May 2022, he started running a business which deals in electrical appliances generating annual turnover which is above K800,000. He prepared the first accounts to 31 March 2023, and has decided to be preparing accounts annually thereafter. The final taxable profits for the first two periods of trading are as follows:

	K
Period ended 31 March 2023	40,000
Year ended 31 March 2024 (forecast)	150,000

On 31 January 2023, Nkhata decided to take early retirement from employment. At the time of retirement, he was entitled to an annual basic salary of K720,000 payable on 25 of each month, and he was also entitled to housing allowance of 25% of the basic salary and a mileage allowance of 5% of the basic salary.

On 16 December 2022, Lombe Plc had declared a performance bonus for all employees payable on 31 December 2022. However, due to liquidity problems, the bonus was only paid on 31 January 2023. On the same date, James Nkhata was also paid his early retirement package comprising a lumpsum pension of K8 million, repatriation pay of K20,000 and leave pay of K75,000. PAYE deducted from his employment income was K35,640.

James Nkhata used his own personal motor car partly for employment purpose. He bought the car on 6 July 2022 at a cost of K400,000. During the month of January 2023, he travelled a total of 1,500 kilometres in the car out of which, 900 Kilometres were for employment purposes. He incurred motor car running expenses totalling K3,000 in the month of January 2023.

Other Income

In the tax year 2023, NKhata generated the following additional income:

	K
Royalties	35,190
GRZ bond interest	24,000
Dividends from a LuSE listed company	30,000
Consultancy fees	34,000

The above amounts represent the actual cash received. Withholding tax had been deducted and paid at source where appropriate.

Required:

(a) Explain how the basis period for the first two (2) periods of trading will be determined and state the tax years in which profits he made in each period will be assessed. (4 marks)

(b) Compute the amount of the final income tax payable by James Nkhata for the charge year 2023. You should indicate by the use of zero (0) for all employment benefits that are exempted from tax. (16 marks)

[Total: 20 Marks]

QUESTION THREE

Mkushi Plc is a Zambian resident company engaged in farming operations. The company listed its shares on the Lusaka Securities Exchange (LuSE) on 1 January 2023 and 35% of the ordinary shares were issued to indigenous Zambians.

The actual tax adjusted farming profit before capital allowances and any loss relief for the charge year 2023 was K9,000,000.

At 1 January 2023, Mkushi Plc had the following implements, plant and machinery qualifying for capital allowances:

Asset	**Cost**	**Income Tax Value (ITV)**
	K	**K**
Mitsubishi canter van	300,000	75,000
Office equipment	80,000	40,000
Ford Ranger Double Cab van	500,000	400,000
Tractors	2,000,000	0

The Ford Ranger Double cab van has a cylinder capacity of 2,800 cc and is used on a personal to holder basis by the Farm Operations Manager. His private use of the vehicle is 60%.

The following expenditure, acquisitions and disposals of capital assets were made in the year ended 31 December 2023:

	Cost/(Proceeds)
	K
Mitsubishi canter van	(80,000)
Delivery truck	750,000
Tractors	(2,100,000)
Irrigation equipment	4,500,000
Dwelling houses for three (3) farm workers (costing K60,000 each)	180,000
Expenditure on tea plantation	220,000

During the year ended 31 December 2023, Mkushi Plc received the following investment income:

	K
Interest from Government of Zambia bonds	510,000

Dividends from a company listed on the LuSE	200,000

The above amounts represent the actual amounts received. Withholding tax was deducted at source and paid on the relevant due dates.

At 1 January 2023, Mkushi Plc had a tax adjusted farming loss brought forward of K8,700,000. The tax adjusted farming loss was incurred in the tax year 2021.

Provisional income tax paid for tax year 2023 was K868,000.

Required:

(a) Explain the tax treatment of a tax-adjusted farming loss. (2 marks)

(b) Calculate Mkushi Plc's maximum capital allowances for the tax year 2023. (9 marks)

(c) Calculate Mkushi Plc's final taxable income and the amount of company income tax payable for the tax year 2023. You should state the amount of any tax loss remaining unrelieved at 31 December 2023. (9 marks)

[Total: 20 Marks]

QUESTION FOUR

You are employed in a firm of Chartered Accountants. Your firm has been awarded a contract to train the newly recruited tax inspectors. Your supervisor has asked you to prepare notes for the training workshop covering the following matters:

(i) The composition of the Zambia Revenue Authority (ZRA) Governing Board.

(ii) The powers of the Commissioner General of the ZRA.

Your supervisor has further assigned you to deal with the VAT computation of Veronica Chisenga, a sole trader who is registered for VAT and makes both taxable and exempt supplies.

During the month of March 2023, Veronica had the following transactions:

(1) The sales for the month consisted of standard-rated sales of K99,000, zero-rated supplies of K51,000 and exempt supplies of K50,000. It has been determined that 30% of the standard-rated supplies were made to customers who are not registered for VAT.

(2) The purchases comprised standard-rated purchases of K38,000, zero-rated purchases of K19,500 and exempt purchases of K29,000. It has been determined that 15% of the standard-rated purchases were made from suppliers who are not registered for VAT.

(3) The standard-rated general operating expenses, which are all VAT inclusive, comprised of telephone bills of K7,000, motor vehicle repairs of K6,000, entertaining customers of K1,400 and general overheads of K33,000. These expenses were incurred in making both taxable and exempt supplies.

(4) Sale of a Mitsubishi delivery van for K232,000 VAT inclusive.

Unless stated otherwise all of the above figures are exclusive of VAT. You should assume the BOZ discount rate is 9.75% per annum where applicable.

Required:

(a) Prepare notes to be used in the training workshop:

(i) Stating any four (4) organisations represented on the ZRA governing Board. (2 marks)

(ii) Stating any three (3) powers of the Commissioner General of the ZRA. (3 marks)

(b) Calculate the VAT payable by Veronica for the month of March 2023. You should indicate by the use of zero (0) all items on which VAT is not chargeable or claimable. (9 marks)

(c) Assuming that Veronica paid the VAT you have calculated above, on 18 June 2023, and also submitted the VAT return on this date:

(i) Calculate the amount of the penalty arising and interest chargeable for the late payment of the VAT. (3 marks)

(ii) Compute the amount of penalty chargeable for the late submission of the VAT return. (3 marks)

[Total: 20 Marks]

QUESTION FIVE

You are employed in a firm of Chartered Accountants. Your firm has been awarded a contract to train the newly recruited tax inspectors. Your supervisor has asked you to prepare notes for the training workshop covering double taxation relief.

Your supervisor has further assigned you to deal with the tax affairs of the following clients:

Client 1- Lukundo

Lukundo intends to set up a business letting out property for commercial purposes during the tax year 2023.

On 1 January 2023, he will let out a block of fifteen (15) units of office suits which he owns in the Central Business District of Lusaka receiving gross annual rentals of K55,000 for each office unit. Security fees for the office block will amount to K6,000 per month and general maintenance costs for the block of office suites will amount to K4,000 per month.

He will additionally let out five (5) boarding house units for students in Lusaka. Each of the boarding houses has ten (10) student bed spaces, and he will charge K1,800 per bed space per month. Property maintenance expenses relating to each boarding house unit will be K1,500 per month. All of the boarding houses will be let out throughout the tax year 2023.

Client 2- Mulwanda

Mulwanda imported a four (4) year old second hand Runx hatchback with an engine capacity of 1,490cc on 1 April 2023, from Japan at a cost price of US$5,400. He paid insurance charges of US$1,200, freight charges of US$2,300 and other incidental costs of US$1,000 up to the Nakonde border post. The transport costs from Nakonde border to Lusaka were K8,000. Interpol clearance fees in Lusaka were K300, motor vehicle registration fees were K4,000 and road tax was K500.

The motor vehicle was manufactured in 2020. The exchange rate quoted by his bank which he used to pay for the car was K19.30 per US$1. However, the exchange rate approved by the Commissioner General was K19.50 per US$1.

Required:

(a) Prepare notes to be used in the workshop, explaining the meaning of double taxation relief and the three (3) methods that can be used to give double taxation relief to a Zambian resident person receiving income from foreign sources. (7 marks)

(b) Explain how Lukundo, will be assessed to tax in the tax year 2023. Your answer should include a computation of the total amount of tax that will be chargeable on his business for the year. (7 marks)

(c) Calculate the total import taxes arising on the importation of Mulwanda's motor car. (6 marks)

[Total: 20 Marks]

END OF PAPER

CA 2.4: TAXATION SUGGESTED SOLUTIONS

SOLUTION ONE

(a) Capital allowances claimable for the tax year 2023

	K
Office equipment	
Wear & tear: (K180,000 x 25%)	45,000
Delivery motor vans	
Wear & tear: (K400,000 x 25%)	100,000
Pool cars	
Wear & tear: (K300,000 x 20%)	60,000
Old manufacturing equipment	
Balancing charge (K0 – K209,000)	(209,000)
New manufacturing equipment	
Wear & tear: (K1,000,000 x 50%)	500,000
Fixtures & fittings	
Wear & tear: (K420,000 x 25%)	105,000
Office furniture	
Wear & tear: (K64,000 x 25%)	16,000
Total capital allowances	617,000

(b) Tax adjusted business profit for the year ended 31 December 2023

	K	K
Net profit as per accounts		1,800,000
Add:		
Partners' salaries	621,000	
Partners' pension contributions	168,000	
Defending partners in court	13,800	
Personal tax planning advice	56,000	
Rent paid for partners' houses:		
Mweemba	67,000	
Mpemba	61,000	
Mumba	32,000	
Loans to former employees written off	110,000	
Increase in general allowance	36,000	
Staff refreshments	102,000	
Staff canteen expenses	193,000	
Entertaining suppliers and customers	218,400	
Donations to political parties	69,800	
		1,748,000
		3,548,000

Less:		
Profit on sale of old manufacturing equipment	101,000	
Employee loans written off now recovered	50,000	
Capital allowances	617,000	
		(768,000)
Adjusted business profits		2,780,000

(c) Allocation of business profits to the partners for the year ended 31 December 2023

	Total	Mweemba	Mpemba	Mumba
1.01.2023-30.04.2023		K	K	K
Salaries (4/12)	316,000	164,000	152,000	Nil
Balance 2:3	610,667	244,267	366,400	Nil
(K2,780,000 x 4/12)	926,667	408,267	518,400	Nil
1.05.2023- 31.12.2023				
Salaries (8/12)	648,000	224,000	208,000	216,000
Balance 3:4:3	1,205,333	361,600	482,133	361,600
(K2,780,000 x 8/12)	1,853,333	585,600	690,133	577,600
Total	2,780,000	993,867	1,208,533	577,600
Less:				
Motor car expenses:				
Mweemba:				
(K66,000 x 55%)	(36,300)	(36,300)		
Mpemba:				
(K41,000 x 60%)	(24,600)		(24,600)	
Mumba:				
(K30,000 x 40%)	(12,000)			(12,000)
Capital allowances:				
Mweemba:				
(K280,000 x 20% x 55%)	(30,800)	(30,800)		
Mpemba:				
(K170,000 x 20% x 60%)	(20,400)		(20,400)	
Mumba:				
(K300,000 x 20% x 40%)	(24,000)			(24,000)
Taxable income	2,631,900	926,767	1,163,533	541,600

(d) Computation of income tax payable by the partners for the tax year 2023

	Mweemba	Mpemba	Mumba
	K	K	K
Business profits	926,767	1,163,533	541,600
Income Tax			
First K57,600 @0%	0	0	0
Next K24,000 @20%	4,800	4,800	4,800
Next K25,200 @30%	7,560	7,560	7,560
Excess:			
K819,967 @37.5%	307,488		
K1,056,733 @37.5%		396,275	
K434,800 @37.5%			163,050
Income tax liability	319,848	408,635	175,410
Less:			
Provisional income tax paid	(282,510)	(338,010)	(151,410)
Income tax payable	37,338	70,625	24,000

SOLUTION TWO

(a) Commencement rules will be used to determine when profits he made during the first period of trading will be assessed. Since the first period of account is less than twelve months long the normal rules will be used to determine the basis period. Specifically, the preceding year basis of assessment will be used as the first accounting date ends on 31 March 2023, which is between 1 January and 31 March inclusive.

The basis period for the first period of trading will therefore be the eleven-month period to 31 March 2023 and the profits of K40,000 generated in this period will be assessed in the tax year 2022.

The basis period for the second period of trading will be the year ended to 31 March 2024 and the profits of K150,000 will be assessed in the tax year 2023.

The basis of assessment for each tax year could also have been summarized as shown below:

Tax year	Basis period	Taxable profits
2022	1.05.2022 – 31.03.2023	K40,000
2023	1.04.2023 – 31.03.2024	K150,000

(c) JAMES NKHATA

PERSONAL INCOME TAX COMPUTATION FOR THE CHARGE YEAR 2023

		K
Basic salary K720,000/12		60,000
Housing allowance 25% X K60,000		15,000
Mileage allowance K60,000 x 5%		3,000
Performance bonus (Taxed in previous year)		0
Leave pay		75,000
Lumpsum pension		0
Repatriation pay		0
Business profits		<u>150,000</u>
		303,000
Less: allowable deductions:		
Capital allowances on motor car		
K400,000 x 20% x 900/1500)	(48,000)	

Qualifying motoring expenses		
(900/1,500 X K3,000)	(1,800)	
		(49,800)
Taxable employment income		253,200
Investment/Other income		
Royalties (K35,190 x100/85)	41,400	
Consultancy fees (K34,000 x100/85)	40,000	
		81,400
Taxable income		334,600
½		
Income tax		
K57,600 X 0%		0
K24,000 X 20%		4,800
K25,200 X 30%		7,560
K227,800 X 37.5%		85,425
Income tax liability		97,785
Less: tax already paid		
WHT on royalties K41,400 x15%		(6,210)
WHT on royalties K40,000 x15%		(6,000)
PAYE		(35,640)
Income tax payable		49,935

SOLUTION THREE

(a) The tax treatment of a tax-adjusted farming loss

A tax-adjusted farming loss is carried forward and set off against the available future profits of the company arising from the same source as that which produced the loss. That loss can be carried forward for a maximum period of five (5) years. If at the end of the fifth year there is still an outstanding loss, that outstanding loss cannot be relieved in any other way. It is simply lost.

(b) MKUSHI PLC

COMPUTATION OF MAXIMUM CAPITAL ALLOWANCES FOR THE TAX YEAR 2023

Asset	**Value**	**Allowances**	
	K	K	
Mitsubish van			
ITV b/d	75,000		
Disposal	(80,000)		
Balancing charge	(5,000)	(5,000)	
1			
Office equipment			
Wear & tear allowance K80,000 X 25%		20,000	
1			
Ford Ranger Double cab			
Wear & tear allowance K500,000 X 20%		100,000	
1			
Tractors			
ITV b/d	0		
Disposal (restricted to cost)	(2,000,000)		
Balancing charge	(2,000,000)	(2,000,000)	
1			
Delivery truck			
Wear & tear allowance K750,000 X 25%		187,500	
1			
Irrigation equipment			
Wear & tear allowance K4,500,000 X 100%		4,500,000	
Dwelling houses			
Farm improvements allowance (K60,000 X 100% x 3)		180,000	
(cost for each dwelling is below the limit of K100,000)			
Tea plantation			
Development allowance K220,000 X 10%)		22,000	
Maximum capital allowances for tax year 2023		3,004,500	1

(b) MKUSHI PLC

COMPUTATION OF THE FINAL AMOUNT OF COMPANY INCOME TAX PAYABLE FOR THE TAX YEAR 2023

		K
Taxable farming profit before capital allowances		9,000,000
Less capital allowances	(3,004,500)	
Taxable profit before loss relief	5,995,500	
Less loss relief		(5,995,500)
Final taxable farming profit		0
Add Interest from Government of Zambia bonds (K510,000 X 100/85)		600,000
Taxable income		600,000
Company income tax K600,000 X 23% (30% - 2% - 5%)		138,000
Less tax already paid		
Provisional tax		(868,000)
WHT on Government bonds (K600,000 X 15%)		(90,000)
Final company income tax repayable/refund		(820,000)

COMPUTATION OF LOSS REMAINING UNRELIVED AT 31 DECEMBER 2023

Loss relief memo for theTax year 2023

	K'000
Loss b/d	8,700,000
Less: loss claim	(5,995,500)
Loss carried forward	2,704,500

SOLUTION FOUR

(a) (i) The following are the institutions represented in ZRA governing Board:

(1) Laws Association of Zambia
(2) Zambia Association of Chamber of Commerce and Industry
(3) Zambia Institute of Chartered Accountants
(4) Bankers Association of Zambia.

(ii) Powers of the Commissioner General

The commissioner general has the following powers:

(1) Request a return to be submitted at any time.
(2) Request accounts and documents to be submitted for examination.
(3) Examine any person for the purpose of obtaining information.
(4) Search and seize money, documents and property.

(b) VERONICA

COMPUTATION OF THE AMOUNT OF VAT PAYABLE FOR THE MONTH OF NOVEMBER 2023

	K	K
Output tax		
Standard-rated supplies K99,000 X 16%		15,840
Zero-rated supplies K51,000 X 0%		0
Exempt supplies	0	
Sale of Mitsubishi van (K232,000 x 4/29)	32,000	
		47,840
Input tax		
Standard-rated purchases K38,000 X 16% X 85%	5,168	
Zero-rated purchases K19,500 X 0%	0	
Exempt purchases	0	
Telephone bill (irrecoverable)	0	
Motor vehicle repairs K6,000 X 4/29 X 75%	621	
Entertaining customers (irrecoverable)	0	
General overheads K33,000 X 4/29 X 75%	3,414	
		(9,203)
VAT payable		**38,637**

Recoverable non-attributable input VAT

$$= \frac{(K99,000 + K51,000)}{(K99,000 + K51,000 + K50,000)} \times 100\%$$

= K150,000/K200,000 X 100%

= 75%

(c) (i) **Penalty and interest for late payment of the VAT**

(1) The VAT should have been paid by 18 April 2023, but was paid on 18th June 2023 and was therefore paid late by 2 months (61 days).

(2) The daily penalty for the late payment of the VAT is 0.5% of the VAT due and will amount to.

K38,637 x 0.5% x 61 days = K11,784.

(3) Additionally, interest will be chargeable on the overdue tax at the BOZ discount rate plus 2% and this will amount to

9.75% +2% = 11.75% x K38,637 x 61/365

=K758

(ii) Penalty for late submission of VAT return

The VAT return was also submitted late by 61 days as it should have also been submitted on 18 April 2023 and therefore the penalty will be K18,300 being the higher of:

The daily penalty for late submission of VAT return is the higher of:

(1) 1,000 penalty units (K300); per day which is:

1,000 x 61 days = 61,000 penalty units (i.e. K18,300) and

(2) 0.5% of the amount of VAT payable, which is:

0.5% x K38,637 x 61 days = K11,784

SOLUTION FIVE

(a) (i) **Double Taxation Relief**

Double taxation relief is the reduction in the tax liability or relief given to a person receiving income from foreign sources, where that income was to subjected to tax in the foreign country where it was generated and is supposed to be subjected to further tax in the country in which it was received.

The following are the types of double taxation relief:

Treaty relief

This method of giving double taxation relief applies where a double taxation agreement has been signed between Zambia and the foreign country involved. The double taxation agreement specifies how the relief should be given.

Unilateral credit relief

This method of giving double taxation relief applies when there is no treaty between Zambia and the foreign country. Relief is given for foreign tax unilaterally in the Republic of Zambia. This is achieved by crediting the amount of foreign tax suffered against the Zambian income tax on the foreign income, provided that the amount of foreign tax being credited against the Zambian tax does not exceed the Zambian tax charge on that foreign income.

Unilateral expense relief

This method of giving double taxation relief also applies when there is no treaty between Zambia and the foreign country. Relief is given for foreign tax unilaterally in the Republic of Zambia. This is achieved by including the foreign income net of foreign tax when computing taxable income.

(b) **Lukundo**

Lukundo will be chargeable to rental income tax as he will generate income arising from letting of real property. The rental income tax will be charged on the gross monthly rentals without deducting any expenses incurred wholly and exclusively for letting purposes and will be due on the 14^{th} day following the end of each month

The total amount of the rental tax arising in the year will be computed as shown below:

Gross rentals	K
Office suites	
(K55,000 x 15)	825,000
Boarding houses	
(K1,800 x 10 x 5) x 12	1,080,000
	1,905,000
Rental income Tax	
on first K12,000 x 0%	0
On next (K800,000 - K12,000) x 4%	31,520
On excess (K1,905,000 - K800,000) x 12.5%	138,125
	169,645

Monthly rental income tax payable is (K169,645/12) K14,137.08.

(c) Mulwanda

	$
Cost	5,400
Insurance costs	1,200
Transportation costs	2,300
Incidental costs	1,000
	9,900
Exchange rate	K19.50
VDP in ZMW	193,050

	K	K
VDP for customs duty	193,050	
Specific customs duty a	14,274	14,274
	207,324	
Excise duty @30%	12,371	12,371
	219,695	
Import VAT @16%	35,151	35,151
	254,846	
Total import taxes		61,796

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

APPLICATION ADVANCED DIPLOMA IN ACCOUNTANCY

CA2.5: FINANCIAL MANAGEMENT

FRIDAY 15 DECEMBER 2023

TOTAL MARKS – 100: TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question. You will be told when to start writing.

2. This paper is divided into TWO (2) sections:

   Section A: ONE (1) **Compulsory** scenario question.
   Section B: FOUR (4) Optional scenario questions. Attempt any THREE (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Present legible and tidy work.

9. Graph paper (if required) is provided at the end of the answer booklet.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

SECTION A

This question is compulsory and must be attempted.

<u>QUESTION ONE</u> (COMPULSORY)

D-JIL plc is considering investing in new equipment that would increase production in order to meet the additional demand in the next three (3) years. The current production capacity is 100,000 units per year. The machine will cost K2.8 million with an expected life span of three (3) years at the end of which it will have an estimated disposal value of K150,000. The financial data below relates to the proposed investment.

Description	Current price/cost per unit (K)	Expected annual inflation rate (%)
Selling price	30	12
Materials cost	8	9
Labour cost	7	5
Variable Overhead Costs	4	3

An additional K700,000 of working capital will be required at the start of the project which is expected to increase by 8% per year. Capital allowances are available at 25% reducing balance on the equipment. D-JIL plc pays annual corporate tax at the rate of 25% one year in arrears.

The company has a dividend cover ratio of 2.5 times and expects zero growth in dividends. The company has one million K1 ordinary shares in issue and the market capitalisation (value) of the company is K50 million. After-tax profits for next year are expected to be K20 million. D-JIL has 12% irredeemable bonds in issue with a nominal value of K100. The market price is K95 ex interest and the interest is paid semi-annually. The gearing level is 30% based on debt to equity ratio. D-JIL Plc uses the current cost of capital to evaluate all its proposed investments.

The investment policy of D-JIL Plc requires that the company uses four investment appraisal techniques to evaluate any proposed investment with an amount above K0.5 million. The four investment appraisal techniques include Net Present Value, Internal Rate of Return, Payback Period and Accounting Rate of Return. The project team has come up with the following financial data regarding the four (4) investment appraisal method except for Net Present Value:

Investment Appraisal Technique	Company Target	Proposed Investment Results
Internal Rate of Return	Cost of Capital	19%
Accounting Rate of Return	25%	30%

Payback Period	2.5 years	2.1 years

Required:

(a) Calculate the current cost of capital for D-JIL. (7 marks)

(b) Evaluate the financial viability of the proposed investment in the new equipment using the NPV method. (17 marks)

(c) Based on the information provided in the scenario and your results in (b) above, comment on each investment appraisal technique and advise whether D-JIL Plc should undertake the investment or not. (6 marks)

(d) Discuss the reasons Net Present Value investment appraisal method is preferred to other investment appraisal methods such as internal rate of return, payback and accounting rate of return. (10 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any THREE (3) questions.

QUESTION TWO

The following historical sales data relates to Kaka Plc:

Year	**5 (Current)**	**4**	**3**	**2**	**1**
Sales (K'million)	32.4	31.1	30.9	28.9	27.7
Operating Expenses (K'million)	12	11.9	11.1	10.8	10.1

The sales for the forthcoming year are expected to increase in line with the sales growth rate and the gross profit margin. The gross profit margin is expected to be 45% per annum. The operating expenses are expected to reduce by 10.71% from the current expenditure. The accounting depreciation and economic depreciation have the same amount. Kaka Plc pays corporate tax on profits at an annual rate of 25%. The capital structure of the company only comprises ordinary share capital of K5 million issued at a par value of 50 ngwee per share. There is no debt in the capital structure of Kaka Plc and it relies more on trade payables to finance working capital. The market price per share is K2.4.

Required:

(a) Prepare the forecast income statement of Kaka Plc for the forthcoming year. (6 marks)

(b) Estimate the market value of Kaka Plc using the earnings yield valuation method. (6 marks)

(c) Discuss the significance of trade payables in Kaka Plc's working capital cycle, and the dangers of over-reliance on it as a source of finance for working capital. (8 marks)

[Total: 20 Marks]

QUESTION THREE

Glanware Limited are planning to purchase a factory for K1.2 million. The company is considering several options of raising finance to purchase the factory. The options being considered include equity finance and debt finance.

(1) **Equity Finance Option**

The options being considered under equity include:

(i) A 1 for 4 rights issue at K10. The market value of Glanware shares are currently K12.50 each.

(2) **Debt Finance Options**

The options being considered under debt finance include:

(i) Issuing K1.2 million 9% coupon, 15-year debentures at par.

(ii) Issuing 15 year zero coupon bonds with a yield to maturity of 9% and repayable at par.

(iii) The last option being considered is issuing K1.2 million 5%, 15-year convertible bonds, at par, with the option to convert into 5 shares at K20 per share on maturity of the bond.

The current yield to maturity of a 7% government bond maturing in 15 years is 5%.

Required:

(a) Explain the meaning of the phrase "K1.2 million 9%, 15- year debentures redeemable at par". (3 marks)

(b) Explain four (4) reasons Glanware might find the equity finance option more attractive than the debt finance option. (4 marks)

(c) Explain the reason Glanware Limited would issue bonds with 9% yield to maturity when yield on government bonds is 5%. (3 marks)

(d) Explain the features of a zero coupon bond and the reason a company might issue such a bond and why investors might find it attractive. (3 marks)

(e) Calculate the theoretical ex-rights price immediately after making the proposed rights issue, if there is a 100% take up of the issue. (3 marks)

(f) Calculate the Net Present Value of the convertibility option assuming a discount rate of 10% and a par value of K100 each and comment on your results. (4 marks)

[Total: 20 Marks]

QUESTION FOUR

UpScale Ventures is a biotechnology company which develops and produces medical devices in Zambia. The company's latest financial information is as follows:

	K'000
Operating Profit	3,450
Interest	(200)
Profit Before Taxation	3,250
Taxation	(650)
Profit After Taxation	2,600
Dividends	(1,600)
Retained Profits	1,000
Ordinary Shares (Nominal Value of 50 Ngwee)	5,000

The company requires K3.2 million for research and development and is considering the following financing options:

Stock Issue

Obtain a stock market listing through an issue of new shares to new shareholders at a price of K2.50 per share and issue costs of K100, 000, in order to raise K3.2 million.

Bond Issue

Issue bonds amounting to K3.2 million, paying annual interest of 6%, and redeemable after ten years at par.

Under both options, the funds invested would earn a before-tax return of 18% per year.
The corporate tax rate paid by the company is 20% per year. UpScale Ventures has a cost of equity of 9% per year, which is expected to remain constant.

Required:

(a) Explain the factors that would be considered in determining the optimum level of cash to be held by UpScale Ventures. (6 marks)

(b) Calculate the effect on earnings per share of the proposal to raise finance by a stock market listing, and comment on the acceptability of the proposal to existing shareholders. (6 marks)

(c) Discuss the factors to be considered in choosing between traded bonds, an issue of equity via a placing and venture capital as sources of finance. (8 marks)

[Total: 20 Marks]

QUESTION FIVE

The Finance Manager of TEL Ltd was recently informed by a colleague that the market value of the company would increase if the weighted average cost of capital (WACC) of the company is decreased. The company, which is quoted on the Lusaka Stock Exchange, has 100 million shares in issue and the current ex div ordinary share price is K2.50 per share.

TEL Ltd also has in issue bonds with a book value of K60 million and their current ex interest market price is K104 per K100 bond. The current after-tax cost of debt of TEL Ltd is 7% and the tax rate is 30%. The most recent dividends per share of the company are as follows:

Year	**2018**	**2019**	**2020**	**2021**	**2022**
Dividend Per Share (K)	19.38	20.20	20.41	21.02	21.8

The Finance Manager has proposed to decrease the weighted average cost of capital of TEL Ltd and hence increase its market value, by issuing K40 million of bonds at their par value of K100 per bond. These bonds would pay annual interest of 8% before tax and would be redeemed at a 5% premium to par after ten (10) years.

Required:

(a) Explain four (4) essential roles performed by Finance Managers in order for corporations to achieve their objectives. (8 marks)

(b) Using the Dividend Growth Model, determine the cost of equity capital of TEL Ltd. (3 marks)

(c) Calculate the weighted average cost of capital of TEL Ltd in the following circumstances:

(i) Before the new issue of bonds takes place; (4 marks)
(ii) After the new issue of bonds takes place. (5 marks)

[Total: 20 Marks]

END OF PAPER

Formulae

Modigliani and Miller Proposition 2 (with tax)

$$k_e = k_e^i + (1 - T)(k_e^i - k_d)\frac{V_d}{V_e}$$

Two asset portfolio

$$s_p = \sqrt{w_a^2 s_a^2 + w_b^2 s_b^2 + 2w_a w_b r_{ab} s_a s_b}$$

The Capital Asset Pricing Model

$$E(r_i) = R_f + \beta_i(E(r_m) - R_f)$$

The asset beta formula

$$\beta_a = \left[\frac{V_e}{(V_e + V_d(1 - T))}\beta_e\right] + \left[\frac{V_d(1 - T)}{(V_e + V_d(1 - T))}\beta_d\right]$$

The Growth Model

$$P_o = \frac{D_o(1 + g)}{(r_e - g)}$$

Gordon's growth approximation

$$g = br_e$$

The weighted average cost of capital

$$WACC = \left[\frac{V_e}{V_e + V_d}\right]k_e + \left[\frac{V_d}{V_e + V_d}\right]k_d(1 - T)$$

The Fisher formula

$$(1 + i) = (1 + r)(1 + h)$$

Purchasing power parity and interest rate parity

$$S_1 = S_0 x \frac{(1 + h_c)}{(1 + h_b)} \qquad F_0 = S_0 x \frac{(1 + i_c)}{(1 + i_b)}$$

Modified Internal Rate of Return

$$MIRR = \left[\frac{PV_R}{PV_I}\right]^{\frac{1}{n}} \left(1 + r_e\right) - 1$$

The Black-Scholes option pricing model

$$c = P_a N(d_1) - P_e N(d_2) e^{-rt}$$

Where:

$$d_1 = \frac{\ln(P_a / P_e) + (r + 0.5s^2)t}{s\sqrt{t}}$$

$$d_2 = d_1 - s\sqrt{t}$$

The Put Call Parity relationship

$$p = c - P_a + P_e e^{-rt}$$

Present Value Table

Present value of 1 i.e. $(1 + r)^{-n}$

Where r = discount rate
n = number of periods until payment

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	0·980	0·961	0·943	0·925	0·907	0·890	0·873	0·857	0·842	0·826	2
3	0·971	0·942	0·915	0·889	0·864	0·840	0·816	0·794	0·772	0·751	3
4	0·961	0·924	0·888	0·855	0·823	0·792	0·763	0·735	0·708	0·683	4
5	0·951	0·906	0·863	0·822	0·784	0·747	0·713	0·681	0·650	0·621	5
6	0·942	0·888	0·837	0·790	0·746	0·705	0·666	0·630	0·596	0·564	6
7	0·933	0·871	0·813	0·760	0·711	0·665	0·623	0·583	0·547	0·513	7
8	0·923	0·853	0·789	0·731	0·677	0·627	0·582	0·540	0·502	0·467	8
9	0·941	0·837	0·766	0·703	0·645	0·592	0·544	0·500	0·460	0·424	9
10	0·905	0·820	0·744	0·676	0·614	0·558	0·508	0·463	0·422	0·386	10
11	0·896	0·804	0·722	0·650	0·585	0·527	0·475	0·429	0·388	0·305	11
12	0·887	0·788	0·701	0·625	0·557	0·497	0·444	0·397	0·356	0·319	12
13	0·879	0·773	0·681	0·601	0·530	0·469	0·415	0·368	0·326	0·290	13
14	0·870	0·758	0·661	0·577	0·505	0·442	0·388	0·340	0·299	0·263	14
15	0·861	0·743	0·642	0·555	0·481	0·417	0·362	0·315	0·275	0·239	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	0·812	0·797	0·783	0·769	0·756	0·743	0·731	0·718	0·706	0·694	2
3	0·731	0·712	0·693	0·675	0·658	0·641	0·624	0·609	0·593	0·579	3
4	0·659	0·636	0·613	0·592	0·572	0·552	0·534	0·516	0·499	0·482	4
5	0·593	0·567	0·543	0·519	0·497	0·476	0·456	0·437	0·419	0·402	5
6	0·535	0·507	0·480	0·456	0·432	0·410	0·390	0·370	0·352	0·335	6
7	0·482	0·452	0·425	0·400	0·376	0·354	0·333	0·314	0·296	0·279	7
8	0·434	0·404	0·376	0·351	0·327	0·305	0·285	0·266	0·249	0·233	8
9	0·391	0·361	0·333	0·308	0·284	0·263	0·243	0·225	0·209	0·194	9
10	0·352	0·322	0·295	0·270	0·247	0·227	0·208	0·191	0·176	0·162	10
11	0·317	0·287	0·261	0·237	0·215	0·195	0·178	0·162	0·148	0·135	11
12	0·286	0·257	0·231	0·208	0·187	0·168	0·152	0·137	0·124	0·112	12
13	0·258	0·229	0·204	0·182	0·163	0·145	0·130	0·116	0·104	0·093	13
14	0·232	0·205	0·181	0·160	0·141	0·125	0·111	0·099	0·088	0·078	14
15	0·209	0·183	0·160	0·140	0·123	0·108	0·095	0·084	0·074	0·065	15

Annuity Table

Present value of an annuity of 1 i.e. $\frac{1 - (1 + r)^{-n}}{r}$

Where r = discount rate
n = number of periods

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	1·970	1·942	1·913	1·886	1·859	1·833	1·808	1·783	1·759	1·736	2
3	2·941	2·884	2·829	2·775	2·723	2·673	2·624	2·577	2·531	2·487	3
4	3·902	3·808	3·717	3·630	3·546	3·465	3·387	3·312	3·240	3·170	4
5	4·853	4·713	4·580	4·452	4·329	4·212	4·100	3·993	3·890	3·791	5
6	5·795	5·601	5·417	5·242	5·076	4·917	4·767	4·623	4·486	4·355	6
7	6·728	6·472	6·230	6·002	5·786	5·582	5·389	5·206	5·033	4·868	7
8	7·652	7·325	7·020	6·733	6·463	6·210	5·971	5·747	5·535	5·335	8
9	8·566	8·162	7·786	7·435	7·108	6·802	6·515	6·247	5·995	5·759	9
10	9·471	8·983	8·530	8·111	7·722	7·360	7·024	6·710	6·418	6·145	10
11	10·37	9·787	9·253	8·760	8·306	7·887	7·499	7·139	6·805	6·495	11
12	11·26	10·58	9·954	9·385	8·863	8·384	7·943	7·536	7·161	6·814	12
13	12·13	11·35	10·63	9·986	9·394	8·853	8·358	7·904	7·487	7·103	13
14	13·00	12·11	11·30	10·56	9·899	9·295	8·745	8·244	7·786	7·367	14
15	13·87	12·85	11·94	11·12	10·38	9·712	9·108	8·559	8·061	7·606	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	1·713	1·690	1·668	1·647	1·626	1·605	1·585	1·566	1·547	1·528	2
3	2·444	2·402	2·361	2·322	2·283	2·246	2·210	2·174	2·140	2·106	3
4	3·102	3·037	2·974	2·914	2·855	2·798	2·743	2·690	2·639	2·589	4
5	3·696	3·605	3·517	3·433	3·352	3·274	3·199	3·127	3·058	2·991	5
6	4·231	4·111	3·998	3·889	3·784	3·685	3·589	3·498	3·410	3·326	6
7	4·712	4·564	4·423	4·288	4·160	4·039	3·922	3·812	3·706	3·605	7
8	5·146	4·968	4·799	4·639	4·487	4·344	4·207	4·078	3·954	3·837	8
9	5·537	5·328	5·132	4·946	4·772	4·607	4·451	4·303	4·163	4·031	9
10	5·889	5·650	5·426	5·216	5·019	4·833	4·659	4·494	4·339	4·192	10
11	6·207	5·938	5·687	5·453	5·234	5·029	4·836	4·656	4·486	4·327	11
12	6·492	6·194	5·918	5·660	5·421	5·197	4·988	4·793	4·611	4·439	12
13	6·750	6·424	6·122	5·842	5·583	5·342	5·118	4·910	4·715	4·533	13
14	6·982	6·628	6·302	6·002	5·724	5·468	5·229	5·008	4·802	4·611	14
15	7·191	6·811	6·462	6·142	5·847	5·575	5·324	5·092	4·876	4·675	15

Standard normal distribution table

	0·00	0·01	0·02	0·03	0·04	0·05	0·06	0·07	0·08	0·09
0·0	0·0000	0·0040	0·0080	0·0120	0·0160	0·0199	0·0239	0·0279	0·0319	0·0359
0·1	0·0398	0·0438	0·0478	0·0517	0·0557	0·0596	0·0636	0·0675	0·0714	0·0753
0·2	0·0793	0·0832	0·0871	0·0910	0·0948	0·0987	0·1026	0·1064	0·1103	0·1141
0·3	0·1179	0·1217	0·1255	0·1293	0·1331	0·1368	0·1406	0·1443	0·1480	0·1517
0·4	0·1554	0·1591	0·1628	0·1664	0·1700	0·1736	0·1772	0·1808	0·1844	0·1879
0·5	0·1915	0·1950	0·1985	0·2019	0·2054	0·2088	0·2123	0·2157	0·2190	0·2224
0·6	0·2257	0·2291	0·2324	0·2357	0·2389	0·2422	0·2454	0·2486	0·2517	0·2549
0·7	0·2580	0·2611	0·2642	0·2673	0·2704	0·2734	0·2764	0·2794	0·2823	0·2852
0·8	0·2881	0·2910	0·2939	0·2967	0·2995	0·3023	0·3051	0·3078	0·3106	0·3133
0·9	0·3159	0·3186	0·3212	0·3238	0·3264	0·3289	0·3315	0·3340	0·3365	0·3389
1·0	0·3413	0·3438	0·3461	0·3485	0·3508	0·3531	0·3554	0·3577	0·3599	0·3621
1·1	0·3643	0·3665	0·3686	0·3708	0·3729	0·3749	0·3770	0·3790	0·3810	0·3830
1·2	0·3849	0·3869	0·3888	0·3907	0·3925	0·3944	0·3962	0·3980	0·3997	0·4015
1·3	0·4032	0·4049	0·4066	0·4082	0·4099	0·4115	0·4131	0·4147	0·4162	0·4177
1·4	0·4192	0·4207	0·4222	0·4236	0·4251	0·4265	0·4279	0·4292	0·4306	0·4319
1·5	0·4332	0·4345	0·4357	0·4370	0·4382	0·4394	0·4406	0·4418	0·4429	0·4441
1·6	0·4452	0·4463	0·4474	0·4484	0·4495	0·4505	0·4515	0·4525	0·4535	0·4545
1·7	0·4554	0·4564	0·4573	0·4582	0·4591	0·4599	0·4608	0·4616	0·4625	0·4633
1·8	0·4641	0·4649	0·4656	0·4664	0·4671	0·4678	0·4686	0·4693	0·4699	0·4706
1·9	0·4713	0·4719	0·4726	0·4732	0·4738	0·4744	0·4750	0·4756	0·4761	0·4767
2·0	0·4772	0·4778	0·4783	0·4788	0·4793	0·4798	0·4803	0·4808	0·4812	0·4817
2·1	0·4821	0·4826	0·4830	0·4834	0·4838	0·4842	0·4846	0·4850	0·4854	0·4857
2·2	0·4861	0·4864	0·4868	0·4871	0·4875	0·4878	0·4881	0·4884	0·4887	0·4890
2·3	0·4893	0·4896	0·4898	0·4901	0·4904	0·4906	0·4909	0·4911	0·4913	0·4916
2·4	0·4918	0·4920	0·4922	0·4925	0·4927	0·4929	0·4931	0·4932	0·4934	0·4936
2·5	0·4938	0·4940	0·4941	0·4943	0·4945	0·4946	0·4948	0·4949	0·4951	0·4952
2·6	0·4953	0·4955	0·4956	0·4957	0·4959	0·4960	0·4961	0·4962	0·4963	0·4964
2·7	0·4965	0·4966	0·4967	0·4968	0·4969	0·4970	0·4971	0·4972	0·4973	0·4974
2·8	0·4974	0·4975	0·4976	0·4977	0·4977	0·4978	0·4979	0·4979	0·4980	0·4981
2·9	0·4981	0·4982	0·4982	0·4983	0·4984	0·4984	0·4985	0·4985	0·4986	0·4986
3·0	0·4987	0·4987	0·4987	0·4988	0·4988	0·4989	0·4989	0·4989	0·4990	0·4990

This table can be used to calculate $N(d)$, the cumulative normal distribution functions needed for the Black-Scholes model of option pricing. If $d_i > 0$, add 0·5 to the relevant number above. If $d_i < 0$, subtract the relevant number above from 0·5.

CA2.5: FINANCIAL MANAGEMENT SUGGESTED SOLUTIONS

SOLUTION ONE

(a) Current Cost of Capital

Cost of Equity:

Total dividends = 20 million/2.5 = K8 million.

Ke = 8/50 = 16%.

$$\text{Cost of loan capital} = \left(1+\frac{6}{95}\right)^2 - 1 \; = 13.0\%$$

Kd = 13% (1-0.25) = 9.75%

Cost of Capital = (16% x 0.7) + (9.75% x 0.3) = 14%

(b) Financial Evaluation Using NPV

	0	1	2	3	4
	K'000	K'000	K'000	K'000	K'000
Revenue	-	3,360	3,763.2	4,214.8	-
Materials	-	(872)	(950.5)	(1,036)	-
Labour	-	(735)	(772)	(810)	-
Variable Overhead	-	(412)	(424.4)	(437.1)	-
Taxable cash flows	-	1,341	1,616.4	1,931.7	-
Tax @25%	-	-	(335.3)	(404.1)	(482.9)
Cost	(2,800)	-	-	-	-
Disposal	-	-	-	150	-
Tax saving on CA's			175	131	356.3
Working Capital	(700)	(56)	(60.48)	881.80	-

Net cash flow	(3,000)	1,285	1,395.6	2,690.4	(126.6)
d.f @ 14%	1	0.877	0.769	0.675	0.592
P.V.	(3,700)	1,126.95	1,073.22	1,816.02	(74.95)

NPV = K241,240

1. Capital allowances calculations:

		K	Tax savings
Year 1	Cost	2,800,000	
CA (25%)		700,000 × 25%	175,000
		2,100,000	
Year 2 CA (25%)		525,000 × 25%	131,250
		1,575,000	
Year 3 less: Sale		150,000	
CA		1,425,000 × 25%	356,250

2. Working Capital

Year	0	1	2	3
Cost (K)	(700)	756	816.48	881.80
Incremental (K)	(700)	(56)	(60.48)	(65.32)

(c). The proposed investment has given a negative NPV of K36, 380 which means it should not be undertaken because it will decrease the wealth of shareholders. On the other hand, based on the internal rate of return, the proposed investment should be undertaken since the IRR is above the cost of capital. Ideally, these two methods are supposed to given consistent results. The project team of D-JIL Plc should counter check the arithmetic to ensure it is correct. The ARR gives a rate of 30% which is higher than the target rate of 25% and therefore, the project should be undertaken on this basis. The payback period is 2.1 years which is below the company target of 2.5years and therefore, the project should be undertaken.

Given the results above, D-JIL Plc should undertake the investment because all the investment appraisal techniques support this conclusion.

(d) The net present value method of investment appraisal has a number of advantages over other methods.

(i) It is based on cash flows not accounting profit unlike ROCE. Accounting profits are subject to a number of different accounting treatments and cash flows can add to the wealth of the shareholders via increased dividends.

(ii) NPV looks at cash flows throughout the whole of an investment period unlike payback, which ignores cash flows after the end of the payback period. This avoids the incorrect rejection of projects with later high returns; although it is unlikely in practice that payback would be used in isolation.

(iii) NPV incorporates the time value of money by using discounted cash flows whereas ROCE and payback do not. This means that it takes account of the fact that K1 today is worth more than K1 in one year's time. Discounted payback can be used but this will still ignore cash flows after the payback period.

(iv) NPV is viewed as being technically superior to IRR and simpler to calculate. It reflects the amount of the initial value rather than a relative measure of return and represents the change in total market value that will occur if the investment project is accepted. Other investment appraisal methods do not directly show the potential increase in shareholder wealth, which is a primary financial management objective.

(v) The NPV method is superior for ranking mutually exclusive projects in order of attractiveness. IRR will give an incorrect indication where discount rates are less than the IRR of incremental cash flows.

(vi) Where cash flow patterns are non-conventional, for example where the sign of the net cash flow changes in successive periods, there may be several IRRs which decision makers must be aware of to avoid making the wrong decision. NPV however can accommodate these non-conventional cash flows.

(vii) When discount rates are expected to differ over the life of the project, such variations can be incorporated easily into NPV calculations, but not into IRR calculations.

(viii) An assumption underlying the NPV method is that any net cash inflows generated during the life of the project will be reinvested at the cost of capital (that is, the discount rate). The IRR method, on the other hand, assumes these cash flows can be reinvested to earn a return equal to the IRR of the original project, which is not necessarily reasonable.

SOLUTION TWO

(a) Forecast Income Statement

	K'million	
Sales (32.4 x 1.04)	33.696	
Cost of sales (balancing figure)	(18.5328)	
Gross Profit (45% x 33.696)		15.1632
Less: Operating expenses (12 x 0.893)	(10.71428)	
Operating Profit	4.4489142	
Tax@25%	1.112228	
Profit After Tax	**3.336685**	

(b) Number of Shares = K5m/K0.5 = 10 million shares
Earnings per share = K3.34m/10m = K0.334 per share
Market price per share = K2.4

$$\text{Earnings yield (EY)} = \frac{\text{EPS}}{\text{Market price per share}} \times 100\%$$

Earnings yield = K0.334/K2.4 x 100% = 13.92%
Market Value of Kaka Plc = K3.34m /0.1392 = K23.99million

Sales growth:

$$1 + g = \sqrt[4]{\frac{32.4}{27.7}}$$

$$1 + g = 1.03996$$

$$g = 4\%$$

(c) Importance of trade payables

Working capital
The net working capital of a business can be defined as its current assets less its current liabilities. The management of working capital is concerned with ensuring that sufficient liquid resources are maintained within the business. For the majority of businesses, particularly manufacturing businesses, trade payables will form the major part of the current liabilities figure, and will be a significant element in the make-up of the working capital balance.

Trade credit period
It follows that the trade credit period taken will be a major determinant of the working capital
requirement of the company. This is calculated (in days) as the total value of trade payables divided by the level of credit purchases times 365. The actual length of the period will depend partly on the credit terms offered by suppliers and partly on the decisions made by the company. For example, the company may choose to negotiate longer terms with its suppliers although this may be at the expense of any available settlement discounts.

Cash conversion cycle
A link can be made between working capital and liquidity by means of the cash conversion cycle. This measures the length of time that elapses between a firm paying for its various purchases and receiving payment for its sales. It can be calculated as the receivable days plus the inventory holding period less the trade credit period, and it measures the length of time for which net current assets must be financed. This emphasizes the important role of the trade credit period in the overall liquidity of the company.

Dangers of over reliance.

For many firms, trade payables provide a very important source of short-term credit. Since very few companies currently impose interest charges on overdue accounts, taking extended credit can appear to be a very cheap form of short-term finance. However, such a policy entails some risks and costs that are not immediately apparent, as follows.
(1) If discounts are being forgone, the effective cost of this should be evaluated – it may be more
beneficial to shorten the credit period and take the discounts.
(2) If the company gains a reputation for slow payment this will damage its credit references
and it may find it difficult to obtain credit from new suppliers in the future.
(3) Suppliers who are having to wait for their money may seek recompense in other ways, for
example by raising prices or by placing a lower priority on new orders. Such actions could do damage to both the efficiency and profitability of the company.
(4) Suppliers may place the company 'on stop' until the account is paid. This can jeopardise
supplies of essential raw materials which in turn could cause production to stop: this will obviously provide the company with a high level of unwanted costs.

SOLUTION THREE

(a) The K1.2million is the par value of the debenture, which is the finance required by Glanware Limited. The debentures were issued at a par value K1.2 million. Sometimes debentures can be issued at a discount to the par value or at a premium to the par value. The coupon is the interest rate payable by Glanware which is 9% on the par value. The par value is the issue price which is K1.2 million. The redemption period 15 years is the maturity period for the bond. The debenture will be paid back at the end of 15 years.

(b) Advantages of rights issues

i) Rights issues are cheaper than offers for sale to the general public. New shares are issued at a discount to the current market price, to make them attractive to investors. A rights issue secures the discount on the market price for existing shareholders, who may either keep the shares or sell them if they wish.

ii) Rights issues are more beneficial to existing shareholders than issues to the general public. New shares are issued at a discount to the current market price, to make them attractive to investors. A rights issue secures the discount on the market price for existing shareholders, who may either keep the shares or sell them if they wish.

iii) Relating voting rights are unaffected if shareholders all take up their rights.

iv) The finance raised may be used to reduce gearing in book value terms by increasing share capital and/or to pay off long term debt which will reduce gearing in market value terms.

(c) Any public company suffers a risk of bankruptcy and/or default on its interest payments. In normal circumstances this default risk is higher than that of the central bank issued government bonds. Because investors require compensation for risk, the company must offer to pay a higher interest rate than that paid by the government. Furthermore the company will not be able to obtain the economies of scale on loan issue costs which are available to the government.

(d) A zero coupon bond pays no interest. If it is to be redeemed at par it must be issued at a large discount on par value, giving the investor a return which consists entirely of the capital gain between redemption value and issue price.

A company would find such a zero interest bond attractive if it needs to finance a project through a start-up period of several years in which all cash generated is needed for investment. The bond would be suitable provided that by the redemption date sufficient cash or refinancing is available to pay the vendors a much larger sum than was originally borrowed.

Investors who prefer to make capital gains rather than to receive interest would find this type of bond attractive because it has growth characteristics without the risk of equity shares.

(e) For every 4 shares at K12.50, one new share is issued at K10. The theoretical ex-rights price will therefore be [(4x K12.50) + K10] /5 = K12 per share.

(f)

Year	Cash Flow	Discount Factor @ 10%	Present Value
0	(100)	1	(100)
1-15	5	7.606	38.03
15	100	0.239	23.9
			(38.07)
	Total		

The company's shares are projected to rise from K12.5 to K20 in 15 years, from which the expected average annual return is calculated as K12.5 x (1+r)^15 = K20. Therefore r is approximately 3% representing poor business performance from Glanware.

SOLUTION FOUR

1 (a) The following factors should be considered in determining the optimum level of cash to be held by UpScale Ventures, for example, at the start of a month or other accounting control period.

<u>The transactions need for cash</u>
The amount of cash needed for the next period can be forecast using a cash budget, which will net off expected receipts against expected payments. This will determine the transactions need for cash, which is one of the three reasons for holding cash.

<u>The precautionary need for cash</u>
Although a cash budget will provide an estimate of the transactions need for cash, it will be based on assumptions about the future and will therefore be subject to uncertainty. The actual need for cash may be greater than the forecast need for cash. In order to provide for any unexpected need for cash, a company can include some spare cash (a cash buffer) in its cash balance. This is the precautionary need for cash. In determining the optimal level of cash to be held, a company will estimate the size of this cash buffer, for example from past experience, because it will be keen to minimise the opportunity cost of maintaining funds in cash form.

<u>The speculative need for cash</u>
There is always the possibility of an unexpected opportunity occurring in the business world and a company may wish to be prepared to take advantage of such a business opportunity if it arises. It may therefore wish to have some cash available for this purpose. This is the speculative need for cash. Building 'a war chest' for possible company acquisitions reflects this reason for holding cash.

<u>The availability of finance</u>
A company may choose to hold higher levels of cash if it has difficulty gaining access to cash when it needs it. For example, if a company's bank makes it difficult to access overdraft finance, or if a company is refused an overdraft facility, its precautionary need for cash will increase and its optimum cash level will therefore also increase.

(b) The cash to be raised = 3,200,000 + 100,000 = K3, 300, 000
The number of shares issued = 3,300,000/2.50 = 1,320,000 shares
Total number of shares after the stock market listing = 11,320,000 shares
Increase in before-tax income = 0.18 x 3.2m = K576, 000
Increase in after-tax income = 576,000 x 0.8 = K460, 800
Revised earnings = 2,600,000 + 460,800 = K3, 060, 800

Revised earnings per share = 100 x (3,060,800/11,320,000) = 27 Ngwee per share
Current earnings per share = 100 x (2,600,000/10,000,000) = 26 Ngwee per share

<u>The earnings per share has increased by 1 ngwee per share</u>, which existing shareholders may find acceptable. However, the balance of ownership and control

will change as a result of the new shareholders, and no information has been provided about expected future dividends.

(c) Traded bonds are debt securities issued onto the capital market in exchange for cash received by the issuing company. The cash raised must be repaid on the redemption date, usually between five and fifteen years after issue. Bonds are usually secured on non-current assets of the issuing company, which reduces the risk to the lender. In the event of default on interest payments by the borrower, the bond holders can appoint a receiver to sell the assets and recover their investment. Interest paid on the bonds is tax-deductible, which reduces the cost of debt to the issuing company.

Provided the borrower continues to pay the interest, however, bond finance is a low risk financing choice by the issuer. There are a number of differences between bond finance and a new equity issue via a placing that will influence the choice between them. Equity finance does not need to be redeemed, since ordinary shares are truly permanent finance. While bond interest is usually fixed, the return to shareholders in the form of dividends depends on the dividend decision made by the directors of a company, and so these returns can increase, decrease or be passed. Furthermore, since dividends are a distribution of after-tax profit, they are not tax-deductible like interest payments, and so equity finance is not tax-efficient like debt finance. Venture capital is found in specific financing situations, i.e. where risk finance is needed, for example, in a management buyout.

Both equity and debt finance can be part of a venture capital financing package, but the return expected on venture capital is very high because of the level of risk faced by the investor.

SOLUTION FIVE

(a) The roles played by the financial managers are:

Raising of Funds

In order to meet the financial obligations of a business, it is important to have enough cash and liquidity. A firm can raise funds by the way of equity and debt. It is the responsibility of a financial manager to decide the ratio between debt and equity. It is also important to maintain a good balance between equity and debt.

Allocation of Funds

Once the funds are raised through different sources the next important function is to allocate the funds. The funds should be allocated in such a manner that they are optimally used. In order to allocate funds in the best possible manner the following point must be considered:

- The size of the firm and its growth capability
- Status of assets whether they are long-term or short-term
- Mode by which the funds are raised

These financial decisions directly and indirectly influence other managerial activities. Hence formation of a good asset mix and proper allocation of funds is one of the most important activities of a finance manager.

Profit Planning

Generating Profits is one of the prime functions of any business organization. Earning profits is important for the survival and sustenance of any organization. Profit planning entails the usage of the profits generated by the firm in line with its objectives.

Profits arise due to many factors such as pricing, industry competition, state of the economy, mechanism of demand and supply, cost and output. A healthy mix of variable and fixed factors of production can lead to an increase in the profitability of the firm.

Fixed costs are incurred by the use of fixed factors of production such as land and machinery. These capital or fixed costs should be expensed over the asset life spans. An opportunity cost must be calculated in order to replace those factors of production which have gone through wear and tear. If this is not taken into account these fixed costs can cause huge fluctuations in profitability.

Understanding Capital Markets

Shares of companies are traded on stock exchanges and there is a continuous sale and purchase of securities. Hence a clear understanding of capital market is an important function of a financial manager. Trading securities on stock markets involves a huge amount of risk. Therefore a finance manager should understand and be able to determine the risk involved in the trading of shares and debentures.

Finance manages provide advice on how to distribute the profits. Many investors are against the distribution profits by firms to shareholders as dividends, instead they prefer re – investment of profits in the business to enhance growth. The practices of a financial manager directly impact the operation in capital market.

Cash management (Working Capital Management)

Cash Management is an important aspect of your business because it provides you with a process of monitoring, analyzing and adjusting the cash flow of your business which will enhance liquidity and profits while also reducing risk.

Risk Management

The role of a Finance Manager is to communicate risk policies and processes for an organization. They provide hands - on development of risk models involving market, credit and operational risk, assure controls are operating effectively, and provide research and analytical support.

(b) Cost of equity

Geometric average dividend growth rate = (21.8/19.38)^0.25 – 1 = 0.0298 or 3%
Using the dividend growth model, $k_e = D_o(1+g)/P_0 + g$ = 0.03 + ((21.8 x 1.03)/2.5) = 0.03 + 8.9816= 9.0116 x 100% = **9.01%**

(c)

(i) WACC before new issue of bonds takes place:

Market values of equity and debt

Item	**Computation**	**Value**
Market Value of Equity = Ve	100m x 2.50	K250 million
Market Value of Bonds = V_d	60m x (104/100	K62.4 million
	100 x (4,500/41,000)	11.0%
Total Market Value of ZAMTEL	Ve + Vd = 250 + 62.4	K312.4 million
WACC	((Ke x Ve) + (kd(1 – T) x Vd)/(Ve + Vd)) =	**722.56%**

	((9.016% x 250m) + (7% x 62.4m))/312.4m = 8.6%	

The current after - tax cost of debt is 7%
The weighted average after-tax cost of capital before the new issue of bonds is **8.6%.**

(ii) WACC after new issue of bonds takes place

After-tax cost of debt of new bond issue
After-tax interest rate = 8 x (1 – 0.3) = 5.6% per year

Using interpolation:

Year	Cash flow	K	Discount at 5%	PV
0	Market price	-100	1.0	-100
1 - 10	Interest	5.6	7.722	43.24
10	Redemption	105	0.614	64.47
				7.71
Year	**Cash flow**	**K**	**Discount at 6%**	**PV**
0	Market price	-100	1.0	-100
1 - 10	Interest	5.6	7.36	41.22
10	Redemption	105	0.558	58.59
				(0.19)

After-tax cost of debt = 5 + [((6 – 5) x 7.71)/(7.71 + 0.19)] = 5 + 0.98 = **5.98% or 6%**

WACC after new issue of bonds

The market value of the new issue of bonds is K40 million

The total market value of ZAMTEL Ltd will increases to 312.4 + 40 = K352.4 million
WACC = ((9.01% x 250m) + (7% x 62.4m) + (6% x 40))/352.4m = **8.31%**

After the new issue of bonds, the weighted average after-tax cost of capital has decreased from 8.6% to 8.31%, because the proportion of debt finance, which has a lower required rate of return than equity finance, has increased.

The WACC calculation assumes that the cost of equity has not changed, when in reality the cost of equity might be expected to rise in response to the increase in financial risk caused by the new issue of debt. The share price of the company has also been assumed to be constant.

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

APPLICATION ADVANCED DIPLOMA IN ACCOUNTANCY

CA 2.6 STRATEGIC BUSINESS ANALYSIS

WEDNESDAY 13 DECEMBER 2023

TOTAL MARKS: 100; TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question.
2. This paper is divided into TWO sections:

   Section A: One (1) compulsory scenario question.

   Section B: Four (4) Optional scenario Questions. Attempt any three (3) questions.
3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.
4. Do **NOT** write in pencil (except for graphs and diagrams).
5. **Cell Phones** are **NOT** allowed in the Examination Room.
6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.
7. All workings must be done in the answer booklet.
8. Present legible and tidy work.
9. Graph paper (if required) is provided at the end of the answer booklet.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR

SECTION A

This question is compulsory and must be attempted

<u>QUESTION ONE</u> – (COMPULSORY)

CASE: AEROSPACE COMPANY DRIVES ONE COMPANY SYNERGIES

The competitive pressures brought on by the 4th Industrial Revolution are requiring transformational change for long-established companies to remain competitive. Their test organizations are no exception and, fortunately, are locations of great opportunity for driving competitive advantage. Because of their effects on the cost and speed of key enterprise processes in engineering and manufacturing they have become a key focus for producing "one company synergies".

The customer's Aerospace division had completed several reorganizations focused on reducing costs and improving performance and they were looking for more. Like many aerospace companies, this one was an assembly of many previous acquisitions. Each acquisition brought its own company culture and practices. What they had not fully explored was how to improve resource management within their complex and costly test organizations. They thought there might be an opportunity for "one company" synergies.

A snapshot of their situation follows.

- 40+ facilities globally
- An eclectic mix of categories of equipment: sharable and non-sharable, large fixed and portable, mechanical and electrical and company developed.
- Equipment utilization averaging below 20%, 7% to 30% depending on asset category.
- A proliferation of processes, tools, and spreadsheets for managing the equipment.
- Cultural barriers included distrust between departments that lead to hoarding of equipment and other costly behaviors.
- No comprehensive data about their assets, their use, availability, condition, future demand, obsolescence, or a host of other important information.

These unknowns were anathema to the company's data-driven, engineering-focused culture. Company leaders realized that not knowing the answers quickly translated into excessive hidden costs of ownership – equipment purchases, property taxes, storage space, calibration and maintenance, rental and lease costs, distractions of key technical staff, etc. – as well as downtime associated with obsolete equipment and, more importantly, program delays. This was the opposite of "one company synergies". With demand for capital out-stripping supply, there was a clear need and plenty of room for dramatic improvement.

Required:

(a) Explain why synergy is important for corporation. (4 marks)

(b) Discuss five (5) most frequent areas and sources of potential synergies for a company like Aerospace. (20 marks)

(c) Aerospace company just paid a cash dividend of $2 per share. If investors require a 16 percent return from investments such as this and if the dividend is expected to grow at the steady 8 percent per year;

  (i) What is the current value of stock (3 marks)

  (ii) What will the stock be worth in five (5) years (3 marks)

(d) Explain some of the problems associated with mergers and acquisitions.

(10 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Answer any THREE (3) questions.

QUESTION TWO

Mr. Kangwa worked for the mines and retired with 30 years mining experience. Upon receiving his retirement package, He decided to invest into copper mining. He bought land in Lufwanyama for this purpose. It is now 10 years since he bought this land nothing has been done on the plot except that he now uses it as a maize and groundnuts field while the precious treasures lie under there. A friend recently asked him about his intended venture. His response was that there is so much unfair treatment in the industry because the companies that are doing well are of foreign investors, he has no equipment and enough money to enable him compete in the industry.

Required:

(a) Explain any five (5) barriers to enter the industry Mr. Kangwa is facing. (10 marks)

(b) Though entry barriers are there in the mining industry they may be lowered by the impact of change. Encourage Mr. Kangwa by explaining how barriers to entry may be lowered by the impact of change and may create chances to improve his investment in mining. (3 marks)

(c) Describe what a joint venture is to Mr. Kangwa and show five (5) advantages as another root he can take to develop his mining investment. (7 marks)

[Total: 20 Marks]

QUESTION THREE

Your former classmate Brenda Chileshe has just landed herself a new job as an Executive Director for an international company. The company has just opened a new branch in Zambia and they intend to expand to the neighboring DRC. The task before the new director is to assemble a new working team which will work to implement the company's' strategic plan. Chileshe believes that assembling a capable management team is a cornerstone of the organization success. However the most important consideration is to come up with a good structure and to fill managerial positions with smart people who are clear thinkers, good at figuring out what needs to be done, and are skilled in 'making it happen' and delivering results. As a Director she must have positive strategic influence on her team and therefore, she has approached you for advice.

Required:

(a) Discuss the three (3) main strategic management elements. (6 marks)

(b) Advise Chileshe on any three (3) characteristics of effective strategic Leaders in an organization as postulated by Charles Hill and Gareth. (9 marks)

(c) State any five (5) factors to consider in selecting a proper organization structure. (5 marks)

[Total: 20 Marks]

QUESTION FOUR

Zambians in the past depended mostly on products by Unilever brothers and imports from other countries. Some of the products became monotonous to the consumers who were always looking for something more useful, satisfying and unique. Companies are constantly working at building a strong competitive advantage which can only be achieved by providing goods and services which are of standard to the community. The Trade kings group is an example of a holding company that has used product development through branding and has come up with new ones which are competing locally and internationally.

Required:

(a) What is the importance of R&D to companies like the Trade Kings Group? (2 marks)

(b) Advise four (4) research aspects that have helped Trade King and the group of companies to pay attention to how goods and services are produced. (8 marks)

(c) Intrapreneurship is entrepreneurship carried on at intermediate levels within the organization to promote innovation. Intrapreneurship promotion has many aspects. Explain five (5) aspects of intrapreneurship that promote innovation in companies like trade kings. (10 marks)

[Total: 20 Marks]

QUESTION FIVE

It was not easy for Mwendapole to explain to the Board of Directors why the company has been operating without any strategic plan. Mr. Mwendapole, who is an engineer by profession, was promoted as the General Manager of the company. One of the non-executive board member expressed concern that the running of a business without a strategic plan is subjecting the company to a lot of business risks. After appreciating the importance of a good strategic plan, Mr. Mwendapole has approached you with the following questions:

Required:

(a) Discuss any four (4) determinants or factors that influence the make-up of a strategy in and around the organization. (12 marks)

(b) Advise on some of the sources of risks in a business. (8 marks)

[Total: 20 Marks]

END OF PAPER

CA 2.6 STRATEGIC BUSINESS ANALYSIS SUGGESTED SOLUTIONS

SECTION A

SOLUTION ONE

Required:

(a) Explain why synergy important for corporation

Synergy allows companies to combine resources, personnel and data leading to more effective operations and marketing efforts. These synergized companies can also benefit from strategic partnerships, allowing access to more effective supply and the ability to reach a larger market.

(b) Discuss five most frequent areas and sources of potential synergies for a company.

Synergy can arise in several areas. Some of the more frequent areas and sources of potential synergy include for example:

(i) **Sales and Marketing Synergy**

When products and distribution channels are combined, opportunities for 'tie-in' sales when a company acquires a company with a complementary range of products can give rise to synergy. One of the most frequent sources of synergy in this area is where a company can use its strong brand name or corporate identity to gain extra benefits in new markets.

(ii) **Operating Synergy**

Operating synergy is most often the result of increased utilization of facilities and personnel, spreading overheads, and large-scale purchasing.

(iii) **Investment Synergy**

This type of synergy arises from for example: combining plant and machinery, raw material inventories, transfer of research and development knowledge.

(iv) **Personnel Synergy**

Synergy can also arise through the combination of people and their skills. So, for example, if a company has extremely competent senior management skilled, say, in strategic planning, increased performance can result in acquired companies, giving rise to positive synergy.

(v) **Financial Synergy**

Financial Synergy opportunities can be created when a cash-rich company acquires another company say to penetrate new markets, may additionally benefit by producing extra profits from otherwise 'idle' cash.

(c) Aerospace company just paid a cash dividend of $2 per share. If investors require a 16 percent return from investments such as this and if the dividend is expected to grow at the steady 8 percent per year;

(i) What is the current value of stock

(ii) What will the stock be worth in five year

i- Current Value of stock

$P_0=D_1/(R-g)=D_0 \times (1+g)/(R-g)$

$= \$2 \times 1.08/(0.16-0.08)$

$= \$2.16/0.08$

= $27

(iii) Stock worth in five years

$P_5 = Po \times (1+g)^5$

$= \$27 \times 1.08^5$

$= \$27 \times 1.4693$

= $ 39.67

(d) Explain some of the problems associated with mergers and acquisitions.

i- Cost- they might be too expensive, especially if resisted by the directors of the target company.

ii- Customers- customers of the target company may resent a sudden takeover and consider going to other suppliers for their goods.

iii- Incompatibility- in general, different systems of operations might create indigestion and management overload in the acquired company.

iv- Asymmetric information highlights the fact that acquisitions market for companies is rarely efficient. The existing management knows more about the company than the purchaser. This can lead to overvaluation.

v- Poor success record of acquisition. Takeovers benefit the shareholders of the acquired company often more than the acquirer.

SECTION B

SOLUTION TWO

a) The following are the five (5) entry barriers Mr. Kangwa may be facing in the industry.
   i. Scale economies-high fixed costs.
   ii. Product differentiation existing firms in the mining industry may have built up a good brand image and strong customer loyalty.
   iii. Knowledge and requirements as well as high capital requirements
   iv. Switching costs from one product to the other
   v. Access to distribution channels
   vi. Cost advantage of existing producers, of independent of economies of scale include:
      - ✓ Patents
      - ✓ Experience and know how
      - ✓ Government subsidies and regulations
      - ✓ Favored access to role material

b) Entry barriers might be lowered by impact of change in the following ways:
   (i) Changes in the environment which will forcefully bring changes that could be legal decisions by government to promote local investment, lower costs of borrowing, government support and eased investor entry.
   (ii) Technological changes like the internet e- commerce which have enabled businesses to come up with different business models.
   (iii) New distribution channels for products and services including the internet.

c) The following is the definition of joint venture and its advantages:

   Joint venture is when two or more join forces for manufacturing, financial, and marketing purposes and each has a share in both the equity and management of business.

   Advantages are:
   (i) Sharing of costs.
   (ii) Cut on risks.
   (iii) Participating enterprises benefit from all sources of profit.
   (iv) Provision of local knowledge if in another country
   (v) Synergies which allow benefitting from each other's expertise.

SOLUTION THREE

Required:

(a) Discus the three main strategic management elements.

(i) **Strategic Position.** Understanding the organization environment, capabilities and shareholders influence,

(ii) **Strategic Choice.** Decisions being made at corporate and business level units.

(iii) **Strategic implementation.** Putting into action the strategy adopted by the organization. It includes, structuring, Enabling and change.

(b) Advise Chileshe any Three (3) characteristics of effective strategic Leaders in an organization as postulated by Charles Hill and Gareth.

1 **Vision, eloquence and consistency**

One of the key tasks of a leader is to give an organization a sense of direction. Strategic leaders need to have a vision where the organization should go, they need to be eloquent (being able to express their ideas and opinions well, especially in a way that influences people) enough to communicate the vision to others within the organization in terms that will energize people, and consistently articulate their vision until it becomes part of the culture of the organization.

2 **Commitment**

Good leaders demonstrate their commitment to their vision by action and words and they often lead by example. Leading by example can mean doing what one preaches; this kind of commitment is a powerful signal to employees within the organization. If it is cost minimization, the CEO should be the first to adhere. It is this commitment by strategic leaders which can compel subordinates in the organization to work hard because they are able to see the unity of direction and unity of command from top down of the organization.

3 **Being well informed**

Effective strategic leader develop a network of formal and informal sources of information which keep them well informed about what is going on within and outside their company. Using informal and unconventional ways to gather information is wise because formal channels can be captured by other interests within the organization, or by gatekeepers, managers who may misrepresent the true state of affairs within the company. Managers who constantly interact with employees at all levels are better able to build information networks than leaders who closet themselves and never interact with lower level employees. It is actually the concept of be informed from all angels and make informed decision that will consider all the stakeholders to enhance goal achievement.

4 **Willingness to delegate and empower**

High – performance leaders are skilled at delegation. They recognize the fact that unless they learn how to delegate effectively, they can easily be overloaded with responsibilities. They also recognize that empowering subordinates to make decisions is a good motivation tool. Delegation also makes sense when it results in decision being made by those who must implement them and are experts in their area of specialization. Thus, although they will delegate many decisions to lower level employees, they will not delegate those they judge to be critical to the future success of the organization under their leadership.

5 **The Astute Use of Power**

According to the Longman Dictionary of Contemporary English, the word Astute refers to one who is "Able to understand situation or behaviour very well and very quickly, especially so that you can get advantage for yourself'. Effective leaders tend to be very Astute in their use of power, this means three things:

(i) Strategic Leaders must play a power game with skill and attempt to build the consensus for their ideas rather than use their authority to force ideas through: they act as a member or democratic leader of a coalition rather than as Dictator.
(ii) Strategic leaders often hesitate to commit themselves publicly to detailed strategic plans or precise objectives, since in all probability the emergence of unexpected contingencies will require adaptation. Thus, a successful leader might commit the organization to a particular vision, such as minimizing costs or boosting product quality, without stating precisely how or when this will be achieved. Strategic leaders often have precise private objectives and strategies that they would like to see the organization pursue. However, they recognize the futility of public commitment given the likelihood of change and the difficulties of implementation.

(iii) And thirdly, effective leaders possess the ability to push through the programs in piecemeal fashion. They recognize that on occasion, it may be futile to try to push total packages or strategic programs through the organization, since significant objections to at least part of such programs are likely to arise. Therefore, strategic leaders tries to push through ideas one piece at a time, so that they appear incidental to other ideas, though in fact they are part of the larger hidden agenda that that will move the organization in the direction of the manager's objectives.

6 **Emotional Intelligence (EQ)**

"Emotional Intelligence is ability to gather data from your emotions and the emotions of others and translate that into useful information. It is the idea of using your emotions, your feelings, and your moods, and the emotions, feelings, and moods of others, as a source of information and to use that information in a way that will help you navigate through life more effectively, It also involves creating emotional states that allow people to act more productively, to act more intelligently, to act more creatively." *(Hendrie Weisinger, author of Emotional Intelligence At Work.)*

(c) Advise Chileshe how to select a proper organizational structure when implementing strategies to ensure superior organizational performance

There are 9 tests that may be used to assess proposed organizational structures, with the first 4 tests relating to the organization's objectives and the restraints under which it operates while the last 5 relate to matters of design principle.

a. Market advantage. Where processes must be closely coordinated in order to achieve market advantage, they should be in the same structural element.
b. Parenting advantage. The structure should support the parenting role played by the corporate center.
c. People test. The structure must be suited to the skills and experience of the people that have to function within it.
d. Feasibility test. This test sweeps up all other constraints, such as those imposed by law, stakeholder opinion and resource availability.
e. Specialized cultures. Specialists should be able to collaborate closely.

f. Difficult links. It is highly likely that some inter-departmental links will be subject to friction and strain.
g. Redundant hierarchy. The structure should be as flat as is reasonably attainable.
h. Accountability. Effective control requires clear lines of accountability.
i. Flexibility. The structure must allow for requirements to change in the future, so that unexpected opportunities can be seized

SOLUTION FOUR

(a) It is activities a company undertakes in order to develop a new product or add new features to an existing product or service.

(b) These are the aspects of process research utilized by trade kings and group.

(i) Processes
(ii) Productivity
(iii) Planning
(iv) Quality management

(c) The following are the five (5) Intrapreneurship promotion aspects:

(i) Encouragement for individuals to achieve results in their own way without need for constant supervision.
(ii) A culture of risk taking and tolerance of mistakes.
(iii) Flexible approach to organization that facilitate the formation of project teams.
(iv) Willingness and ability to devote resources to trying out new ideas.
(v) Incentives and reward policy that support intrapreneurship activity.

SOLUTION FIVE

(a) Discuss any Four (4) determinates or factors that influence the make-up of a strategy in and around the organization.

1. SOCIETAL, POLITICAL, REGULATORY AND CITIZEN CONSIDERATIONS

What a company can and cannot do strategies is always constrained by what is legal, by what is in compliance with government regulations and policies, by what is considered socially acceptable and by what constitutes community citizenship. More and more companies now consider societal values and priorities, community concerns and for the potential for onerous legislation and regulatory requirements. The concept of corporate, social responsibility is now showing in company's mission statements.

2. INDUSTRY ATTRACTIVENESS AND COMPETITIVE CONDITIONS

Industry attractiveness and competitive conditions are big strategy – determining factors. When a firm concludes its industry environment has grown unattractive, and it is better of investing company resources elsewhere, it may craft a strategy of disinvestments and abandonment. When competitive conditions intensify significantly, a company must respond with strategic actions to protect its position. A strategist therefore, has to be a student of industry and competitive conditions.

3. SPECIFIC COMPANY OPPORTUNITIES AND THREATS

A well-conceived strategy aims at capturing a company's best growth opportunities and defending against external threats to its well-being and future performance. The particular business opportunities a company has and the threats to its position that it faces are key influences on strategy.

4. ORGANISATIONAL STRENGTHS, WEAKNESSES, AND COMPETITIVE CAPABILITIES

Experience shows that in matching strategy to a firm's internal situation, management should build strategy around what the company does well and avoid strategies whose success depends heavily on something the company does poorly or has never done at all. A company's strategy ought to be grounded in what it is good at doing (i.e. its organisational strength and competitive capabilities and avoid what it is not so good at doing (i.e. its organisational and competitive weaknesses

5. THE PERSONAL AMBITIONS, BUSINESS PHILOSOPHIES AND ETHICAL BELIEFS OF MANAGERS

Managers decisions are often influenced by their own vision of how to compete and how to position the enterprise and by what image and standing they want the company to have managers personal ambitions business philosophies, and ethical beliefs are usually woven into the strategies they craft sometimes the influence of the manager's personal values and experiences is conscious and deliberate, at other times it is unconscious. Attitudes toward risk also have a big influence on strategy. Risk avoids favour "conservative" strategies that minimise downside risk, have a quick payback and produce sure short term profits. Risk takers lean more toward opportunistic strategies where bold moves can produce a big pay off over the long term. Risk takers prefer innovation to imitation and strategic offensives to defensive conservation. Managerial values also shape the ethical quality of a firm's strategy.

6. THE INFLUENCE OF SHARED VALUES AND COMPANY CULTURE ON STRATEGY

An organisation's policies, practices, traditions, philosophical beliefs and ways of doing things combine to give it a distinctive culture. A company's values and culture sometimes dominate the kind of strategic moves it will consider or reject. This is because culture related values and beliefs become so embedded in management's thinking and actions that they condition how the enterprise responds to external events.

(b) Advise on some of the sources of risks in business

(i) **Environmental Risk:** Risks coming from the impact of the organization in the natural environment. Variables such as pollution and floods can in the long term cause some profound changes in the business.

(ii) **Economic Risk:** Assumptions about the economic environment may be incorrect, and the organization may be adversely affected as a result.

(iii) **Financial Risk:** A business can be affected by changes in interest rates, economic climate, gearing, bad debts, liquidity, and insolvency.

(iv) **Product Risk:** Revenues from products fall because of product failure on the market due to lose of market.

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

ADVISORY PROFESSIONAL IN ACCOUNTANCY

CA3.1 ADVANCED FINANCIAL REPORTING

MONDAY 11 DECEMBER 2023

TOTAL MARKS – 100: TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question. You will be told when to start writing.

2. This paper is divided into TWO (2) sections:

   Section A: ONE (1) **Compulsory** scenario question.
   Section B: FOUR (4) Optional scenario questions. Attempt any THREE (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Present legible and tidy work.

9. Graph paper (if required) is provided at the end of the answer booklet.

10. Present Value and Annuity tables are attached at the end of this paper.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

SECTION A

This question is compulsory and must be attempted.

<u>QUESTION ONE </u>– (COMPULSORY)

The following draft financial statements relate to Banana, a public limited company and two (2) other companies in which it owns investments.

Draft statements of financial position as at 31 October 2023

	Banana	**Grape**	**Melon**
Assets	**K' m**	**K' m**	**SAR' m**
Non-current assets			
Property, plant and equipment	275	105	390
Investment in Grape	110		
Investment in Melon	46		
Investment property	5		
Financial assets	12	9	98
	448	114	488
Current assets			
Inventories	20	12	16
Trade and other receivables	30	25	36
Cash and cash equivalents	14	11	90
	64	48	142
Total assets	512	162	630
Equity and liabilities			
Equity shares	80	50	210
Retained earnings	230	74	292
Other components of equity	40	12	
Total equity	350	136	502

Non-current liabilities	95	7	110
Current liabilities	67	19	18
	162	26	128
Total equity and liabilities	512	162	630

The following information is relevant to the preparation of the group statement of financial position:

1. Banana owns 60% of the equity shares of Melon, a company located in south Africa which uses the South African Rand (SAR) as its functional currency. The shares in Melon were acquired on 1 November 2022 at a cost of SAR 368 million. At the date of acquisition, retained earnings were SAR 258 million and Melon had no other components of equity. No fair value adjustments were deemed necessary in relation to the acquisition of Melon. The fair value of the non-controlling interest was estimated as SAR 220 million at acquisition.

   An impairment review of goodwill was undertaken as at 31 October 2023. No impairment was necessary in relation to Grape, but the goodwill of Melon is to be impaired by 20%. Neither Banana, Grape nor Melon has issued any equity shares since acquisition.

2. On 1 February 2023, Banana gave an interest-free loan to Melon for K10 million. Melon recorded this correctly in its financial statements using the spot rate of exchange. Melon repaid K5 million on 1 July 2023 when the spot exchange rate was K1 to 10 SAR. Melon therefore reduced its non-current liabilities by 50 million SAR. No further entries were made in Melon's financial statements. The remaining balances remain within the financial assets of Banana and the non-current liabilities of Melon.
3. Banana acquired 80% of the equity shares of Grape on 1 November 2021 when Grape's retained earnings were K56 million and other components of equity were K8 million. The fair value of the net assets of Grape was K120 million at the date of acquisition. This does not include a contingent liability which was disclosed in Grape's financial statements as a possible obligation of K5 million. The fair value of the obligation was assessed as K1 million at the date of acquisition and remained unsettled as at 31 October 2023. K5 million is still disclosed as a possible obligation with no change in its fair value. Any remaining difference in fair value of the net assets at acquisition relates to non-depreciable land. The fair value of the non-controlling interest at acquisition was estimated as K25 million. Banana always adopts the full goodwill method under IFRS 3 *Business Combinations*.

4. Banana operates a defined benefit scheme for its employees but has yet to record anything for the current year except to expense the cash contributions which were K6

million. The opening position was a net liability of K15 million which is included in the non-current liabilities of Banana in its draft financial statements. Current service costs for the year were K5 million and interest rates on good quality corporate bonds fell from 8% at the start of the year to 6% by 31 October 2023. In addition, a payment of K3 million was made out of the cash of the pension scheme in relation to employees who left the scheme. The reduction in the pension scheme liability as a result of the curtailment was K4 million. The actuary has assessed that the scheme is in deficit by K17 million as at 31 October 2023.

5. The investment property in the books of Banana represents an office facility that was completed on 1 November 2021 at the cost of K3.5 million. The useful economic life of the facility was estimated at 20 years. Immediately after the acquisition of Grape, Banana began to rent this property out to Grape under a lease agreement. Banana group values its investment property using the fair value model under IAS 40 Investment Properties and its owner-occupied properties using the cost model under IAS 16 Property, Plant and Equipment.

6. Banana wished to expand its overseas operations and on 1 May 2023 acquired an overseas property with a fair value of 58.5 million SAR. In exchange for the building, Banana paid the supplier with land which Banana had held but had yet to determine its use. The carrying amount of the land was K5 million but it had an open market value of K7 million. Banana was unsure as to how to deal with this transaction and so has transferred K5 million from investment properties to property, plant and equipment. The transaction has commercial substance.

   In addition, Banana spent K0.5 million to help relocate staff to the new property and added this amount to the cost of the asset. Banana has made no other entries in its financial statements in relation to the property.

   The property has a remaining useful life of 35 years.

7. The following exchange rates are relevant for the preparation of the group financial statements: South African Rand **(SAR) to K1 (SAR per K1)**

1 November 2022	8
1 February 2023	9
1 May 2023	9
31 October 2023	9.5
Average for the year to 31 October 2023	8.5

The accountant of Grape Plc suggested to the group accountant not to change the group accounting policy regarding recognition of leases to reflect the requirements of IFRS 16 '*Leases*'. Doing so would increase Banana Plc's indebtedness and hinder the company from renewing its overdraft facility. It would also make the company acquire a risky investment status and reduced credit rating. This would lead to an increase in the cost of borrowing for the company to about double the current average cost.

Required:

(a) As outlined in IAS 21, explain the accounting treatment of exchange differences arising on:

  (i) foreign transactions and (1 mark)
  (ii) translation of a foreign entity's results and financial position. (3 marks)

(b) **Evaluate** any **ethical** and **professional issues** arising from suggestions by the accountant of Grape Plc. (4 marks)

(c) Prepare the consolidated statement of financial position of the Banana Group at 31 October 2023. (32 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Answer any THREE (3) questions.

QUESTION TWO

Rokana Ltd (Rokana) is a Zambian company located in Lusaka. The company prepares it financial statements to 31 December each year. The directors are unsure of the implications of the International Financial Reporting Standards (IFRSs) on the following specific transactions that took place during the accounting period:

(a) On 1 January 2022, Rokana sold one of its mining equipment to Greenhouse Ltd for K900,000. The carrying amount of the mining equipment before the transaction was K500,000 and had remaining useful life of 10 years. On the same day, Rokana entered into a contract with Greenhouse Ltd to use the mining equipment for five (5) years, with annual payment of K200,000 payable in arrears. Fair value of the mining equipment at the date of sale was K800,000. The rate of interest implicit in the lease is 10% per annum. The transaction has commercial substance as a sale in accordance with IFRS 15 Revenue from Contracts with Customers. (8 marks)

(b) On 1 January 2022, Rokana issued 1.5 million shares of K1 each for K1.5 million. Each share is convertible on 31 December 2025 into 2 ordinary shares having par value of K0.10 each. Interest is payable at 8% per annum on 31 December each year. On the date of issue, market interest rate for similar debt without conversion option was 11% per annum. Rokana expects that the conversion option will not be exercised.
(6 marks)

(c) Rokana received notice on January 1, 2022, that an ex-employee had filed a lawsuit alleging unjust dismissal. According to legal advice from the company's legal department, Rokana had an 85% likelihood of losing the case and would be required to pay compensation of K1.275 million on January 1, 2022. Based on this advice, Rokana recorded a provision of K1 million on 1 January 2022 and has made no further adjustments. The provision was recorded in operating expenses. Rokana Ltd has a cost of capital of 9% per annum and the discount factor at 9% for year one is 0.9174.
(6 marks)

Required:

Advise the Directors of Rokana Ltd on the required accounting treatment and implications of the above transactions in the financial statements for the year to 31 December 2022 in accordance with International Financial Reporting Standards.

[Total: 20 Marks]

QUESTION THREE

Vitendwe Plc (Vitendwe) is a farming and agro processing entity. The company finances its operations using a number of options including leases.

Vitendwe Plc, which prepares its financial statements to 31 December each year requires advice on how to treat a number of transactions in its financial statements for the year to 31 December 2023, including the following:

Lease of agro processing equipment

On 1 January 2023, Vitendwe entered a 5 year contract leasing agro processing equipment from a manufacturer. Vitendwe paid a deposit, legal fees and installation costs amounting to K0.5 million, K0.1 million and K0.2 million respectively on 1 January 2023. It further tested the equipment by engaging a live production test which incurred direct materials, direct labour and production overheads costs on 1 January 2023 amounting to K0.1 million, K0.15 million and K0.12 million respectively. The finished goods inventory from the test production was immediately sold for K0.25 million.

The rent has been agreed at K0.6 million per annum payable on 31 December each year over the lease term. Vitendwe is required to dismantle and handover the equipment at the end of the lease term. The equipment has an estimated useful economic life of 20 years. Dismantling costs in five (5) years' time have been estimated at K0.3.

The interest rate implicit in the lease has been computed as 10% whilst the cost of capital applicable to the agro processing operations has been estimated at 12%.

(7 marks)

Sale and Lease back of farm land

On 1 January 2023, Vitendwe sold and immediately leased back land that it uses as farmland. The sale price (equal to the fair value) which was settled immediately amounted to K105 million. The lease, whose term is 10 years requires Vitendwe to pay a rental of K1.1 million per annum on 31 December each year over the lease term. The interest rate implicit in the lease is 12%.

The land was bought on 1 January 2015 at a cost of K90 million. Vitendwe has a policy of revaluing properties. This particular land was last revalued on 31 December 2022 to a fair value of K105. (6 marks)

Lease of head office building

Vitendwe entered into a lease contract with another entity, Mumbi Ltd, a property investment company in which Vitendwe is renting a property from Mumbi Ltd for use as its head office. The lease has a primary duration of four (4) years commencing on 1 January 2023 but subject to an extension for a further 2 years at Vitendwe's option. Vitendwe management have indicated that the lease is required till such a time when the entity shifts to their own building. Vitendwe is currently constructing a building earmarked as its headoffice upon completion. It is highly probable that the construction of the building will be completed by 31 December 2025. The lease requires Vitendwe plc to pay rentals of K1.6m per annum on 1 January each year over the lease term.

A security deposit of K0.4m refundable at end of the lease was paid at inception of the lease. Further, Vitendwe plc incurred legal costs in arranging the lease contract amounting to K0.2m. The interest rate implicit in the lease is 12%. (7 marks)

Required:

Advise the Directors of Vitendwe Plc on the required accounting treatment of the above transactions, showing the relevant amounts to include in financial statements for the year to 31 December 2023 in accordance with the IFRS framework.

[Total:20 Marks]

QUESTION FOUR

Muweme Plc (Muweme) is a manufacturing entity with operations in southern Africa and head quartered in Lusaka, Zambia. The entity is finalising the preparation of its financial statements for the year to 31 December 2023. Its directors seek advice on the accounting treatment of the following transactions:

Acquisition of Manufacturing Plant

Muweme entered an agreement in which it ordered an item of plant from Muzimu Plc on 1 October 2022. The plant would be settled by paying an amount of cash equal to the fair value of 200,000 K1 equity shares of Muweme on the settlement date. The plant was delivered on 1 February 2023 and settlement took place on 31 March 2023.

The plant has an estimated useful economic life of 10 years and is depreciated on a straight line basis with a nil residual value.

The fair value of the plant and each Muweme Plc K1 equity share has been as follows:

Date	**Fair value of the plant**	**Fair value of each Muweme K1 share**
	K'000	**K**
1 October 2022	1,550	8.10
31 December 2022	1,400	9.68
1 January 2023	1,480	9.10
1 February 2023	1,590	9.50
31 March 2023	1,600	9.45
31 December 2023	1,600	15.60

(8 marks)

Employee Share Option Scheme

Muweme had granted share options on 100,000 K1 equity shares to each of its 10 directors on 1 October 2021. The options only vest upon the directors remaining in employment with Muweme for at least three years commencing from 1 January 2022. During the year to 31 December 2022, two directors left and as at 31 December 2022, Muweme estimated that another two Directors would leave over the following two years. However, none of the remaining directors left during the year to 31 December 2023 though as at 31 December 2023, one director is expected to leave in the following year. The published financial statements for the year to 31 December 2022 did not include any amounts in respect of the share option scheme. Following publishing of those financial statements, there are concerns by the Directors that they may have made mistakes in accounting for the share option scheme.

The fair value of each option and share has been as follows:

Date	Fair value of Each Share (K)	Fair value of each option (K)
1 October 2021	12.10	1.37
1 January 2022	12.4	1.40
31 December 2022	13.03	1.62
31 December 2023	14.01	1.77

(12 marks)

Required:

Advise the Directors of Muweme Plc on the accounting treatment of the above transactions in its financial statements for the year to 31 December 2023 in compliance with the IFRS framework.

[Total: 20 Marks]

QUESTION FIVE

Joshua Limited has been pursuing a strategy of growth through product and market development, and market penetration. This has resulted in Joshua increasing its market share and creating a more mixed customer base.

The company has also been considering increasing its profitability by streamlining its operations to reduce overhead costs. It has recently outsourced the data processing function to a third party.

The following are extracts from Joshua's financial statements for the year to 31 December 2023:

Statement of Profit or Loss and Other Comprehensive Income for the year to 31 December:

	2023 K'000	2022 K'000
Revenue	1,315	1,011
Cost of sales	(1,029)	(753)
Gross profit	286	258
Administrative expenses	(57)	(81)
Distribution costs	(144)	(102)
Finance costs	(10)	(3)
Investment Income	40	-----
Profit before tax	115	72
Income tax expense	(35)	(31)
Profit for the year	80	41
Other comprehensive income:		
Revaluation gain on property, plant and equipment	40	13
Gains on available for sale investments	16	6
Tax effects of other comprehensive income	(12)	(8)
	44	11
Other comprehensive income for the year, net of tax		
Total comprehensive income	124	52

Statement of Financial Position as at 31 December:

	2023	2022
ASSETS		
Non-current assets		
Property, plant and equipment	277	209
Investment in associate	70	-
Available for sale investments	150	140
	497	349
Current assets		
Inventories	140	65
Receivables	234	131
Cash and cash equivalents	-	72
	374	268
Total assets	871	617
EQUITY AND LIABILITIES		
Equity		
Share capital (K1 equity shares)	150	100
Revaluation reserve	65	32
Other reserves	33	22
Retained earnings	394	369
Total equity	642	523
Non-current liabilities		
Long-term borrowings	100	30
Current liabilities		
Payables	100	64
Short-term borrowings (overdraft)	29	-
	129	64
Total liabilities	229	94
Total equity and liabilities	871	617

Joshua has submitted an application for long-term borrowing to a bank in which you work as a financial analyst. You have the role of preparing financial analysis reports on clients for consideration by the credit committee.

Required:

Prepare a report analysing the financial performance and position of Joshua Limited, highlighting any further information that may be useful in assessing Joshua's future prospects. Your report must recommend whether or not Joshua's loan application must be approved.

[Total 20 Marks]

END OF PAPER

Formulae

Modigliani and Miller Proposition 2 (with tax)

$$k_e = k_e^i + (1 - T)(k_e^i - k_d)\frac{V_d}{V_e}$$

Two asset portfolio

$$s_p = \sqrt{w_a^2 s_a^2 + w_b^2 s_b^2 + 2w_a w_b r_{ab} s_a s_b}$$

The Capital Asset Pricing Model

$$E(r_i) = R_f + \beta_i (E(r_m) - R_f)$$

The asset beta formula

$$\beta_a = \left[\frac{V_e}{(V_e + V_d(1-T))}\beta_e\right] + \left[\frac{V_d(1-T)}{(V_e + V_d(1-T))}\beta_d\right]$$

The Growth Model

$$P_o = \frac{D_o(1+g)}{(r_e - g)}$$

Gordon's growth approximation

$$g = br_e$$

The weighted average cost of capital

$$WACC = \left[\frac{V_e}{V_e + V_d}\right]k_e + \left[\frac{V_d}{V_e + V_d}\right]k_d(1-T)$$

The Fisher formula

$$(1+i) = (1+r)(1+h)$$

Purchasing power parity and interest rate parity

$$S_1 = S_0 x \frac{(1+h_c)}{(1+h_b)} \qquad F_0 = S_0 x \frac{(1+i_c)}{(1+i_b)}$$

Modified Internal Rate of Return

$$MIRR = \left[\frac{PV_R}{PV_I}\right]^{\frac{1}{n}}\left(1 + r_e\right) - 1$$

The Black-Scholes option pricing model

$$c = P_a N(d_1) - P_e N(d_2) e^{-rt}$$

Where:

$$d_1 = \frac{\ln(P_a / P_e) + (r + 0.5s^2)t}{s\sqrt{t}}$$

$$d_2 = d_1 - s\sqrt{t}$$

The Put Call Parity relationship

$$p = c - P_a + P_e e^{-rt}$$

Present Value Table

Present value of 1 i.e. $(1 + r)^{-n}$

Where r = discount rate
n = number of periods until payment

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	0·980	0·961	0·943	0·925	0·907	0·890	0·873	0·857	0·842	0·826	2
3	0·971	0·942	0·915	0·889	0·864	0·840	0·816	0·794	0·772	0·751	3
4	0·961	0·924	0·888	0·855	0·823	0·792	0·763	0·735	0·708	0·683	4
5	0·951	0·906	0·863	0·822	0·784	0·747	0·713	0·681	0·650	0·621	5
6	0·942	0·888	0·837	0·790	0·746	0·705	0·666	0·630	0·596	0·564	6
7	0·933	0·871	0·813	0·760	0·711	0·665	0·623	0·583	0·547	0·513	7
8	0·923	0·853	0·789	0·731	0·677	0·627	0·582	0·540	0·502	0·467	8
9	0·941	0·837	0·766	0·703	0·645	0·592	0·544	0·500	0·460	0·424	9
10	0·905	0·820	0·744	0·676	0·614	0·558	0·508	0·463	0·422	0·386	10
11	0·896	0·804	0·722	0·650	0·585	0·527	0·475	0·429	0·388	0·305	11
12	0·887	0·788	0·701	0·625	0·557	0·497	0·444	0·397	0·356	0·319	12
13	0·879	0·773	0·681	0·601	0·530	0·469	0·415	0·368	0·326	0·290	13
14	0·870	0·758	0·661	0·577	0·505	0·442	0·388	0·340	0·299	0·263	14
15	0·861	0·743	0·642	0·555	0·481	0·417	0·362	0·315	0·275	0·239	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	0·812	0·797	0·783	0·769	0·756	0·743	0·731	0·718	0·706	0·694	2
3	0·731	0·712	0·693	0·675	0·658	0·641	0·624	0·609	0·593	0·579	3
4	0·659	0·636	0·613	0·592	0·572	0·552	0·534	0·516	0·499	0·482	4
5	0·593	0·567	0·543	0·519	0·497	0·476	0·456	0·437	0·419	0·402	5
6	0·535	0·507	0·480	0·456	0·432	0·410	0·390	0·370	0·352	0·335	6
7	0·482	0·452	0·425	0·400	0·376	0·354	0·333	0·314	0·296	0·279	7
8	0·434	0·404	0·376	0·351	0·327	0·305	0·285	0·266	0·249	0·233	8
9	0·391	0·361	0·333	0·308	0·284	0·263	0·243	0·225	0·209	0·194	9
10	0·352	0·322	0·295	0·270	0·247	0·227	0·208	0·191	0·176	0·162	10
11	0·317	0·287	0·261	0·237	0·215	0·195	0·178	0·162	0·148	0·135	11
12	0·286	0·257	0·231	0·208	0·187	0·168	0·152	0·137	0·124	0·112	12
13	0·258	0·229	0·204	0·182	0·163	0·145	0·130	0·116	0·104	0·093	13
14	0·232	0·205	0·181	0·160	0·141	0·125	0·111	0·099	0·088	0·078	14
15	0·209	0·183	0·160	0·140	0·123	0·108	0·095	0·084	0·074	0·065	15

Annuity Table

Present value of an annuity of 1 i.e. $\frac{1 - (1 + r)^{-n}}{r}$

Where r = discount rate

n = number of periods

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	1·970	1·942	1·913	1·886	1·859	1·833	1·808	1·783	1·759	1·736	2
3	2·941	2·884	2·829	2·775	2·723	2·673	2·624	2·577	2·531	2·487	3
4	3·902	3·808	3·717	3·630	3·546	3·465	3·387	3·312	3·240	3·170	4
5	4·853	4·713	4·580	4·452	4·329	4·212	4·100	3·993	3·890	3·791	5
6	5·795	5·601	5·417	5·242	5·076	4·917	4·767	4·623	4·486	4·355	6
7	6·728	6·472	6·230	6·002	5·786	5·582	5·389	5·206	5·033	4·868	7
8	7·652	7·325	7·020	6·733	6·463	6·210	5·971	5·747	5·535	5·335	8
9	8·566	8·162	7·786	7·435	7·108	6·802	6·515	6·247	5·995	5·759	9
10	9·471	8·983	8·530	8·111	7·722	7·360	7·024	6·710	6·418	6·145	10
11	10·37	9·787	9·253	8·760	8·306	7·887	7·499	7·139	6·805	6·495	11
12	11·26	10·58	9·954	9·385	8·863	8·384	7·943	7·536	7·161	6·814	12
13	12·13	11·35	10·63	9·986	9·394	8·853	8·358	7·904	7·487	7·103	13
14	13·00	12·11	11·30	10·56	9·899	9·295	8·745	8·244	7·786	7·367	14
15	13·87	12·85	11·94	11·12	10·38	9·712	9·108	8·559	8·061	7·606	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	1·713	1·690	1·668	1·647	1·626	1·605	1·585	1·566	1·547	1·528	2
3	2·444	2·402	2·361	2·322	2·283	2·246	2·210	2·174	2·140	2·106	3
4	3·102	3·037	2·974	2·914	2·855	2·798	2·743	2·690	2·639	2·589	4
5	3·696	3·605	3·517	3·433	3·352	3·274	3·199	3·127	3·058	2·991	5
6	4·231	4·111	3·998	3·889	3·784	3·685	3·589	3·498	3·410	3·326	6
7	4·712	4·564	4·423	4·288	4·160	4·039	3·922	3·812	3·706	3·605	7
8	5·146	4·968	4·799	4·639	4·487	4·344	4·207	4·078	3·954	3·837	8
9	5·537	5·328	5·132	4·946	4·772	4·607	4·451	4·303	4·163	4·031	9
10	5·889	5·650	5·426	5·216	5·019	4·833	4·659	4·494	4·339	4·192	10
11	6·207	5·938	5·687	5·453	5·234	5·029	4·836	4·656	4·486	4·327	11
12	6·492	6·194	5·918	5·660	5·421	5·197	4·988	4·793	4·611	4·439	12
13	6·750	6·424	6·122	5·842	5·583	5·342	5·118	4·910	4·715	4·533	13
14	6·982	6·628	6·302	6·002	5·724	5·468	5·229	5·008	4·802	4·611	14
15	7·191	6·811	6·462	6·142	5·847	5·575	5·324	5·092	4·876	4·675	15

Standard normal distribution table

	0·00	0·01	0·02	0·03	0·04	0·05	0·06	0·07	0·08	0·09
0·0	0·0000	0·0040	0·0080	0·0120	0·0160	0·0199	0·0239	0·0279	0·0319	0·0359
0·1	0·0398	0·0438	0·0478	0·0517	0·0557	0·0596	0·0636	0·0675	0·0714	0·0753
0·2	0·0793	0·0832	0·0871	0·0910	0·0948	0·0987	0·1026	0·1064	0·1103	0·1141
0·3	0·1179	0·1217	0·1255	0·1293	0·1331	0·1368	0·1406	0·1443	0·1480	0·1517
0·4	0·1554	0·1591	0·1628	0·1664	0·1700	0·1736	0·1772	0·1808	0·1844	0·1879
0·5	0·1915	0·1950	0·1985	0·2019	0·2054	0·2088	0·2123	0·2157	0·2190	0·2224
0·6	0·2257	0·2291	0·2324	0·2357	0·2389	0·2422	0·2454	0·2486	0·2517	0·2549
0·7	0·2580	0·2611	0·2642	0·2673	0·2704	0·2734	0·2764	0·2794	0·2823	0·2852
0·8	0·2881	0·2910	0·2939	0·2967	0·2995	0·3023	0·3051	0·3078	0·3106	0·3133
0·9	0·3159	0·3186	0·3212	0·3238	0·3264	0·3289	0·3315	0·3340	0·3365	0·3389
1·0	0·3413	0·3438	0·3461	0·3485	0·3508	0·3531	0·3554	0·3577	0·3599	0·3621
1·1	0·3643	0·3665	0·3686	0·3708	0·3729	0·3749	0·3770	0·3790	0·3810	0·3830
1·2	0·3849	0·3869	0·3888	0·3907	0·3925	0·3944	0·3962	0·3980	0·3997	0·4015
1·3	0·4032	0·4049	0·4066	0·4082	0·4099	0·4115	0·4131	0·4147	0·4162	0·4177
1·4	0·4192	0·4207	0·4222	0·4236	0·4251	0·4265	0·4279	0·4292	0·4306	0·4319
1·5	0·4332	0·4345	0·4357	0·4370	0·4382	0·4394	0·4406	0·4418	0·4429	0·4441
1·6	0·4452	0·4463	0·4474	0·4484	0·4495	0·4505	0·4515	0·4525	0·4535	0·4545
1·7	0·4554	0·4564	0·4573	0·4582	0·4591	0·4599	0·4608	0·4616	0·4625	0·4633
1·8	0·4641	0·4649	0·4656	0·4664	0·4671	0·4678	0·4686	0·4693	0·4699	0·4706
1·9	0·4713	0·4719	0·4726	0·4732	0·4738	0·4744	0·4750	0·4756	0·4761	0·4767
2·0	0·4772	0·4778	0·4783	0·4788	0·4793	0·4798	0·4803	0·4808	0·4812	0·4817
2·1	0·4821	0·4826	0·4830	0·4834	0·4838	0·4842	0·4846	0·4850	0·4854	0·4857
2·2	0·4861	0·4864	0·4868	0·4871	0·4875	0·4878	0·4881	0·4884	0·4887	0·4890
2·3	0·4893	0·4896	0·4898	0·4901	0·4904	0·4906	0·4909	0·4911	0·4913	0·4916
2·4	0·4918	0·4920	0·4922	0·4925	0·4927	0·4929	0·4931	0·4932	0·4934	0·4936
2·5	0·4938	0·4940	0·4941	0·4943	0·4945	0·4946	0·4948	0·4949	0·4951	0·4952
2·6	0·4953	0·4955	0·4956	0·4957	0·4959	0·4960	0·4961	0·4962	0·4963	0·4964
2·7	0·4965	0·4966	0·4967	0·4968	0·4969	0·4970	0·4971	0·4972	0·4973	0·4974
2·8	0·4974	0·4975	0·4976	0·4977	0·4977	0·4978	0·4979	0·4979	0·4980	0·4981
2·9	0·4981	0·4982	0·4982	0·4983	0·4984	0·4984	0·4985	0·4985	0·4986	0·4986
3·0	0·4987	0·4987	0·4987	0·4988	0·4988	0·4989	0·4989	0·4989	0·4990	0·4990

This table can be used to calculate $N(d)$, the cumulative normal distribution functions needed for the Black-Scholes model of option pricing. If $d_i > 0$, add 0·5 to the relevant number above. If $d_i < 0$, subtract the relevant number above from 0·5.

CA3.1 ADVANCED FINANCIAL REPORTING SUGGESTED SOLUTIONS

SOLUTION ONE

(a) (i) **Exchange differences on foreign currency transactions**

A foreign currency **transaction** is a transaction that is denominated or requires settlement in a **foreign currency**, e.g. an entity buys or sells goods or services whose price is denominated in a foreign currency or borrows or lends funds when the amounts payable or receivable are denominated in a foreign currency. A foreign currency transaction shall be **initially recorded** in the functional currency, by applying to the foreign currency amount the **spot exchange rate** between the functional currency and the foreign currency at the date of the transaction.

Exchange differences arising on the settlement of monetary items or on translating **monetary items** at different rates from those when they were initially recognised are recognised in **profit or loss** in the period in which they arise.

If a gain or loss on a non-monetary item is recognised in **other comprehensive income**, any exchange component of that gain or loss should also be recognised in **other comprehensive income.** Conversely, when a gain or loss on a **non-monetary item** is recognised in profit or loss, any exchange component of that gain or loss shall be recognised in **profit or loss.**

(ii) **Exchange differences on foreign operations.**

IAS 21 states that the results and financial position of a foreign **entity** should be translated into a different presentation currency using the following procedures:

(a) **assets and liabilities** in the statement of financial position presented should be translated at the **closing rate** at the date of that statement of financial position;

(b) **income and expenses** in profit or loss and other comprehensive income should be translated at exchange rates at the **average rate**.

All resulting exchange differences should be recognised as a separate component of equity in **other comprehensive income** (i.e. in reserves), until the **disposal** of the foreign operation when they are transferred to the profit or loss as part of the gain or loss on disposal.

(b) **Ethical and professional issues**

The IASB Conceptual Framework states that 'the objective of general purpose financial reporting is to provide information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity'. Further, accounting standards are developed and revised in order to make the financial statements more useful to their users. Companies listed on the stock exchange are required to prepare their financial statements in accordance with applicable international accounting standards, international financial reporting standards and other generally accepted standards. IAS 8 '*Accounting Policies, Changes in Accounting Estimates and Errors'* requires compliance with any specific IFRS applying to a transaction, event or condition, and provides guidance on developing accounting policies for other items that result in relevant and reliable information. However, the group accountant is allowed to use judgement where a transaction, event or condition is not adequately covered by accounting standards or where he feels that full compliance to a particular accounting standard will make the financial statements so misleading that it would conflict with the objective of financial statements set out in the Framework. However, this is not the case with IFR16'*Lease*'. The standard specifies how an entity will recognise, measure, present and disclose leases. The standard provides a single lessee accounting model, requiring lessees to recognise assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has a low value. This is what the group accountant should have in mind when coming up with the accounting policies for the group. The group accountant should not formulate accounting policies in order to manipulate financial statements to reflect what they want users to see but rather to present a true and fair position of the group. Therefore, not changing the accounting policy would result in misleading financial statements to their users and would be against professional accountants' code of ethics.

(c) Banana Group: Statement of financial position as at 31 October 2023

	Km	
Assets		
Non-current assets		
Goodwill (W3)		26·1
Property, plant and equipment (W7)		432.65·5
Investment property (5 -3.5 -1.5)		0
Financial assets (W8)		26·3
	485·05	
Current assets		
Inventories (W9)		33·7
Trade and other receivables (W10)		58·8
Cash and cash equivalents (W11)		34·5
		127
Total assets		**612·05**
Equity and liabilities		
Equity shares		80

Retained earnings (W13)	244·95
Translation reserve (W4)	(7)
Other components of equity (W12)	41·4
Total shareholder's equity	359·35
Non-controlling interest (W14)	52·4
Total equity	411·75
Non-current liabilities (W15)	111·4
Current liabilities (W16)	88·9
Total equity and liabilities	**612·05**

Working 1: Grape

Net assets at acquisition will be as follows:

	Km
Share capital	50
Retained earnings	56
Other components of equity	8
Fair value adjustment re non-depreciable land	6
Fair value of net assets	120
Contingent liability at fair value	(1)
Fair value of net assets at acquisition	119

Goodwill of Grape:

Fair value of consideration for 80% interest	110

Fair value of non-controlling interest at acquisition	25
	135
Fair value of net assets at acquisition	(119)
Goodwill	16

Working 2: Intra group loan

The loan is a foreign currency monetary item in Melon's financial statements which means it needs to be retranslated at the closing rate of exchange. The exchange differences should have been recorded through Melon's profit or loss and will therefore affect retained earnings.

	Km	Exchange rate	SAR m
1 February 2023	10	9 SAR:K1	90
Cash paid 1 July 2023	(5)	10 SAR:K1	(50)
			40
Exchange rate loss – balancing figure 31 October 2023			7·5
	5	9·5 SAR:K1	47·5

To correct, increase Melon's non-current liabilities by 7·5 million SAR and reduce retained earnings by a corresponding amount. In addition, after retranslation, K5m will be cancelled from both financial assets and non-current liabilities as an intra-group adjustment.

Working 3: Translation and goodwill of Melon

	SAR	SAR m	Rate	Km

	M	Loan adj		
Property, plant and equipment	390		9·5	41·1
Financial assets	98		9·5	10·3
Inventories	16		9·5	1·7
Trade and other receivables	36		9·5	3·8
Cash and cash equivalents	90		9·5	9·5
				66·4
Share capital	210		8	26·3
Retained earnings – pre-acquisition	258		8	32·2
– post-acquisition	34	(7·5)	8·5	3·1
Exchange difference (balance)				(9·5)
Non-current liabilities	110	7·5	9·5	12·4
Current liabilities	18		9·5	1·9
				66·4

The exchange differences on Melon's profits and opening net assets may also be calculated as:

	Km
Opening net assets at the opening rate (210m + 258m) at 8	58·5
Profit for the year at the average rate (34m – 7·5m) at 8·5	3·1
Exchange difference (bal) (W4)	(9·5)
Closing net assets at the closing rate (210m + 292m – 7·5m) at 9·5 Goodwill of Melon:	52·1

	SAR m	Ex rate	Km
Cost of acquisition	368	8	46
Non-controlling interest	220	8	27·5
	———		———
Total	588		73·5
Less net assets acquired (210m + 258m)	(468)	8	(58·5)
	———		———
	120		15
Impairment (120 x 20%)	(24)	8·5	(2·8)
			———
			12·2
Exchange difference (bal)			(2·1)
	———		———
	96	9·5	10·1
	———		———

Since goodwill is under the fair value method, both the impairment and the exchange loss will be apportioned 60:40 between the shareholders of the parent and non-controlling interest respectively. Any goodwill arising on the acquisition of a foreign operation is treated as an asset of the foreign operation and retranslated at the closing rate.

In summary:

Goodwill for consolidated SFP will be (K16m (W1) + K10·1m) = K26·1m.

The impairment is K2·8m of which 60% (K1·7m) will be charged against group retained earnings and 40% (K1·1m) will be charged to the NCI.

Working 4 – Summary of exchange differences

	Total Km	60% Translation reserve Km	40% NCI Km
Exchange loss on opening net assets and profits (W3)	9·5	5·7	3·8
Exchange loss on goodwill (W3)	2·1	1·3	0·8

11·6	7	4·6

Working 5: Exchange of assets

The transaction has commercial substance and so the cost of the property acquired should be measured at the fair value of the asset given up. Therefore, the property should have been recorded at K7m rather than K5m. A profit on disposal should have arisen of K2m which will need to be credited to retained earnings. The K0·5m spent on staff relocation is not directly attributable to the property and so should have been expensed. Depreciation should be charged of K7m/35 x 6/12 = K100,000. This would leave a carrying amount before revaluation at 31 October 2023 of K6·9m. The fair value at this date is 75m SAR/9·5 = K7·9m. A revaluation gain should be recorded in other components of equity of K1m.

Working 6: Pension scheme

	K
Opening liability	15
Net interest cost (K15m x 8%)	1·2
Current service cost	5
Gain on curtailment (K4m – K3m)	(1)
Cash contributions into the scheme	(6)
	14·2
Loss on remeasurement	2·8
Closing liability	17

The cash contributions of K6m will need to be reversed from profit or loss and will reduce the net obligation on the pension scheme. The interest costs of K1·2m and the current service cost of K5m must be expensed and the gain on curtailment of the pension scheme credited to profit or loss (and so to retained earnings). The remeasurement loss of K2·8m should be deducted from other comprehensive income (and so to other components of equity). The net effect on the pension scheme is an increase in the liability of K2m to K17m.

Working 7: Property, plant and equipment

	K m
Banana	275

Reclassification of Investment property (3.5 -0.35) 3.15	
Grape	105
Melon (390m SAR/9·5)	41·1
Gain on disposal on exchange (W5)	2
Depreciation (W5)	(0·1)
Write off of relocation expenses (W5)	(0·5)
Revaluation gain (W5)	1
Fair value adjustment land – Grape (W1)	6

432.65

Working 8: Financial assets
Km

Banana	12
Grape	9
Melon (98m SAR/9·5)	10·3
Intra-group loan (W2)	(5)

26·3

Working 9: Inventories	Km
Banana	20
Grape	12
Melon (16m SAR/9·5)	1·7

33·7

Working 10: Trade and other receivables	**Km**
Banana	30
Grape	25
Melon (36m SAR/9·5)	3·8

58·8

Working 11: Cash and cash equivalents Km

Banana	14
Grape	11
Melon (90m SAR/9·5)	9·5

34·5

Working 12: Other components of equity Km

Banana	40
Revaluation gain (W5)	1
Pension scheme: loss on remeasurement (W6)	(2·8)
Share of post-acquisition of Grape (80% of (K12m – K8m))	3·2

41·4

Working 13: Retained earnings Km

Banana	230
Disposal gain on exchange of PPE (W5)	2
Removal staff relocation expenses (W5)	(0·5)
Depreciation of PPE (W5)	(0·1)
Cash contributions on pension (W6)	6
Service cost component (K5m + K1·2m) (W6)	(6·2)
Gain on curtailment (W6)	1
Impairment of goodwill of Melon (W3)	(1·7)
Share of post-acquisition profits of Grape (80% of (K74m – K56m))	14·4
Reversal of fair value gain on investment property (5 -3.5)	(1.5)
Depreciation on property (as owner occupied, (3.5 /20 x 2)	(0.35)
Share of post-acquisition profits of Melon (W3) (60% of (26·5m SAR/8·5m))	1·9

244·95

Working 14: Non-controlling interest Km

Fair value of NCI in Grape at acquisition	25
NCI share of post-acquisition retained earnings (20% of (K74m – K56m))	3·6

NCI share of post-acquisition OCE (20% of (K12m – K8m))	0·8
29·4	
Fair value of NCI in Melon at acquisition (W3) (220m SAR/8)	27·5
Impairment of goodwill of Melon (W3)	(1·1)
Exchange loss attributable to NCI (W4)	(4·6)
NCI share of post-acquisition profits (W3) (40% of (26·5m SAR/8·5))	1·2
23	
52·4	

Working 15: Non-current liabilities Km

Banana	95
Grape	7
Melon ((110m + 7·5m) SAR/9·5)	12·4
Pension scheme (W6)	2
Intra group adjustment (W2)	(5)
111·4	

Working 16: Current liabilities Km

Banana	67
Grape	19
Melon (18m SAR/9·5)	1·9
Contingent liability (W1)	1
	88·9

SOLUTION TWO

(a) In line with IFRS 16, as the transaction contains sale in substance Rokana would have accounted for two transactions (the sale and the lease) by derecognizing the mining equipment sold and recognizing the new lease at 1 January 2022. However, because the sale is not to the market and the transaction contains a third element: a financing component, which is the amount by which the sale amount exceeds the fair value of the equipment. So the sale would be accounted for only at fair value of the asset while the excess proceeds of K100,000 (i.e. K900,000 proceeds less K800,000 fair value), which provide additional finance, would be treated as a financial liability under IFRS 9.

At 31 December 2022, the resultant lease liability would be amortised to include any interest incurred and remove annual payment (lease component only) for the year and the right-of-use asset depreciated and accounted for under the cost model. The financial liability would also be remeasured to its amortised cost, rather than fair value.
At 1 January 2022, the following treatments would be made:

Determine the total liability as the present value of the annual payments, lease liability and financial liability as follows:

Year	**Future cash flows**	**Df@10%**	**PV of cash flows**
	K000		**K000**
1	200	0.909	181.8
2	200	0.826	165.2
3	200	0.751	150.2
4	200	0.683	136.6
5	200	0.621	124.2
Total liability			758.0
Financial liability (900 – 800)			(100.0)
Lease liability			658.0

Then, determine the right-of-use asset (reflecting the carrying amount of the equipment which corresponds to the proportion that lease liability bears with fair value of the asset) as below:

= (658,000 ÷ 800,000) x K500,000
= K411,250

The entries to pass at the transaction date are provided as follows:

Details	**Debit K000**	**Credit K000**
Bank	900	
Equipment		500
Right-of-use asset	411.25	

Lease liability	658
Financial liability	100
Profit or loss (net gain on disposal)	53.25

Allocation of annual payment between lease component and finance component for subsequent measurement:

	K'000
To lease component (658 ÷ 758 x 200)	173.6
To finance component (100 ÷ 758 x 200)	26.4

At 31 December 2022, lease liability would be remeasured as under the following lease table:

Year	Liability at start	Interest@10%	Rentals	Liability at end
	K000	K000	K000	K000
2022	658	65.8	(173.6)	550.2
2022	550.2	55.02	(173.6)	431.62

Financial liability would also be amortised as follows:

Year	Liability at start	Interest@10%	Rentals	Liability at end
	K000	K000	K000	K000
2022	100	10	(26.4)	83.6
2022	83.6	8.36	(26.4)	65.56

Right-of-use asset	K000	
Initial cost	411.25	
Less: Depreciation (411.25 ÷ 5)	(82.25)	
Carrying amount at 31 December 2022		329

Effects on Rokana's financial statements (for the year ended 31 December 2022)

- Within profit or loss account, lease's interest of K65,800 and finance interest of K10,000 would be reported as part of finance costs, depreciation of K82,250 as part of operating costs, and disposal gain of K53,250 as other income.

- Within statement of financial position, lease liability of K119,580 (i.e. K551,200 less K431,620) and financial liability of K18,040 (i.e. K83,600 less K65,560) would be presented as current liabilities and lease liability of K431,620 and financial liability of K65,560 presented as non-current liabilities. Right-of-use asset would be held at its year end carrying amount of K329,000.

(b) Rokana would have to account for the issued shares as compound instrument and present the shares as part financial liability and part equity in line with IAS 32. Hence, at initial recognition, the proceeds would be split between liability and equity components.

Liability is given by the present value of the expected annual interest payments of K120,000 (K1.5 million x 8%) and principal repayment, discounted at the prevailing market rate (11%) carried by equivalent non-convertible instrument.

The residual amount after deducting the liability component from the proceeds becomes equity.

At 1 January 2022 the liability and equity components would be determined as follows:

Year	Future cash flows	Df@11%	PV of cash flows
	K000		**K000**
1	120	0.901	108.12
2	120	0.812	97.44
3	120	0.731	87.72
4	120	0.659	79.08
5	120	0.593	71.16
5	1,500	0.593	889.5
Liability component			1,333.02
Equity component (bal)			166.98
Total proceeds			1,500

Subsequent measurement

Consistent with IFRS 9, the liability is subsequently remeasured to its amortised cost (as fair value option or trading intention is not applicable) as follows:

Year	Liability at start	Effective Interest @11%	Coupon (dividend) @8%	Liability at end
	K000	**K000**	**K000**	**K000**
2022	1,333.02	146.63	(120)	1,359.65

The equity component is subsequently not subject to re-measurement.

Effects on Rokana's financial statements (for the year ended 31 December 2022)

Within profit or loss account, interest of K146,630 would be reported as part of finance costs

Within statement of financial position, K1,359,650 would be reported under non-current liabilities and K166,980 (the initial amount) shown as other reserves under equity

(c) In line with IAS 37, the amount of provision required should reflect the best estimate of future compensation payment. In the case of this expenditure (which results from a single suit), the best estimate at initial date would reflect in the amount associated with outcome which has the highest chance of occurrence and then take into account the significant financing component. Subsequently, discount would be unwound.
Required amount of provision (at 1 January 2022) is determined as follows:

= K1,275,000 x 0.9174
= K1,169,685

Required amount of provision (at 31 December 2022) is determined as follows:

	K
Initial provision	1,169,685
Unwound discount (bal. fig)	105,315
At 31 December 2022	1,275,000

Corrections required in Rokana's books for the year ended 31 December 2022

Additional amount of provision of K275,000 (K1,275,000 less K1 million) would be required within Rokana's profit or loss. Unwound discount component would be shown as part of finance cost and the remaining K169,685 (K1,169,685 less K1 million) treated as part of operating expenses.

Year-end provision liability would be restated at K1,275,000 and presented under current liabilities within statement of financial position.

SOLUTION THREE

Lease of agro processing equipment

Vitendwe's lease of equipment from the manufacturer will be accounted for in accordance with IFRS 16 Leases. The standard requires lessees to capitalise all leases recognising lease liabilities and right of use assets with a few exceptions. Any decommissioning obligation in respect of the lease is accounted for in accordance with IAS 37 Provisions, Contingent Liabilities and Contingent Assets.

1. Lease liability:
The lease liability will initially be measured at the present value of Vitendwe's MLPs payable in future discounted at the interest rate implied in the lease. Subsequently, the liability will be carried at amortised cost. Amounts to report in Vitendwe's FS for the year to 31.12.2023 in respect of the lease liability will be as follows:

	K'm		
Initial liability at 1.1.2023 K0.6X5 year annuity@10%	2.41		
Finance cost to charge in PL for y/e 31.12.23 10%X 2.41		0.24	
Rental paid 31.12.23			(0.6)
Total lease liability at 31.12.2023			2.05
Non current portion 1.1X2.05-0.6			(1.66)
Current portion			0.39

2. Decommissioning provision:
Vitendwe will recognise a decommissioning provision in respect the costs to dismantle and handover the equipment to the lessor at end of the lease term. The Provision will be measure in accordance with IAS 37 as follows:

	K'm	
Initial liability at 1.1.2023 K0.3Xend of year 5 DF@12%		0.17
Finance cost to charge in PL for y/e 31.12.23 12%X		0.02
Liability at 31.12.2023 to report as non current in SFP		0.19

3. Right of Use Asset (ROUA)
The ROUA will initially measure at the aggregate of all cash amount incurred at inception of the lease, the initial lease liability and the decommissioning provision. Subsequently, the ROUA will be amortised over the period of deriving economic benefits, in this case, the lease term. Amounts to report in respect of the ROUA in FS for the year to 31.12.2023 will be computed as follows:

	K'm	
Cash amounts incurred at inception of the lease:		
- Deposit	0.5	
- Legal fees	0.1	
- Installation		0.5

- Test production (0.1+0.15+0.12-0.25) 0.12

1.1

Initial lease liability 2.41

Initial carrying amount of decommissioning provision 0.17

Initial carrying amount of ROUA at 1.1.23 3.68

Amortisation charge in PL for the year to 31.12.2023 3.68/5 (0.74)

Carrying amount to report in SFP at 31.12.23 (non current asset) 2.94

Sale and Lease back of farm land

Accounting for the sale and lease back transaction will depend on whether the transaction has commercial substance as a sale or not, in accordance with IFRS 15 Revenue from Contracts with Customers.

Where it is concluded that the sale has commercial substance as a sale, the asset sold must be derecognised by the seller. Instead, the seller will account for the lease recognising a ROUA at a proportion of the carrying amount of the sold asset, and a lease liability measured as the present value of the MLP payable in future. Where the sale does not have commercial substance as a sale, it must have the substance of a financing transaction. In that case, the seller/lessee must continue accounting for the ownership of he sold asset. Disposal proceedsmust be treated as a loan repayable through the lease rentals.

The sale has commercial substance as a sale where the seller has transferred substantially all economic benefits and risks, or management and control relating to the ownership of the asset. In this case, it appears Vitendwe has transferred a substantial proportion of economic benefits as it will only continue to consume benefits from land over the 10 years lease term out of the entire indefinite life of the land.

Vitendwe must therefore derecognise the land and instead, recognise a ROUA and lease liability as follows:

1. Lease liability: k'm

Initial liability at 1.1.2023 K1.1X10 year annuity@12% 6.22

Finance cost to charge in PL for y/e 31.12.23 12%X 6.22 0.75

Rental paid 31.12.23 (1.1)

Total lease liability at 31.12.2023 5.68

Non current portion 1.12X5.68-1.1 (5.47)

Current portion 0.21

2. ROUA K'm

Initial carrying amt 1.1.2023 6.22/105X105 6.22

Amortisation charge in PL for y/e 31.12.23 6.22/10		(0.62)
Carrying amount to report in SFP (non current)	5.60	

3. Gain/loss to report in the PL on the sale and lease back:		K'm
Disposal proceeds	105	
ROUA recognised	6.22	
Lease liability recognised	(6.22)	
Carrying amount of land derecognised	(105)	
Gain/loss to report in PL for the year to 31.12.23		-

Lease of head office building

Vitendwe's lease of the property will be accounted for in accordance with IFRS 16 Leases. The standard requires lessees to capitalise all leases recognising lease liabilities and right of use assets with a few exceptions.

Vitendwe will have to determine the lease term in accounting for the lease. In doing so, the potential extended period should only be included if it is probable that the option to extend the lease will be exercised. Based on the projection that the building under construction will complete before end of the primary term of the lease, the possible extension must be ignored. The lease term must therefore be determined at 4 years.

The refundable security deposit must be recognised as a receivable (financial asset) in accordance with IAS 32 Financial Instruments Presentation and measured in accordance with IFRS 9 Financial Instruments. It must initially be measured at fair value, and being a debt asset with the model of being held till maturity, subsequently at amortised cost using the original effective interest rate of 15%. Initial fair value can be computed as the present value of the refund cash flow in 4 years discounted at the market return on similar receivable of 15%. The difference between the amount paid and the initial carrying amount of the receivable must be included in the initial carrying amount of the ROUA among the amounts of cash incurred at inception of the lease.

Amounts involved are as follows:

1. Receivable in respect of the refundable deposit:

		K'm
Amount paid as refundable deposit		0.4
Amount to include as part of ROUA at 1.1.23	(balance)	0.17
Amount to recognise as receivable at 1.1.23 0.4X1.15^-4		0.23
Finance income for y/e 31.12.23	15%X0.23	0.03
Carrying amount of receivable at 31.12.23 in SFP		0.26

2. Lease liability	k'm	
Initial liability at 1.1.2023 K1.6X3 year annuity@12%	3.84	
Finance cost to charge in PL for y/e 31.12.23 12%X		0.46
Total lease liability at 31.12.2023		4.3
Current portion		(1.6)

Non Current portion			2.7
2. ROUA		K'm	
Cash amounts incurred at inception of the lease:			
- Rent paid on 1.1.23		1.6	
- Refundable deposit not recognised as receivable		0.17	
- Legal fees		0.2	
		1.97	
Initial lease liability		3.84	
Initial carrying amount of ROUA at 1.1.23			5.81
Amortisation charge in PL for the year to 31.12.2023	5.81/4	(1.45)	
Carrying amount to report in SFP at 31.12.23 (non current asset)			4.36

SOLUTION FOUR

Acquisition of Manufacturing Plant

The transaction meets the definition of a share based payment in accordance with IFRS 2 Share Based Payments. Goods have been acquired and settled for by paying cash based on the fair value of an equity instrument. It is a cash settled transaction.

IFRS 2 requires that goods acquired under a cash settled transaction must initially be measured at the amount of cash payable based on the fair value of the equity instrument at the share based payment arrangement (agreement) date. Any expense from the goods must be recognised in accordance the other applicable standards in accounting for the goods. The share based payment liability must be measured based on the amount of cash payable reflecting the current fair value of the equity instrument. Changes in the share based payment liability must be recognised in PL.

Therefore, in this case the plant will initially be recognised on its delivery date at a cost equal to the cash that would be paid based on the fair value of the 200,000 shares on 1 October 2022. At any point, the share based liability must be measured at the amount of cash payable based on the current fair value of the shares. Muweme will therefore initially, on the date of delivery of the plant measure the share based payment liability based on the fairvalue of the 200,000 shares on that date. The difference between the initial liability and the cost of the plant is reported in PL. The plant must subsequently be accounted for in accordance with IAS 16 Property Plant and Equipment. IAS 16 will require the plant to be depreciated over its useful economic life of 10 years.

Amounts to report in the FS for the year to 31 December 2023 will be as follows:

1. The Plant:

		K'000	
Cost recognised at 1 Feb 2023	200000X8.1	1,620	
Depreciation to charge in PL for y/e 31.12.23	1620/10X11/12		(149)
Carrying amount at 31 December 2023		1,471	

2. Share Based Payment Liability:

Initial liability based on cost of the plant		1,620	
Increase in liability to charge in PL for the y/e 31.12.2023 (bal.)			270
Cash paid to settle liability	200000X9.45	1,890	

Employee Share Option Scheme

The transaction meets the definition of a share based payment in accordance with IFRS 2 Share Based Payments. Directors services will be acquired over the three years and setlled for by issuing an equity instrument (the options). It is an equity settled transaction.

IFRS 2 requires that the cost of services acquired under an equity settled transaction must be measured based on the fair value of the equity instrument at the share based payment arrangement (agreement) date. Where the rights to the equity instrument issuable vest over a future performance period (as is the case here), the total cost of the services must be recognised as an expense over the performance period on a straight line basis. The cumulative amounts charged in PL as an expense will make up the Share based payment reserve in equity in the SFP prior to settlement through issue of the agreed instrument.

Muweme should have started accounting for the transaction in its FS for y/e 31.12.2022. Omission of amounts in respect of the transaction in FS for that year constitutes a prior period error and must be corrected retrospectively in accordance with IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors. This will require adjusting opening balances for retained earnings (reduce by the expense attributable to y/e 31.12.2022) and the Share Based Payment Reserve (increase by amount of decrease in retained earnings), and correcting amounts reported as comparatives in respect of the year to 31 December 2022 as reported in the current period (y/e 31 December 2023).

The following amounts will be involved in preparing financial statements for the year to 31 December 2023:

1. Prior period adjustment at 1.1.2023:

		K'000	
Dr Retained Earning	100000X(10-2-2)X1.37X1/3		274
Cr Share based Payment (SBP) Reserve		274	

2. Amounts to report in FS for the year to 31 December 2023:

SBP reserve in equity (SFP)	100000X(10-2-1)X1.37X2/3		639
Expense to charge in PL for the y/e 31.12.2023 (639-274)		365	

SOLUTION FIVE

Report

To: Credit Committee
From: Financial Analyst
Date: 2023
Subject: Financial Analysis of Joshua Limited

Introduction

At your request, this report analyses the financial performance and position of Joshua Limited. The analysis is primarily based on the financial ratios of Joshua for the latest two financial years to 31 December 2023. The report ends with a recommendation on whether Joshua's application must be approved.

Financial performance

We are aware that Joshua Limited has expanded recently which has had a positive impact on revenue with an increase of 30% since last year. We know that as a result of the expansion a new range of products were launched on recently, hence we have not as yet seen a full year's impact. However, it would appear that this significant improvement in revenues has been at the expense of profitability as gross margins have actually fallen from 25.6% to 21.7%. The strategic move to cheaper products targeting the lower-priced market is likely to be one of the main reasons for this decline in margin. Another reason may be that JOSHUA has reduced the sales prices of the new products in order to undercut competitors and gain market share.

The directors have, however been pro-active in addressing overheads and as a result the operating profit margin has reduced by 1% to 6.5%. Within this, there has been a significant reduction in administrative expenses from the outsourcing of data processing. Administrative expenses have fallen from 8.0% to 4.3% of revenue which is a significant improvement. There has been an increase in distribution costs, but this is likely to be from supplying new customers as a result of the expansion. The control of overheads and the pro-active nature of the directors in this respect suggest good management.

The investment has generated a good return for JOSHUA and as a result the net profit margin has increased from 4.1% to 6.1%. The directors of JOSHUA appear to have made a sound investment as it has generated good returns in the period. It is unusual that they have chosen to make such a large investment in the same period as implementing an expansion strategy, unless the investee entity is involved in the supply chain of the new product and JOSHUA wanted to be able to exercise influence over it.

ROCE has suffered a significant decrease from 13.6% to 12.0% due mainly to the increased borrowings and the revaluation of non-current assets. The profit has increased slightly but perhaps the returns from the investments in PPE and inventories are still to come.

Financial Position

It appears from the statement of financial position as if the cash has been utilised for the expansion. There has been an increase in property, plant and equipment, albeit some of this increase is likely to be from the revaluation in the year. It is likely that cash has also been used to invest in inventories which have more than doubled in the period. The increase in inventories could be in line with the expansion strategy by holding greater amounts of the new products to meet increased future demand. However the inventories days have increased from 32 days to 51 days and hence, JOSHUA is tying up valuable working capital resources. JOSHUA must ensure that the more expensive original products are not held at an overstated value as a new cheaper alternative may render them obsolete.

The receivables days have increased from 47 to 65 days. This would normally suggest poor working capital management, however given that the directors have actively sought to control costs (outsourcing the payroll requirement) it is less likely that they have failed to control receivables while being short of cash. It could be that the new customer base has been offered more advantageous credit terms in order to increase customers and market share. It would still be a recommendation to review these terms to ensure that JOSHUA are offering something that it can actually afford to offer.

The current and quick ratios have both been affected by the reduction in cash but the increase in inventories has softened the impact on the current ratio. Both ratios still indicate adequate cover, but the fact remains that JOSHUA are in need of immediate funds. The payable days has increased only slightly from 31 to 35 days.

The increased borrowings have resulted in gearing more than doubling, however a gearing ratio of less than 20% would not normally be a concern and since there is still reasonable interest cover, the entity should still be able to afford to repay the interest on any new finance. One point to note is that the revaluation of PPE is a continuation of an existing policy rather than a deliberate attempt to boost capital employed and improve gearing.

A positive sign is that JOSHUA has approached us for long-term funding rather than compromising its position with suppliers by increasing payment period, which again indicates that the directors understand that an expansion will need to be funded by longer term borrowings. In addition, the bonus issue in lieu of paying a dividend is a smart move. The entity cannot afford to pay a dividend but has significant retained earnings. The issue will still show shareholders that the directors are continuing to focus on meeting shareholder expectations.

Recommendation

JOSHUA appears to be a well-managed organisation in the process of expansion and I would recommend that the borrowing is considered further.

Appendix – Financial Ratios

Ratio	2023	2022
Return on Capital Employed (ROCE)		

Net Profit Margin		
Gross Profit Margin		
Asset Turnover		
Current Ratio		
Quick Ratio		
Payables Days		
Inventory Days		
Receivables Days		
Gearing Ratio	45X100/(248+45)=15.4	90X100/(182+90)=52.3
Interest Cover	95/6=15.8	152/7=21.7

a) In line with IFRS 16, as the transaction contains sale in substance Rokana would have accounted for two transactions (the sale and the lease) by derecognizing the mining equipment sold and recognizing the new lease at 1 January 2022. However, because the sale is not to the market and the transaction contains a third element: a financing component, which is the amount by which the sale amount exceeds the fair value of the equipment. So the sale would be accounted for only at fair value of the asset while the excess proceeds of K100,000 (i.e. K900,000 proceeds less K800,000 fair value), which provide additional finance, would be treated as a financial liability under IFRS 9.

At 31 December 2022, the resultant lease liability would be amortised to include any interest incurred and remove annual payment (lease component only) for the year and the right-of-use asset depreciated and accounted for under the cost model. The financial liability would also be remeasured to its amortised cost, rather than fair value.

At 1 January 2022, the following treatments would be made:

Determine the total liability as the present value of the annual payments, lease liability and
financial liability as follows:

Year	**Future cash flows**	**Df@10%**	**PV of cash flows**
	K000		**K000**
1	200	0.909	181.8
2	200	0.826	165.2
3	200	0.751	150.2
4	200	0.683	136.6
5	200	0.621	124.2
Total liability			758.0
Financial liability (900 – 800)			(100.0)

Lease liability	658.0

Then, determine the right-of-use asset (reflecting the carrying amount of the equipment which corresponds to the proportion that lease liability bears with fair value of the asset) as below:

= (658,000 ÷ 800,000) x K500,000
= K411,250

The entries to pass at the transaction date are provided as follows:

Details	**Debit K000**	**Credit K000**
Bank	900	
Equipment		500
Right-of-use asset	411.25	
Lease liability		658
Financial liability		100
Profit or loss (net gain on disposal)		53.25

Allocation of annual payment between lease component and finance component for subsequent measurement:

	K'000
To lease component (658 ÷ 758 x 200)	173.6
To finance component (100 ÷ 758 x 200)	26.4

At 31 December 2022, lease liability would be remeasured as under the following lease table:

Year	Liability at start	Interest@10%	Rentals	Liability at end
	K000	K000	K000	K000
2022	658	65.8	(173.6)	550.2
2022	550.2	55.02	(173.6)	431.62

Financial liability would also be amortised as follows:

Year	Liability at start	Interest@10%	Rentals	Liability at end
	K000	K000	K000	K000
2022	100	10	(26.4)	83.6
2022	83.6	8.36	(26.4)	65.56

Right-of-use asset	K000	
Initial cost	411.25	
Less: Depreciation (411.25 ÷ 5)	<u>(82.25)</u>	
Carrying amount at 31 December 2022		329

Effects on Rokana's financial statements (for the year ended 31 December 2022)

- Within profit or loss account, lease's interest of K65,800 and finance interest of K10,000 would be reported as part of finance costs, depreciation of K82,250 as part of operating costs, and disposal gain of K53,250 as other income.

- Within statement of financial position, lease liability of K119,580 (i.e. K551,200 less K431,620) and financial liability of K18,040 (i.e. K83,600 less K65,560) would be presented as current liabilities and lease liability of K431,620 and financial liability of K65,560 presented as non-current liabilities. Right-of-use asset would be held at its year end carrying amount of K329,000.

(b) Rokana would have to account for the issued shares as compound instrument and present the shares as part financial liability and part equity in line with IAS 32. Hence, at initial recognition, the proceeds would be split between liability and equity components.

Liability is given by the present value of the expected annual interest payments of K120,000 (K1.5 million x 8%) and principal repayment, discounted at the prevailing market rate (11%) carried by equivalent non-convertible instrument.

The residual amount after deducting the liability component from the proceeds becomes equity.

At 1 January 2022 the liability and equity components would be determined as follows:

Year	**Future cash flows**	**Df@11%**	**PV of cash flows**
	K000		**K000**
1	120	0.901	108.12
2	120	0.812	97.44
3	120	0.731	87.72
4	120	0.659	79.08
5	120	0.593	71.16
5	1,500	0.593	889.5
Liability component			1,333.02
Equity component (bal)			166.98
Total proceeds			1,500

Subsequent measurement

Consistent with IFRS 9, the liability is subsequently remeasured to its amortised cost (as fair value option or trading intention is not applicable) as follows:

Year	**Liability at start**	**Effective Interest**	**Coupon (dividend)**	**Liability at end**

		@11%	@8%	
	K000	**K000**	**K000**	**K000**
2022	1,333.02	146.63	(120)	1,359.65

The equity component is subsequently not subject to re-measurement.

Effects on Rokana's financial statements (for the year ended 31 December 2022)

Within profit or loss account, interest of K146,630 would be reported as part of finance costs

Within statement of financial position, K1,359,650 would be reported under non-current liabilities and K166,980 (the initial amount) shown as other reserves under equity

(c) In line with IAS 37, the amount of provision required should reflect the best estimate of future compensation payment. In the case of this expenditure (which results from a single suit), the best estimate at initial date would reflect in the amount associated with outcome which has the highest chance of occurrence and then take into account the significant financing component. Subsequently, discount would be unwound. Required amount of provision (at 1 January 2022) is determined as follows:

= K1,275,000 x 0.9174
= K1,169,685

Required amount of provision (at 31 December 2022) is determined as follows:

	K
Initial provision	1,169,685
Unwound discount (bal. fig)	105,315
At 31 December 2022	1,275,000

Corrections required in Rokana's books for the year ended 31 December 2022

Additional amount of provision of K275,000 (K1,275,000 less K1 million) would be required within Rokana's profit or loss. Unwound discount component would be shown as part of finance cost and the remaining K169,685 (K1,169,685 less K1 million) treated as part of operating expenses.

Year-end provision liability would be restated at K1,275,000 and presented under current liabilities within statement of financial position.

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

ADVISORY PROFESSIONAL IN ACCOUNTANCY

CA 3.2: ADVANCED AUDIT AND ASSURANCE

THURSDAY 14 DECEMBER 2023

TOTAL MARKS – 100; TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question. You will be told when to start writing.

2. This paper is divided into TWO (2) sections:
   Section A: One (1) Compulsory scenario question.
   Section B: Four (4) Optional Questions. Attempt any Three (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Present legible and tidy work.

9. Graph paper (if required) is provided at the end of the answer booklet.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

SECTION A

This question is compulsory and must be attempted.

QUESTION ONE – COMPULSORY

Introduction
You are an Audit Manager in Matero Associates; a firm of Chartered Accountants. You are responsible for the financial statement audit of Chunga Ltd, for the year ended 31 March 2023. Chunga Ltd is a new audit client and you are currently planning the financial statement audit.

Chunga Ltd is a medium-sized milling company. It processes maize and soya beans into quality mealie-meal and animal feed respectively. The COVID-19 pandemic has had an adverse impact on the profitability of Chunga Ltd but it continues to survive due to the existence of lucrative contracts signed with trade unions on behalf of their members. This accounts for more than fifty percent (50%) of the company's total sales.

Legal liability
During the year ended 31 March, 2023, the entire management and those charged with governance were replaced. The shareholders also resolved to terminate the services of the external auditors. This followed the discovery of an error in the financial statements for the previous year.

The new management and those charged with governance are aware that a few shareholders are threatening taking legal action against the external auditors and those charged with governance regarding the error in the previous financial statements. They want the extent of the legal liability for external auditors to be explained in order to avoid unnecessary legal suits and keep the relationship professional. A special meeting has been arranged at which the Engagement Partner will be expected to explain the extent of the legal liability for external auditors. The Engagement Partner has asked you to prepare briefing notes which will be used at this meeting.

Meanwhile, it has been agreed that the special meeting should not delay the commencement of the audit of the financial statement for the year ended 31 March 2023.

Audit planning
The Engagement Partner directed you to prepare for a planning meeting to be held the following week with the Finance Director of Chunga Ltd and the Chairperson of the Audit Committee. He insisted that you should pay particular attention to raising questions about the following areas of the business:

(1) Nature of the Entity.

(2) Industry, regulatory and other external factors.

(3) Internal control systems.

Hand-over notes from the previous auditors
The previous auditors transferred documents and useful information to Matero Associates without any charge. They indicated that Chunga Ltd is still owing them part of the audit fees.

Revenue recognition
You are aware that on 28 March 2023, Chunga Ltd sold maize to a financial institution worth K6 million. This is recognized within the revenue figure in the draft financial statements. At the period end, the maize is still in Chunga Ltd's possession.

Analytical procedures
One (1) of the Trainee Auditors asked you to explain whether it will be appropriate to use analytical procedures when auditing the financial statements for Chunga Ltd, given that it is a new audit client.

Required:

(a) Advise Matero Associates on the action(s) to take regarding the fees which Chunga Ltd owes the previous auditors. (2 marks)

(b) Prepare the relevant briefing notes in which you explain:

(i) The extent of the intended litigation against Chunga Ltd by a few shareholders. (6 marks)

(ii) Four (4) possible actions that could be taken by Matero Associates to avoid litigation. (4 marks)

(c) For each area of the business, under audit planning, for Chunga Ltd mentioned in the scenario:

(i) Suggest two (2) specific examples of the issues which will be relevant. (3 marks)

(ii) Recommend two (2) audit procedures to be performed so as to gather required information. (6 marks)

(d) (i) Explain the audit risks regarding the maize sold to the financial institution. (4 marks)

(ii) Describe four (4) audit procedures that should be performed on the maize sold to the financial institution. (8 marks)

(e) Discuss the appropriateness of the use of analytical procedures in audit of the financial statements of Chunga Ltd. (7 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any THREE (3) questions.

QUESTION TWO

(a) Gatti Medical Services is a privately owned hospital and has been operating for three (3) years. In the year under review, the hospital has grown and started admitting patients.

In the recent past, a lot of private hospitals have been disposing of medical waste in undesignated areas. This has led to the environmental lobbyists to call on parliamentarians to enact a law to deal with the disposal of medical waste.

Arising from lobbying by environmental activists, Parliament enacted a new legislation regarding the disposal of medical waste. Previously, medical institutions only needed to engage authorized waste disposal companies to collect all medical waste and dispose of it at designated sites. The new legislation requires all hospitals offering admissions to construct incinerators that must be approved by the Ministry of Health, for use to dispose of all medical waste. Non-compliance with the new regulations will result in penalties for the first offenders and withdrawal of the operating licence for repeat violations.

Your firm, Zatti Chartered Accountants is auditor of Gatti Medical Services. You are aware of the new regulations on the disposal of medical waste and on your first visit to conduct a risk assessment, you establish that although the hospital has constructed an incinerator, it only worked for one (1) month. Your investigations revealed that Gatti Medical Services has continued to use a contracted waste disposal company during the time the incinerator has not been functional.

Required:

(i) Discuss the responsibility for compliance with the newly enacted law on disposal of medical waste. (2 marks)

(ii) Explain why your firm will concern itself with compliance with laws and regulations by Gatti Medical Services. (2 marks)

(iii) Describe the audit procedures that the audit team should take in view of the non-compliance with the law regarding the use of an incinerator to dispose of medical waste. (4 marks)

(b) Your firm of chartered accountants has been appointed auditor of Mulungushi Ltd. You have been assigned to the audit of Mulungushi Ltd and are planning the audit of the financial statements for the year ended 30 June 2023.

This will be the first time that your firm will be auditing the financial statements of Mulungushi Ltd, a company in the textile industry. A majority of the firm's staff does possess the skills and competences in auditing companies in the textile industry. The firm's Training Manager embarked on intensive training for the firm's staff on audits in the textile industry.

During the risk assessment stage of the audit you established that the bulk of the company's sales are on credit and the receivables days have increased over the last three (3) months of the year resulting in significant receivables balances outstanding for more than three (3) months. Further, you observed that the company has large stocks of inventory that is slow moving with a significant number not having moved in the last two (2) years. Your inquiries regarding the slow moving items revealed that the items are out of fashion and can only be sold at less than cost.

The Finance Department is headed by a Chief Accountant who was recently employed following numerous fraud cases due to poor internal control systems. The company is facing serious liquidity problems arising from reducing sales. The company is facing stiff competition from imports of finished goods which have flooded the market and selling at lower prices.

Required:

(i) Describe four (4) risks of material misstatements in the audit of the financial statements of Mulungushi Ltd. (8 marks)

(ii) For each risk of material misstatement, suggest a suitable response by the audit team. (4 marks)

[Total: 20 Marks]

QUESTION THREE

You are a Senior Auditor in Chris & Associates, a firm of chartered accountants. Your firm has been appointed auditor of Getty Mining Ltd, a parent company with three (3) subsidiaries. In addition, Chris & Associates has been appointed as auditor for the group consolidated financial statements commencing the current year ending 31 March 2023. Two (2) of the subsidiary companies are locally based while the third subsidiary is located abroad and its year end is 31 December. There is no regulation of accountants in the country in which the foreign subsidiary is based and the country has not adopted the use of International Financial Reporting Standards (IFRS). Each of the three (3) subsidiary companies has different firms of accountants as their auditors. The parent and subsidiary companies trade with each other at arm's length.

You have been assigned to the audit of the financial statements of the parent company and the group financial statements for the year ended 31 March 2023. Except for the Audit Manager, it is the first time for the rest of the audit team to audit a client in the mining industry. The reporting time table for the finalization of the group financial statements is tight and the date of the Annual General Meeting (AGM) has been fixed. The Engagement Partner requested the audit team to conduct an interim audit of the financial statements for the half year ending 30 September 2022. Since this will be the first audit of the financial statements of Getty Mining Ltd, the firm will require to perform procedures aimed at gaining an understanding of the entity and those on internal control systems in addition to performing substantive procedures on the figures in the financial statements.

You have been requested to present an audit plan that will be discussed at the pre-audit team meeting to be chaired by the Engagement Partner. The plan should include details of the work that will be carried out during the interim and final audit visits. The objective is that the audit team should be able to complete all the audit work early before the Annual General Meeting (AGM).

The following information is provided to you regarding the parent company's financial statements for the half year ended 30 September 2022:

(1) Trial balance as at that date;
(2) Statement of profit or loss to that date;
(3) Statement of financial position as at that date;
(4) Schedule of additions and disposals of tangible non-current assets for the six (6) months; and
(5) Schedule of the receivable balances as at 30 September 2022.

Required:

(a) Describe any three (3) audit tasks that the audit team should perform at each of the following stages of the audit of the financial statements of Getty Mining Ltd:

(i) Interim audit; and (3 marks)

(ii) The final audit. (3 marks)

(b) Explain the impact of the work performed during the interim audit on the final audit and the audit opinion. (4 marks)

(c) In relation to the audit of the group consolidated financial statements:

(i) Discuss three (3) audit risks and for each risk, explain how you will respond. (6 marks)

(ii) Discuss the impact of the work of component auditors on the work of the group auditor and the group audit opinion. (4 marks)

[Total: 20 Marks]

<u>QUESTION FOUR</u>

You are the Partner in charge of ethics and client acceptance in Rose Chartered Accountants. Your firm is the auditor of Machipisa Plc, which owns and runs chain stores in all provincial centers of the country. Your firm has three (3) offices based in Lusaka, Ndola and Kitwe and the Kitwe office is in charge of the audit of the financial statements of Machipisa Plc.

Following an advertisement for the offer of audit services by Mint Plc, your firm presented a bid for the offer of audit services. Your firm currently offers consultancy to Mint Plc, and Phiri who is based in Lusaka has been responsible for the non-audit services. You recently received notification from Mint Plc that your firm has been nominated as its next auditors. The Managing Partner of your firm has passed on the nomination letter to you for consideration and ensuring that all ethical matters are resolved before accepting the offer.

Additional information

Mint Plc imports the bulk of its products and deals largely in perishable products. The company has in the recent past faced stiff competition from Machipisa Plc which has set up stores in locations which were previously serviced by Mint Plc. As a result, large stocks of edible goods have or are nearing expiry which by law require to be destroyed and not to be sold to consumers. Management of Mint Plc, on advice of the Financial Director, resolved to transfer all goods expired or nearing expiry to stores located in the remote parts of the country where they will be sold at 50% discount as part of the company's social responsibility.

Your firm has the necessary experience in the audit of retail stores, and Chanda, who has been Engagement Partner in the audit of the financial statements of Machipisa Plc for the past ten (10) years is likely to be appointed as Engagement Partner on the audit of the financial statements of Mint Plc if the offer is accepted. Phiri, who has been providing non-audit services to Mint Plc, is poised to be Manager in charge of the audit. Among the non-audit services provided was assistance in the preparation of the financial statements of Mint Plc by Phiri.

In trying to make a decision on whether to accept the nomination as auditors of Mint Plc, you establish that the Financial Director has held this position since the establishment of the company. He is currently studying for the CA (Z) qualification and does not possess any other accountancy qualification. This has raised concern to you regarding the reliability of the financial statements prepared under his supervision. Further, a Financial Accountant who is in charge of the preparation of the financial statements, confided in you and informed you that the company is involved in fraudulent activities including the transfer and sale of expired goods contrary to the law. He requested that you should look out for this during your audit of the financial statements but would not want to be identified as your informer.

Required:

(a) Explain the meaning of conflict of interest and discuss the conflict of interest that may arise from the nomination as auditors by Mint Plc. (4 marks)

(b) (i) Describe how, as Partner in Charge of client acceptance, you will respond to the nomination as auditor of Mint Plc considering all possible situations. (4 marks)

(ii) Assuming that Machipisa Plc and Mint Plc accept to be audited by the same firm, discuss two (2) suitable safeguards that could be applied. (2 marks)

(c) Identify and explain the ethical threats in the scenario to the adherence to the fundamental ethical principles. (10 marks)

[Total: 20 Marks]

QUESTION FIVE

You are an Audit Manager in Tree Accountants and you are responsible for the financial statement audit of Mabula Plc for the year ended 30 June 2023. The draft financial statements show revenue of K127 million (2022 – K108 million), profit before tax of K29 million (2022 – K20 million) and total assets of K72 million (2022 – K51 million). The final audit is nearing completion, and the following points have been noted by the Audit Senior for your attention:

(1) **Inventory**
On 5 July 2023, inventory shown at a cost of K1.2 million in the financial statements was sold for K1.3 million before incurring selling costs of K150,000 at the Trade Fair. No adjustment has been made in the financial statements.

(2) **Revaluation surplus**
Mabula Plc owns land in Lilayi area carried in the books at K4 million. Three (3) years ago, a slump in land values led the company to reduce the carrying value from K6 million, and the difference was taken as an expense in the statement of profit or loss and other comprehensive income. There has been a surge in land prices in the current year and the land is now worth K7.5 million. Management has credited the revaluation surplus of K3.5 million to other comprehensive income and has classified it as a revaluation surplus within the equity section of the statement of financial position.

(3) **E-commerce – overseas sales**
On 20 May 2023, Mabula Plc received a tax assessment in the sum of K1.1 million for additional taxes, resulting from the use of wrong foreign exchange rates. Management has provided for the K1.1 million in the financial statement for the year ended 30 June 2023.

Required:

(a) Distinguish corresponding figures from comparative financial statements. (4 marks)

(b) Explain the objectives of Tree Accountants in relation to the comparative information included in the financial statements for the year ended 30 June 2023. (4 marks)

(c) For each of items 1 to 3 above:

(i) Comment on the matters that you should consider; and (9 marks)

(ii) State two (2) audit evidence for each issue that you should expect to find in undertaking your review of the audit working papers. (3 marks)
N.B. You are **NOT** required to comment on the impact on the audit report.

[Total: 20 Marks]

END OF PAPER

CA 3.2: ADVANCED AUDIT AND ASSURANCE SUGGESTED SOLUTIONS

SOLUTION ONE

(a) **Fees owed to previous auditors**

Fees are a sensitive matter which Matero Associates should handle with caution to avoid being misunderstood. As professionals, Matero Associates should decide how far they may go in aiding the former auditors to obtain their fees.

(b) **Briefing notes**

To: Engagement Partner

From: Audit Manager

Subject: Legal liability for external auditors

Introduction

These briefing notes explain in as much detail as possible the extent of legal liability for external auditors and action(s) taken to mitigate the legal liability.

(i) **Extent of legal liability for external auditors**

External auditors could be sued for professional negligence in the performance of their work. In order for the litigant to succeed and be awarded damages, the courts will consider three (3) criteria as follows:

(1) Proof that the auditors owed a duty of care;
(2) Proof that there was a breach of duty of care; and
(3) That the litigant suffered loss as a result of the breach of duty of care.

It is generally held that the auditors owe a duty of care to the company with whom they have a contract and this is assumed by the courts. The company refers to all shareholders together and not individual shareholders. The few shareholder intending to sue Chunga Ltd will be treated as third parties and not representing the company.

According to the Caparo v Dickman case, the auditors do not owe a duty of care to third parties who make investment or other decisions relying on the audited accounts.

The few shareholders will be treated like third parties and will be required to prove all three criteria as follows:

(1) Prove that the auditors owed them a duty of care. It will not be held automatically.

(2) Prove that there was a breach of the duty of care by the auditors and that
(3) The few shareholders suffered loss as a result of the breach of duty of care by the auditors.

(ii) **Action(s) taken to avoid litigation**

The following action(s) can be taken by Matero Associates to avoid litigation:

- Client acceptance procedures are very important, particularly the screening of new clients and the use of engagement letters.
- Performance of audit work. Firms should make sure that all audits are carried out in accordance with professional standards and best practice.
- Quality control/management – this includes not just controls over individual audits but also stricter 'whole-firm' procedures.
- Issue of appropriate disclaimers.

(c) (i) & (ii) **Examples of specific issues and audit procedures**

Areas of the business	**Examples of specific issues**	**Audit procedures**
(1) Nature of the Entity	○ Ownership ○ Use of IT ○ Financing ○ Suppliers	○ Search PACRA records ○ Inquiries of management and others within the entity ○ Audit team discussion of the susceptibility of the financial statements to material misstatements
(2) Industry, regulatory and other external factors	○ Laws and regulations ○ Competition ○ The economy	○ Read industry journals ○ Internet search ○ Read government statistics on economic performance

(3) Internal control	○ Control environment ○ Risk management system ○ Control activities	○ Inquiries about internal controls ○ Read accounting manual ○ Observation and inspection operation of internal control

(d) (i) **Risk of misstatement regarding the maize sold:**

The sale of maize worth K6 million three (3) days before the period end to a financial institution is a significant transaction that requires audit attention. This is because it is unusual for a financial institution to buy maize and especially that the maize is still in the custody of Chunga Ltd. This appears more to be a financing arrangement rather than a sale.

If it turns out that the arrangement is that of financing, there is a risk that the financial statements will be misstated arising from the overstatement of revenue into which the proceeds of sale have been credited. Further, liabilities will be understated if the amount is treated as revenue rather than a loan under a financing agreement.

Since the maize is still in the custody of Chunga Ltd there is an additional risk that it will be included in the closing inventory of Chunga Ltd and this could result in an overstatement of the inventory figure and ultimately profit.

The auditors will require to respond to this risk by performing audit procedures as suggested in (ii) below.

(ii) **Audit procedures - Maize sold still held in stock**

- Obtain the sale agreement and review its contents
- Inspect any other correspondence relating to the sale, including board minutes, if any, authorising the sale
- Check whether control has been transferred and performance obligations met
- Ensure the accounting treatment is in accordance with IFRS 15 *Revenue from Contract's with Customers* guidance if performance obligations have been met
- If performance obligations have not been met, request management to treat the transaction as a financing arrangement and not a sale

- Review any appropriateness of any disclosure notes regarding the transaction
- Arrange to attend the inventory count and confirm that the maize is not included in the closing inventory of Chunga Ltd
- If the maize still remains in the custody of Chunga Ltd before the signing of the audit report inquire of management, why this is the case.

(e) **Appropriateness of the use of analytical procedures on the financial audit of Chunga Ltd**

Detailed guidance on analytical procedures is given in ISA 520 *Analytical Procedures.* Analytical procedures are used at the three stages of the audit:

(1) Planning stage – Analytical procedures are used at this stage to set the scene for the actual performance of the financial statement audit. It is a very useful techniques used in identifying risky areas.

(2) Substantive procedures stage – Analytical procedures can be used at this stage to obtain sufficient appropriate audit evidence. However, auditors should consider a number of factors when deciding to use analytical procedures at this stage, such as the detail to which information can be analysed, the knowledge gained during previous audits etc.

(3) Overall review stage – Analytical procedures are used at this stage mainly to assess whether the financial statements as a whole make sense. It should be carried out by a senior experienced audit person.

Conclusion:
Analytical procedures are an efficient way of obtaining evidence used by auditors. The use of analytical procedures can be made at all the three stages of the audit of the financial statements of Chunga Ltd and their use is appropriate.

SOLUTION TWO

(a)(i) **Responsibility for compliance with the newly enacted law:**

The responsibility for ensuring that laws and regulations are complied with lies with management. The executive management of Mutti Medical Services have the responsibility that they put in place controls to help assist with compliance with laws and regulations. The Board of Directors who gives oversight on how management performs its duties will monitor how management fulfils its responsibility for compliance with laws and regulation.

(ii) **Why auditors are concerned with compliance with laws:**

The statutory auditors are concerned with whether client companies comply with laws and regulations. This is because in most cases non-compliance has implications for the financial statements.

It may be that by not complying, the company will be fined and there is a risk that provisions may be misstated in the financial statements. In the event that non-compliance results in the withdrawal of the operating licence, this will impact on the ability of Gatti Medical Services to continue as a going concern and this has implications on the basis of preparing the financial statements.

(iii) **Audit procedures on non-functioning of incinerator:**

The audit team should consider the professional ethics of confidentiality in deciding the action that should be taken due to Gatti Medical Services not complying with the regulations to use an incinerator to dispose of medical waste.

The audit team should consider taking the following steps:

- o Discuss the issue with the management of Gatti Medical Services and establish what action it intends to take to ensure compliance.
- o Discuss the matter with those charged with governance being the board of directors and seek their indulgence in matter.
- o Consider the likely implication of non-compliance on the financial statements and provisions that can arise due to penalties that may be levied on the hospital. If the audit team concludes that the non-compliance has a material effect on the financial statements, the team may consider modifying the audit opinion.
- o Notwithstanding the matter of confidentiality, the audit team should consider reporting non-compliance to the regulators. The team may need to seek legal advice in considering reporting the non-compliance to the regulators.

(b)(i)/ (ii) **Risks of material misstatements and suitable responses:**

(i) Risks of material misstatements	(ii) Responses
1. Irrecoverability of the receivables – the increase in the receivables days with the bulk of the receivables being over three months old suggests that the allowance for receivables may be misstated which could result in the misstatement of the financial statements.	Review the receivables age analysis and recompute the allowance for receivables made by management and ensure this is in line with the provisions of IFRS 9 Review post year end receipts to confirm receivables balances at the year end.
2. Large stock of items that are out of fashion and are slow moving – There is a risk in the valuation of these items at the period end which could result in inventory being over stated and lead to a misstatement of the financial statements.	Attend the year-end inventory count and confirm that out of fashion items are separately identified and confirm they are valued at the lower of cost and net realizable value.
3. High incidence of fraud could lead to the financial statements being misstated. This is because the people perpetuating the fraud will do all they can to conceal it so that it is not detected.	Increase the extent of substantive tests due to high incidence of fraud cases. Emphasize to the audit team the need to exercise professional scepticism and look out for incidences of fraud.
4. Poor internal control could result in fraud and error from going on undetected. Such fraud and error could result in the misstatements of the financial statements as some figures may be materially misstated.	The audit team should not rely on internal controls in determining the extent of further audit procedures. The auditors should not use a mixed approach but instead follow a substantive audit method.
5. The high levels of cheap imported textile products will result in the reduction in sales by Mulungushi Ltd. This in turn will result in poor liquidity for the company and unless this is reversed, the company may fail. The going concern ability of a company determines the basis for the preparation of the financial statements.	Evaluate management's assessment of the ability of the company to continue as a going concern. Check the assumptions made by management for reasonableness and management's ability to implement the future plans used in the assessment.

SOLUTION THREE

(a) (i) **Work to perform at interim audit stage:**

- Work done to gain an understanding of the entity and its environment in accordance with the provisions of ISA 315(Revised) *Identifying and Assessing the Risks of Material Misstatements through Understanding the Entity and its Environment.*
- Audit risk identification as part of the planning of the audit of the financial statements.
- Evaluation of internal controls in Getty Mining Ltd and performance of tests of control for the period under consideration to the interim period date of 30 September 2022.
- Substantive audit procedures related to transactions in the statement of profit or loss for the period to 30 September 2022.
- Limited substantive audit procedures relating to balances at 30 September 2022, for example, work on additions and disposals of tangible non-current assets during the half year.

(ii) **Work to perform at the final audit stage:**

- Audit procedures for tests of control for the remaining half year period.
- Substantive audit procedures for transactions in the last six months
- Substantive audit procedures for the balances as at the period end and additions and disposals in the last six months.
- Procedures on subsequent events after the period end according to ISA 560 *Subsequent events.*

(b) **Impact of interim audit work on final audit:**

- The work done at the interim audit stage will reduce the extent of work that will require to be done at the final audit.
- In terms of substantive tests on transactions in the statement of profit or loss, the auditors will only perform substantive audit procedures for period not covered during the interim audit stage.
- Tests of controls will only be performed to cover the half year not covered during the interim audit stage.

Impact on the audit opinion:

The work and evidence gathered during the interim audit stage will form part of the basis for arriving at an audit opinion after performing the procedures at the final audit stage. Substantive procedures for transactions to the interim financial statements date would be have been performed and the findings will form as part of the basis for the audit opinion. The results of the substantive tests on additions and disposals of tangible assets will also form as evidence upon which the opinion will be determined.

(c) (i) **Audit risks in the audit of group financial statements:**

Audit risks	**Suitable response**
1. The consolidation process – there is a risk that the consolidation process may not be performed in accordance with relevant accounting standards and may result in a misstatement of the group financial statements.	Review in detail the workings for the consolidation of the group accounts and confirm that this has been done in line with relevant accounting standards.
2. The computation of goodwill arising on consolidation may be incorrectly done and result in the misstatement of the group financial statements.	Re-compute the amount of goodwill arising on consolidation and confirm this is done in accordance with the relevant accounting standards.
3. The financial statements of the subsidiary whose country has not adopted the IFRS will be part of the group financial statements. The group financial statements may be misstated on account of including financial statements which do not comply with IFRS. Where they have been restated as required, the restatement may be incorrectly done resulting in a misstatement of the group financial statements.	Confirm that the financial statements of the subsidiary concerned have been restated to comply with the IFRS and check the workings to confirm they have been done correctly.
4. The group financial statements may be misstated as they include financial statements audited by component auditors. The skills and competences of the component auditors may not be as required to detect any material misstatements in the	Perform specific audit procedures on financial statements of significant components according to ISA 600.

	component financial statements.	
5.	Except for the Audit Manager, the rest of the audit team does not possess the necessary skills and competences required in auditing a mining company. There is a risk of increased detection risk which could result in the misstatement of the group financial statements.	There will be need for close supervision of the work by the Audit Manager and also the use of the work of Auditor Experts. An external review of the work that will be carried out will be appropriate.
6.	The accountancy profession in one of the countries where a subsidiary is based is not regulated. There is a risk that the audit of the subsidiary by the component auditors may not have been conducted in accordance with International Standards on Auditing and hence the component financial statements may be misstated.	Perform audit procedures for the component in order to gain sufficient appropriate evidence on the figure that will be included in the consolidated financial statements.
7.	The parent company and subsidiaries to trade with each other. In the consolidated financial statements any unrealized profits on account of stocks still on hand should be reversed and such inventory valued at cost to the group. There is a risk that this may not have been done correctly.	Review the details of any inventory from group companies on hand at the period end and ensure that this has been written down to cost to the group and that no unrealized profit is consolidated.

(ii) **Impact of work of component auditors on group audit:**

The group auditors are responsible in gathering sufficient appropriate audit evidence to enable them form an opinion on the group financial statements.

The group financial statements will include figures audited by component auditors on which the group auditors will not have performed any procedures. The auditing standards require that the group auditors should perform necessary audit procedures for significant components using materiality levels determined by them.

The group auditors cannot put blame on the component auditors for any misstatement arising from figures audited by the component auditors.

Impact of component audit work on group audit opinion:
The group auditors are solely responsible for the group audit opinion notwithstanding the fact the group financial statements include figures audited by the component auditors.

It is the responsibility of the group auditors to gather sufficient appropriate evidence on which to base the audit opinion of the group financial statements.

SOLUTION FOUR

(a) **Meaning of conflict of interest:**

One of the fundamental principles of accountants is that they should be objective. This means that they should not be biased and there should be no conflict of interest.

Conflicts of interest can arise in any of two ways:

- Between a member such as an auditor and a client and
- Between two clients.

Conflict of interest arising from nomination as auditor of Mint Plc:

In the case at hand, Rose Chartered Accountants are auditors of Machipisa Plc and have been nominated to be auditors of Mint Plc a company in direct competition with Machipisa Plc. There exists a conflict of interest between the two companies. Either of the two companies may not be comfortable to be audited by the same firm of auditors.

In deciding whether to accept appointment as auditors of Mint Plc, Rose Chartered Accountants should take into consideration the conflict of interest between these competing companies.

(b) (i) **Response to nomination as auditors:**

Considering the conflict of interest between two competing clients, the following procedures should be followed in making a decision whether or not to accept nomination as auditor of Mint Plc.

- The firm should inform Mint Plc that it is auditor of Machipisa Plc which is in direct completion with Mint Plc.
- The firms should find out from management of Mint Plc whether the company is agreeable to be audited by the firm which is auditor of its competitor.
- The firm should inform Machipisa Plc management that it has been nominated to be auditor of Mint Plc a competitor company.
- If either of the two companies does not wish to be audited by the same firm, the firm will require to choose which of the two it wishes to offer audit services.

(ii) **Suitable safeguards that could be applied:**

The firm could do one of the following:

- Assign two different engagement teams to conduct the audits of Machipisa Plc And Mint Plc.
- Creating separate areas of practice through establishing 'Chinese Wall' by putting in place policies and procedures to limit access to client files and restriction of sharing information between the two.
- The firm may choose to use separate offices for the audit of each of the two companies. For example, Lusaka office could audit Mint Plc.

while Kitwe or Ndola offices take the audit of the financial statements of Machipisa Plc.

(c) **Ethical threats to adherence to fundamental principles:**

Ethical threats	**Explanations of ethical threats**
1. The offer of non-audit services including assisting in the preparation of financial statements to a public interest entity.	In event that the firm accepts appointment as auditor of Mint Plc, Phiri should stop providing non audit services and specifically assisting in the preparation of the financial statements of Mint Plc. Auditors should not prepare accounts or financial statements for public interest entities as this gives rise to self-review threats.
2. The illegal transfer of expired and near expiry products to remote parts of the country as suggested by the Financial Director.	This act is in breach of the professional principle of integrity which requires accountants to be straight forward and honest in all their business dealings. This act also in in breach of the professional principle of Professional behavior by bringing the name of the profession in disrepute. The Financial Director is in breach of the principal of integrity.
3. Chanda has been Engagement Partner on the audit of Machipisa Plc for 10 years.	Objectivity is impacted by the fact that Chanda has been auditor of Machipisa Plc for a period of 10 years. Auditor rotation should be considered to mitigate this threat.
4. Intention to assign Phiri as Audit Manager in the audit of the financial statements of Mint Plc. if the nomination is accepted.	If Phiri is assigned on the audit of the financial statements of Mint Plc he will be reviewing his own work and this will impact on his objectivity.
5. The Finance Director of Mint Plc does not possess the qualifications in accounts.	The fact that the Financial Director does not possess the required skills and competences is contrary to the professional principle of professional competence and due care which

	requires that the accountant should have the skills and competences required to ensure that the employer receives competent professional services. Further, the reliability of the financial statements is put into question.
6. The disclosure by the Financial Accountant of Mint Plc. that the company is involved in fraudulent activities.	The disclosure by the Financial Accountant of the illegal activities of Mint Plc borders on matters of confidentiality. It is questionable, however, whether he is in order to disclose to the firm instead of the competent authority. There is an exception to the principle on confidentiality when an employer is involved in an illegal act.

SOLUTION FIVE

(a) **Distinction of corresponding figures from comparative financial statements**

Corresponding figures are amounts and other disclosures for the prior period included as an integral part of the current period financial statements, which are intended to be read only in relation to the amounts and other disclosures relating to the current period (referred to as 'current period figures'). The level of detail presented in the corresponding amounts and disclosures is dictated primarily by its relevance to the current period figures.

Comparative financial statements are amounts and other disclosures of the prior period included for comparison with the financial statements of the current period but, if audited, are referred to in the auditor's opinion. The level of information included in those comparative financial statements is comparable with that of the financial statements of the current period.

(b) **Tree Accountants' objectives**

ISA 710 *Comparative Information – Corresponding Figures and Comparative Financial Statements* gives detailed guidance in this area. Tree Accountants' objectives in relation to the comparative information included in the financial statements for the year ended 30 June 2023 are:

- To obtain sufficient appropriate audit evidence about whether the comparative information included in the financial statements has been presented, in all material respects, in accordance with the requirements for comparative information in the applicable financial reporting framework; and
- To report in accordance with the auditor's reporting responsibilities.

(c) **Matters to consider and evidence**

(1) **Inventory**

(i) **Matters to consider**

Materiality

The net realizable value (NRV) of the inventory is K1.15 million (K1.3 million – K0.15 million). This is K0.05 million below cost. However, the K0.05 million is immaterial to profit at 0.2% of profit before tax (K0.05 million/K29 million X 100%). It is also immaterial to the statement of financial position at 0.07% of total assets (K0.05 million/K72 million X 100%).

Risk
There is a risk that profits and inventories are overstated since no adjustment has been made.

Accounting treatment
According to IAS 2 *Inventories,* inventories must be measured at the lower of cost and net realizable value. The inventory figure ought to be reduced by K0.05 million. However, since it is immaterial, it could be ignored.

(ii) **Evidence**

- Relevant copy of inventory valuation schedule
- Copies of invoices for the sale at the Trade Fair
- Copies of invoices/other documentation for selling expenses

(2) **Revaluation surplus**

(i) **Matters to consider**
Materiality
The revaluation surplus of K3.5 million, includes K2 million (K6 million – K4 million) which is accounted for incorrectly. The K2 million is material to profit at 6.9% of profit before tax (K2 million/K29 million X 100%). It is also material to the statement of financial position at 2.8% of total assets (K2 million/K72 million X 100%).

Risk
There is a risk that profit for the year is understated while other comprehensive income and revaluation surplus are overstated.

Accounting treatment
IAS 16 *Property, Plant and Equipment* requires that any increase in the value of an asset on revaluation must first be used to reverse any previous decrease in the value of the asset. In this case, K2 million of the recognized revaluation surplus must be used to offset the previous decrease of K2 million (K6 million – K4 million). Only the excess K1.5 million must be recognized in the other comprehensive income and shown as revaluation surplus in the equity section of the statement of financial position.

(ii) **Evidence**

- Copy of revaluation reports
- Relevant copies of non-current asset schedules
- Relevant copies of the financial statements

(3) **E-commerce – overseas sales**

(i) **Matters to consider**

Materiality

The tax assessment in the sum of K1.1 million is immaterial to profit at 3.8% of profit before tax (K1.1 million/K29 million X 100%). It also immaterial to the statement of financial position at 1.5% of total assets (K1.1 million/K72 million X 100%).

Risk

There is a risk that the provision is understated as it may not include other periods where wrong foreign exchange rates were also used. Hence, profits could be overstated while liabilities understated. In addition, there may be need to provide for penalties and interests unless these have been waived, in writing, by the Commissioner-General (CG).

Accounting treatment

IAS 37 *Provisions, Contingent Liabilities and Contingent Assets* requires a provision to be recognized where, as a result of a past event, an outflow of economic benefits is probable, the amount of which can be estimated reliably.

If Mabula Plc has no objection against the tax assessment, then the provision should be increased so that it covers any additional liabilities which may arise regarding the use of wrong foreign exchange rates.

(ii) **Evidence**

- Copy of the tax assessment
- Correspondence between ZRA and Mabula Plc
- Relevant extract(s) from the financial statements.

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

ADVISORY PROFESSIONAL IN ACCOUNTANCY

CA 3.4: ADVANCED TAXATION

THURSDAY 14 DECEMBER 2023

TOTAL MARKS – 100: TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question. You will be told when to start writing.

2. This paper is divided into TWO (2) sections:

   Section A: ONE (1) **Compulsory** scenario question.
   Section B: FOUR (4) Optional questions. Attempt any THREE (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Present legible and tidy work.

9. Graph paper (if required) is provided at the end of the answer booklet.

10. A Taxation table is provided from page 2 to page 6 of the question paper.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

TAXATION TABLE
Income Tax

Standard personal income tax rates

Income band	Taxable amount	Rate
K0.01 to K57,600	first K57,600	0%
K57,601 to K81,600	next K24,000	20%
K81,601 to K106,800	next K25,200	30%
Over K106,800		37.5%

Income from farming for individuals

K0.01 to K57,600	first K57,600	0%
Over K57,600		10%

Company income tax rates

On income from manufacturing and other	30%
On income from farming	10%
On income from mineral processing	30%
On income from mining operations	30%
On income of Banks and other Financial Institutions	30%

Mineral Royalty

Mineral Royalty on Copper

Norm price range	Incremental value	Mineral Royalty rate
Less than US$4,000	Less than $4,000	4.0% of norm value
From US$4,000 but less than US$5,000	Next $1,000	6.5% of norm value
From US$5,000 but less than US$7,000	Next $2,000	8.5% of norm value
US$7,000 and above	Over $7,000	10% of norm value

Mineral Royalty on other minerals

Type of mineral	Mineral Royalty Rate
Cobalt and Vanadium	8% of norm value
Base Metals (Other than Copper, Cobalt and Vanadium)	5% of norm value
Energy and Industrial Minerals	5% of gross value
Gemstones	6% of gross value
Precious Metals	6% of norm value

Capital Allowances

Implements, plant and machinery and commercial vehicles:

Wear and Tear Allowance –	Standard wear and tear allowance	25%
	Used in manufacturing and leasing	50%
	Used in farming and agro-processing	100%
	Used in mining operations	20%

Non- commercial vehicles

Wear and Tear Allowance	20%

Industrial Buildings:

Wear and Tear Allowance	5%
Initial Allowance	10%
Investment Allowance	10%

Low Cost Housing	**(Cost up to K100,000)**
Wear and Tear Allowance	10%
Initial Allowance	10%

Commercial Buildings

Wear and Tear Allowance	2%

Farming Allowances

Development Allowance	10%
Farm Works Allowance	100%
Farm Improvement Allowance	100%

Presumptive Taxes

Turnover Tax

Annual Turnover

K0.01 to K12,000	0%
K12,001 to K800,000	4%

Rental income Tax

K0.01 to K12,000	0%
K12,001 to K800,000	4%
On income above K800,000	12.5%

Presumptive tax for transporters

Seating capacity	**Tax per annum**	**Tax per quarter**
	K	K
Less than 12 passengers and taxis	1,080	270
From 12 to 17 passengers	2,160	540
From 18 to 21 passengers	4,320	1,080
From 22 to 35 passengers	6,480	1,620
From 36 to 49 passengers	8,640	2,160
From 50 to 63 passengers	10,800	2,700
From 64 passengers and over	12,960	3,240

Property transfer tax

Rate of tax on realised value of land, buildings and shares	5%
Rate on realised value of intellectual property	5%
Rate on realised value of mining right for an exploration licence	5%
Rate of tax on realised value of a mining right for a mining licence	10%
Rate of tax on realised value on a mineral processing licence	10%

Value Added Tax

Registration threshold	K800,000
Standard Value Added Tax Rate (on VAT exclusive turnover)	16%

Customs and Excise duties on used motor vehicles

	Aged 2 to 5 years		Aged above 5 years	
Motor vehicles for the transport of ten or more persons, including the driver	**Customs duty**	**Excise duty**	**Customs duty**	**Excise duty**
	K	**K**	**K**	**K**
Sitting capacity of 10 but not exceeding 14 persons including the driver	17,778	22,223	8,889	11,112
Sitting capacity exceeding 14 but not exceeding 32 persons	38,924	0	13,840	0
Sitting capacity of 33 but not exceeding 44 persons	86,497	0	19,462	0
Sitting capacity exceeding 44 persons	108,121	0	43,248	0

	Aged 2 to 5 years		Aged above 5 years	
Motor cars and other motor vehicles principally designed for the transport of persons including station wagons and racing cars	**Customs duty**	**Excise duty**	**Customs duty**	**Excise duty**
	K	**K**	**K**	**K**
Sedans				
cylinder capacity not exceeding 1000 cc	12,490	10,824	7,136	6,185
Cylinder capacity exceeding 1000 cc but not exceeding 1500 cc	16,058	13,917	8,564	7,422
Cylinder capacity exceeding 1500 cc but not exceeding 2500 cc	16,545	21,508	8,423	10,950
Cylinder capacity exceeding 2500 cc but not exceeding 3000 cc	18,049	23,463	10,528	13,687
Cylinder capacity exceeding 3000 cc	22,561	29,329	12,032	15,642

Hatchbacks				
cylinder capacity not exceeding 1000 cc	10,705	9,278	7,136	6,185
Cylinder capacity exceeding 1000 cc but not exceeding 1500 cc	14,274	12,371	8,564	7,422
Cylinder capacity exceeding 1500 cc but not exceeding 2500 cc	15,041	19,553	8,423	10,950
Cylinder capacity exceeding 2500 cc but not exceeding 3000 cc	16,545	21,508	10,523	13,687
Cylinder capacity exceeding 3000 cc	19,553	25,419	12,032	15,642
Station wagons				
cylinder capacity not exceeding 2500 cc	16,545	21,508	9,024	11,731
Cylinder capacity exceeding 2500 cc but not exceeding 3000 cc	18,049	23,463	13,357	17,598
Cylinder capacity exceeding 3000 cc	22,561	29,329	18,049	23,463
SUVs				
Cylinder capacity not exceeding 2500 cc	21,057	27,374	9,024	11,732
Cylinder capacity exceeding 2500 cc but not exceeding 3000 cc	24,065	31,284	13,357	17,598
Cylinder capacity exceeding 3000 cc	28,577	37,150	18,049	23,463

	Aged 2 to 5 years		**Aged above 5 years**	
Motor vehicles for the transport of goods - with compression-ignition internal combustion piston engine (diesel or semi-diesel):	**Customs duty**	**Excise duty**	**Customs duty**	**Excise duty**
	K	**K**	**K**	**K**
Single cab				
GVW exceeding 1.0 tonne but not exceeding 1.5 tonnes	21,926	9,501	8,770	3,801
GVW exceeding 1.5 tonnes but not exceeding 3.0 tonnes	26,311	11,402	15,348	6,651

GVW exceeding 3.0 tonnes but not exceeding 5.0 tonnes	30,697	13,302	17,541	7,601
Double cabs				
GVW exceeding 3 tonnes but not exceeding 5 tonnes	30,697	13,302	24,119	10,452
Double cabs GVW exceeding 3.0 tonnes but not exceeding 5.0 tonnes, **with spark ignition internal combustion piston engine**	33,766	14,632	26,531	11,497
Panel Vans				
GVW not exceeding 1.0 tonne	13,353	5,786	7,630	3,061
GVW exceeding 1.0 tonne but not exceeding 1.5 tonnes	15,348	6,651	8,770	3,801
GVW exceeding 1.5 tonnes but not exceeding 3.0 tonnes	17,541	7,601	15,348	6,651
GVW exceeding 3.0 tonnes but not exceeding 5.0 tonnes	21,926	9,501	17,541	7,601
Trucks				
GVW up to 2 tonnes	13,907	10,662	6,413	4,916
GVW exceeding 2.0 tonnes but not exceeding 5.0 tonnes	15,453	11,847	7,726	5,923
GVW exceeding 5.0 tonnes but not exceeding 10.0 tonnes	24,724	18,955	9,272	7,108
GVW exceeding 10.0 tonnes but not exceeding 20.0 tonnes	30,905	23,694	11,744	9,004
GVW exceeding 20 tonnes	51,898	0	19,462	0
GVW exceeding 20 tonnes, **with spark ignition internal combustion piston engine**	37,086	28,432	13,907	10,662

Surtax

On all motor vehicles aged more than five (5) years from year of manufacture K2,000

Customs and Excise on New Motor vehicles

Duty rates on:

1.	**Motor cars and other motor vehicles (including station wagons) principally designed for the transport of less than ten persons, including the driver:**	
	Customs Duty:	
	Percentage of Value for Duty Purposes	30%
	Minimum Specific Customs Duty	K6,000
	Excise Duty:	
	Percentage of Value for Duty Purposes for Excise Duty Purposes	
	Cylinder capacity of 1500 cc and less	20%
	Cylinder Capacity of more than 1500 cc	30%
2.	**Pick-ups and trucks/lorries with gross weight not exceeding 20 tones:**	
	Customs Duty	
	Percentage of Value for Duty Purposes	15%
	Minimum specific Customs Duty	K6,000
	Excise Duty:	
	Percentage of Value for Duty Purposes for Excise Duty Purposes	10%
3.	**Buses/coaches for the transport of more than ten persons**	
	Customs Duty:	
	Percentage of Value for Duty Purposes	15%
	Minimum Specific Customs Duty	K6,000
	Excise Duty:	
	Percentage of Value for Duty Purposes for Excise Duty Purposes	
	Seating Capacity of 16 persons and less	25%
	Seating Capacity of 16 persons and more	0%
4.	**Trucks/lorries with gross weight exceeding 20 tonnes**	
	Customs Duty:	
	Percentage of Value for Duty Purposes	15%
	Excise Duty:	
	Percentage of Value for Duty Purposes for Excise Duty Purposes	0%

SECTION A

This question is compulsory and must be attempted

QUESTION ONE – (COMPULSORY)

Background

KKC Minerals Zambia Ltd is a Zambian subsidiary of a foreign-based multinational mining company known as KKC Minerals Global. KKC Minerals Zambia Ltd is engaged in the extraction and sale of different types of minerals in Zambia.

Chief Executive Officer

The Chief Executive Officer of KKC Minerals (Z) Ltd is Ngosa Chisupa, who is resident and ordinarily resident in Zambia. In the year ended 31 December 2023, Ngosa earned gross emoluments of K900,000. In addition to the director's emoluments, Chisupa received net Management fees of K68,000 and net GRZ bond interest of K34,000 from Zambian sources. PAYE deducted from his emoluments amounted to K260,763. Chisupa holds investments in shares and debentures of KKC Minerals Global. He also owns commercial property in the foreign country in which KKC Minerals Global operates, which has been let out to tenants in that country.

In December 2023, dividends of K45,000, debenture interest of K63,000 and rental income of K108,000 were credited to his Zambian account in respect of the above foreign investments. The dividends were net of withholding tax at the rate of 40% deducted in the foreign country, whilst the debenture interest and the rental income were net of withholding tax at the rate of 10% deducted in the same foreign country. There is no double taxation convention between Zambia and the foreign country in which KKC Minerals Global operates. Credit is available for any foreign tax suffered.

Financial Results for KKC Minerals Zambia

The following extract of the profit or loss has been obtained from the accounts of the group which prepares financial statements in United States dollars.

KKC MINERAL ZAMBIA
STATEMENT OF PROFIT OR LOSS FOR THE YEAR ENDED 31 DECEMBER 2023 EXTRACT

	Note	**K'000**
Gross profit		1,354,586
Operating expenses	(1)	(332,780)
Corporate Social Responsibility	(2)	(49,500)
Finance cost	(3)	(720,000)
Other income	(4)	44,880
Profit for the year		297,186

The following additional information is available:

Note 1: Operating Expenses

Operating expenses include drilling expenditure of K20,250,000, staff costs of K54,000,000, depreciation charges of K108,000,000 and exploration and prospecting expenditure of K3,645,000. The balance represents miscellaneous allowable business expenses.

Note 2: Corporate Social Responsibility

This includes expenditure incurred in drilling boreholes for the local mining community amounting to K33,750,000, expenditure on the rehabilitation of a government school in a council town outside the mining township of K13,500,000 and donations to unapproved orphanages in the mine township of K2,250,000.

Note 3: Finance cost

On 1 January 2023, KKC Mineral Zambia Ltd obtained a loan of K200 million from its foreign parent entity, at an interest rate of 25% per annum. The loan is repayable in ten years' time. The interest paid by KKC Minerals Zambia during the year was computed using this rate and has been included within finance cost in the statement of profit or loss shown above. The commercial rate of interest on loans of this type in the country in which KKC Minerals Global operates is 15% per annum.

The remaining balance of the finance cost relates to interest on borrowings paid to entities not related to KKC Minerals (Z) Ltd at normal commercial terms.

Note 4: Other Income

Other income comprises income from letting of property amounting to K31,405,000, net dividends from Zambian companies listed on the Lusaka Securities Exchange of K10,500,000 and net treasury bill discount of K2,975,000.

Note 5: Mineral Royalty

The mineral royalty paid by the company during the tax year 2023, has not been accounted for in the statement of profit or loss shown above. The company made the following sales of minerals in the tax year 2023:

(1) Copper

Mineral	*Quantity*	*Average LME cash price for the year*
Copper	20,000 tonnes	US$6,500

The relevant average Zambian Kwacha per US dollar rate approved by the Commissioner General was K20.50/US$1, throughout the year.

(2) Other Minerals

Mineral	***Norm value***	***Gross value***
	K'000	K'000
Gemstones	375,000	390,000
Precious Minerals	270,000	225,000
Industrial Minerals	185,000	180,000

Note 6: Implements, Plant and Machinery

At 1 January 2023, the company held the following capital assets which were imported from foreign suppliers and paid for in US dollars a year ago: The original costs of the assets stated in Zambian kwacha on the date of acquisition were as follows:

Asset	Cost
Metallurgical equipment	K6,000,000
Front end loaders	K5,200,000

During the year the company constructed a new copper smelting plant at a cost of K78,000,000. This expenditure was incurred and paid for in Zambian Kwacha.

Note 7: Unrelieved Tax loss brought forward.

The company had an unrelieved loss of K340,000,000 brought forward at 1 January 2023, which was the remainder of the loss the company suffered five years ago.

Note 8: Indexation Formula

The indexation formula for capital allowances and mining losses, where applicable, is given below:

$$1+\frac{(R_2-R_1)}{R_1}$$

The following Zambian Kwacha per US Dollar (ZMW/US$) average BOZ mid-exchange rates should be used where applicable:

Accounting Period	*Average BOZ Mid-Exchange rate*
	ZMW/ US$
Y/e 31 December 2022	K20.00
Y/e 31 December 2023	K20.50

Required:

(a) Compute the total amount of mineral royalty tax paid by KKC Minerals (Z) Ltd in the tax year 2023 and advise on its tax treatment when computing the taxable mining profits of the company for the year. (5 marks)

(b) Advise on the income tax implications arising from the loan of K200 million obtained by KKC Minerals (Z) Ltd from its foreign based parent company during the year referred to in note (3), above. (3 marks)

(c) Calculate the final tax adjusted mining profit for the tax year 2023 and show the amount of any mining loss brought forward, remaining unrelieved at the end of the year. (17 marks)

(d) Compute the final company income tax payable by the company for the tax year 2023. (4 marks)

(e) Calculate the income tax payable by Ngosa Chisupa for the tax year 2023. (11 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any three (3) questions.

QUESTION TWO

Chishiba and Kashiba wish to commence running a trading company known as Shiba Ltd engaged in retailing on 1 January 2023. Chishiba will hold 90% of the ordinary shares of Shiba Ltd, while Kashiba will hold the remaining 10%. Chishiba and Kashiba will run the company as full-time working directors of the company. For the year ended 31 December 2023, Chishiba and Kashiba wish to withdraw annual amounts of K400,000 and K320,000 respectively from the company either as gross director's emoluments or as dividends and are keen to know what the taxation implications of drawing profits under each one of these two options would be.

The earnings ceiling for the purposes of NAPSA contributions is K322,080 per annum.

Required:

(a) Assuming that Chishiba and Kashiba each draw profits as Director's emoluments:

(i) Explain with appropriate supporting computations the income tax and NAPSA implications for each individual. (5 marks)

(ii) Explain with appropriate supporting computations the income tax and NAPSA implications for Shiba Ltd. (4 marks)

(iii) Show their overall after-tax position. (3 marks)

(b) Assuming Chishiba and Kashiba each draw profits as dividends:

(i) Explain with appropriate supporting computations the income tax and NAPSA implications for each individual. (2 marks)

(ii) Explain with appropriate supporting computations the income tax and NAPSA implications for Shiba Ltd. (2 marks)

(iii) Show their overall after-tax position. (2 marks)

(c) Based on your evaluations in parts (a) and (b) above, advise them as to whether they should draw the profits as emoluments or as dividends. (2 marks)

[Total: 20 Marks]

QUESTION THREE

The following information relates to Akron Insurance Plc, a company providing general insurances services which is listed on the Lusaka Securities Exchange for the year ended 31 December 2023:

	K'000
Premiums paid to re-insurers	140,900
Provision for unearned premiums at 1 January 2023	71,500

Provision for unearned premiums at 31 December2023	61,300
Gross insurance premiums	7,440,000
Insurance claims paid to customers	195,650
Investment income (Note1)	11,260
Other income (Note 2)	14,918
Amounts received under reinsurance	63,650
Operating expenses (Note 3)	980,500
Outstanding claims from customers at 1 January 2023	25,500
Outstanding claims from customers at 31 December 2023	36,300

The following additional information is available:

Note 1: Investment income.

This comprised GRZ bond interest of K3,060,000(net), dividends from LuSE listed companies of K2,550,000 (gross) and gross rental income of K5,650,000.

Note 2: Other income.

Other income comprises the following:

	K'000
Commission income	2,860
Management fees (net)	6,800
Profit on sale of short-term money market securities	456
Fair value gain on investment property	3,702
Fair value gains on government securities	1,606
Losses on sale of listed shares	(506)
	14,918

Note 3: Operating expenses.

These comprise the following:

	K'000
Salaries and employees benefits	22,090
Depreciation	2,648
Amortisation	1,240
Frauds and forgeries by employees	260
Operating lease rentals for motor cars	200
Finance lease interest	185,000
Administration expenses	261,400
	472,838

Note 4: Buildings, Implements, plant and machinery.

(1) At 1 January 2023, all assets qualifying for capital allowances were written down to zero. During the year the company constructed new central administrative buildings at a cost of K15,500,000, comprising land with a cost of K3,500,000 and administrative offices of K12,000,000.

(2) During the year, the company acquired four pool cars (2,000cc each) under operating lease agreements paying annual rentals of K50,000 for each car.

(3) The company also bought the following motor cars under a finance lease arrangement:

	K'000
Toyota Fortuner SUV (2,800cc)	950,000
Toyota Hilux double cab van (2,500cc)	900,000

The vehicles were provided to two of the company's directors on a personal to holder basis with each director having private use of 25% of each vehicle.

Note 5: Future plans.

Akron plc is considering purchasing new administration offices on the Copperbelt as part of its expansion programme at a cost of K29,000,000 (VAT inclusive), including the cost of land of K5,800,000 (VAT inclusive) from a Real Estate developer. It is considering raising the capital for this project by means of either issuing additional ordinary shares through a rights issue, incurring issue costs of K696,000 or issuing 20% bonds with a term to maturity of ten (10) years incurring issue costs of K348,000.

Required:

(a) Compute the company income tax payable by Akron Plc for the tax year 2023. (13 marks)

(b) Advice the directors of Akron plc of the taxation implications for the company of financing the purchase of new administration offices by:

(i) Issuing of shares through a rights issue (3½ marks)

(ii) Issuing 20% bonds (3½ marks)

[Total: 20 Marks]

QUESTION FOUR

For the purposes of this question, you should assume that the income tax rates and bands for the tax year 2023 apply throughout.

Lemba commenced in business as a sole trader on 1 January 2022, running a retail trade. At the start of the tax year 2022, he estimated his taxable profits to be K1,142,000. He calculated and paid the provisional income tax correctly on the due dates and he also submitted the return of provisional income for the tax year 2022 correctly. At the end of the tax year 2022, Lemba's actual final taxable profit was K1,265,000. Lemba calculated the balance of income tax still to be paid for the tax year 2022 and paid this on 1 September 2023. He also submitted the self-assessment income tax return for the tax year 2022 on 1 September 2023.

In January 2023, he estimated the taxable profit for the tax year 2023 to be K1,950,000.
When he learnt that he had lost one of his largest and most rewarding contracts to a competitor in February 2023, he revised the estimated taxable business profit for the tax year 2023 from the original estimate of K1,950,000 to only K1,650,000.

He paid the provisional income tax for the quarter ended 31 March 2023 and also submitted the return of provisional income for the tax year 2023 on 31 May 2023. All the remaining instalments of provisional income tax relating to the tax year 2023 were paid on the relevant due dates. The balance of any income tax payable at the end of the tax year 2023, together with the related self-assessment income tax return for the tax year 2023 were both paid and submitted on the relevant due dates.

In November 2023, Lemba received a notice from the Commissioner General stating that his self-assessment income tax return for the previous tax year 2022 was the subject of an enquiry. When computing taxable income of K1,265,000 for the previous tax year 2022, it is alleged that Lemba deducted a non-allowable private expense of K70,000. The Commissioner General therefore raised an assessment for underpaid income tax of K26,250 in respect of the tax year 2022 and this notice was served on Lemba on 10 October 2023. No adjustment was required to the return of provisional income for the tax year 2023.

You should assume that the Bank of Zambia discount rate is 9.5% per annum, where applicable.

Required:

(a) Advise Lemba of the amounts of penalties and interest on overdue taxes and tax returns charged on all payments and tax return submissions made up to and including 1 August 2023. (13 marks)

(b) Explain the initial alternative courses of action that are open to Lemba following receipt of the notice of assessment showing additional income tax payable of K26,250 for the previous tax year and advise on how any disputes between him and the Commissioner General would be resolved legally. (4 marks)

(c) Advise Lemba of the interest on overdue tax and penalties that he may be liable for, resulting from the Commissioner General's enquiry into his self-assessment income tax return for the previous tax year 2022 and state a possible reason why these penalties and interest may apply. (3 marks)

[Total: 20 Marks]

QUESTION FIVE

Assume that today's date is 20 December 2022

Mr Ng'andu who is 57 years old has run a property letting business for many years. He is married and has four children who are still minors. He wishes to transfer ownership of the letting business into a trust to be managed on behalf of his four children on 1 January 2023.

The letting business comprises five (5) units of self-contained, two (2) bedroomed residential flats and a shopping mall consisting of fifteen (15) units of retail shops.

For the tax year 2023, he expects the properties to generate income as follows:

Residential flats

Each of the five (5) residential flats will generate gross monthly rentals of K10,000. Security expenses for the entire block of flats will total K1,500 per month, ground rates for the property will be K1,200 for the year, whilst depreciation charges for the buildings will be K550,000 per annum. Other incidental costs to be incurred wholly and exclusively on the flats will total K1,800 per month. The block of residential flats will have a market value of K1,800,000 (inclusive of land valued at K700,000) on 1 January 2023.

Shopping Mall
Each of the fifteen shops at the shopping will generate gross monthly rental income of K30,000. Security expenses will be K5,000 per month, ground rates for the property will be K3,000 for the year, whilst depreciation charges for the shop buildings will be K600,000 per annum. Other incidental costs to be incurred wholly and exclusively on the shopping mall will total K4,500 per month. The shopping mall will have a market value of K16,000,000 (inclusive of land valued at K4,000,000) on 1 January 2023.

Other information
If the property business is transferred into a trust, then in addition to the expenses stated above, an annual fee of K624,000 will be payable to the trustees for managing the trust in the tax year 2023, whilst legal fees to be incurred in setting up the trust will amount to K45,000.

Required:

(a) Advise Ng'andu of the property transfer tax implications of a settlor making a transfer of property into trust for the benefit of his children during the settlor's life time. (2 marks)

(b) Discuss the nature of the following types of trust which Ng'andu may set up to manage the gifted property on behalf of his children and how they can be used in his specific circumstances:

(i) Trust with an interest in possession. (3 marks)

(ii) Discretionary trust (3 marks)

(iii) Accumulation and maintenance trust (2 marks)

(c) Assuming, that the trust is operational from 1 January 2023, compute the amount of income tax chargeable on the trust for the tax year 2023. (10 marks)

[Total: 20 Marks]

END OF PAPER

CA 3.4: ADVANCED TAXATION SUGGESTED SOLUTIONS

SOLUTION ONE

(a) COMPUTATION OF MINERAL ROYALTY

Copper	K'000
On first $3,999	
($3,999 x 20,000 tonnes x K20.50) x 4%	65,584
On next $1,000	
($1,000 x 20,000 tonnes x K20.50) x 6.5%	26,650
On excess $1,501	
($1,501 x 20,000 tonnes x K20.5) x 8.5%	52,310
	144,544
Gemstones (K390,000 x 6%)	23,400
Precious minerals (K270,000 x 6%)	16,200
Industrial Minerals (K180,000 x 5%)	9,000
	193,144

The mineral royalty will be deductible when computing the taxable profits of the company for the year.

(b) Income Tax Implications of Intra-group loan

The interest payable on the loan will be subjected to both, the Zambian transfer pricing rules and the limitation of interest deductions regulations (i.e. the 30% Tax EBITDA interest restriction rules).

When a Zambian resident company makes a loan to or receives a loan from a foreign related company, then the interest charged on such a loan should be equal to the commercial rate. Where the interest charged is different from the commercial rate, the company receiving or making the loan interest is deemed to have received or made the loan at the commercial rate.

As a result, the income tax implication is that the difference between the commercial rate of interest and the actual rate of interest used on such loans must be treated as a disallowed amount when computing the taxable business profits for the Zambian resident company. Therefore, the amount of the loan interest to be disallowed when computing the taxable profit for KKC Minerals Zambia will be K20m (25%-15% x K200 million).

Furthermore, after making the transfer pricing adjustment to interest payable on the intragroup loan, the total finance cost of KKC Minerals Zambia will only be allowable if it does not exceed 30% of the company's Tax EBITDA. Any interest exceeding this threshold will be disallowed when computing the taxable profit for the year and may be carried forward and be deductible from profits generated by company in the following five years.

(c) KKC MINERALS ZAMBIA
COMPUTATION OF FINAL TAXABLE PROFITS

	K'000	K'000

Profit for the year		297,186
Add		
Depreciation	108,000	
Drilling bore holes	33,750	
Government school rehabilitations	13,500	
Donations to unapproved PBOs	2,250	
Transfer pricing adjustment on intragroup loan		
(25%-15% x K200m)	20,000	
		177,500
		474,686
Less		
Rental income	31,405	
Dividends	10,500	
Treasury bill discount	2,975	
Mineral royalty (Part (a))	193,144	
Capital allowances (W1)	24,646	
		(262,670)
Taxable profit before interest adjustment		212,016
Disallowed interest (W2&W3)		392,945
Taxable mining profit before loss relief		604,961
Loss relief (W4)		(302,481)
Final taxable		302,480

(1) COMPUTATION OF CAPITAL ALLOWANCES

	K'000
Metallurgical equipment	
Indexed capital allowance	
(K6.0 m x 20%) = K1,200,000 x [1 + (20.50 –20.00)/20.00]	1,230
Front End Loaders	
Wear & tear allowance	
(K5.2m x 20%) = K1,040,000 [1 + (20.50 -20-00)/20.00]	1,066
Copper smelting plant	
Wear & tear allowance	
(K78 m x 20%)	15,600
Drilling boreholes	
Wear & tear allowance	
(K33.75m x 20%)	6,750
	24,646

(2) COMPUTATION OF TAX EBITDA

	K'000	K'000
Taxable profit		212,016
Treasury bill discount (K2,975,000 x 100/85)		3,500

Taxable income		215,516
Add:		
Finance cost	720,000	
Less Transfer pricing adjustment on intragroup loan		
(25%-15% x K200m)	(20,000)	
		700,000
Depreciation		108,000
Tax EBITDA		1,023,516

(3) COMPUTATION OF DISALLOWED FINANCE COST

	K'000
Goss interest expense	700,000
Allowable interest is restricted to (30% of Tax EBITDA)	
(K1,023,516 x 30%)	307,055
Disallowed interest	392,945

(4) Loss relief

Indexed loss b/f	K
[(1+(K20.50-K20.00/20.00) x K340,000,000]	348,500
Profits available for Loss Relief	
Restricted to (K604,961 x 50%)	(302,481)
Unrelieved loss c/f	46,019

(d) KCC MINERALS ZAMBIA
COMPANY INCOME TAX COMPUTATION FOR THE TAX YEAR 2023

	K'000
Taxable mining profit	302,480
Treasury bill discount (K2,975,000 x 100/85)	3,500
	305,980
Company income tax on mining profits (K302,981 x 30%)	91,794
Company income tax on treasury bill discount	
(K3,500,000 x 30%)	1,050
	92,844
Less tax already paid	
WHT on Treasury bill discount	
(K3,500,000 x 15%)	(525)
	92,319

(e) NGOSA CHISUPA
PERSONAL INCOME TAX COMPUTATION FOR THE TAX YEAR 2023

	K	K
Income from Zambian sources		
Annual salary		900,000

Management fees (K68,000 x 100/85)		80,000
Income from foreign sources		
Foreign dividends		
(K45,000 x 100/60)		75,000
Debenture interest (K63,000 x 100/90)		70,000
		1,125,000
Income tax		
On the first K106,800		12,360
On the balance		
(K1,125,000 – K106,800) x 37.5%		381,825
Zambian income tax charge		394,185
Less tax already paid		
PAYE		(260,763)
WHT on Management fees (K80,000 x 15%)		(12,000)
Double taxation relief on:		
Dividend from foreign sources (W1)	25,763	
Debenture interest from foreign sources (W2)	7,000	
		(32,763)
Income tax payable		88,659

Workings

(1) Total assessable income

	K
Income chargeable to income tax	1,125,000
Gross GRZ bond interest (K34,000 x 100/85)	40,000
Total assessable income	1,165,000

(2) Total amount of Zambian tax charge

	K
Zambian Income Tax liability	394,185
WHT on GRZ Bond interest (15% x K40,000)	6,000
Total Zambian tax charge	400,185

(3) DTR on the dividends from foreign sources will be the lower of:

(i) The foreign tax paid on the dividends:

(K75,000 x 40%)

= K30,000

(ii) The Zambian Tax Charge attributed to the dividends computed as:

$$\left(\frac{\text{K75,000}}{\text{K1,165,000(W1)}}\right) \text{x K400,185}$$

= K25,763

DTR will therefore be K25,763 being the lower amount.

(4) DTR on the denture interest from foreign sources will be the lower of:

(iii) The foreign tax paid on the dividends is

(K70,000 x 10%)

= K7,000

(iv) The Zambian Tax Charge attributed to the dividends computed as:

$$\left(\frac{\text{K70,000}}{\text{K1,165,000(W1)}}\right) \text{x K400,185}$$

= K24,045

DTR will therefore be K7,000 being the lower amount.

SOLUTION TWO

(a) (i) TAX IMPLICATIONS FOR CHISHIBA AND KASHIBA INDIVIDUALLY

(1) The emoluments will be taxable normally under PAYE using the income tax bands for individual as follows:

	Chishiba	Kashiba
	K	K
Salaries	400,000	320,000
Income Tax		
On the first K106,800	12,360	12,360
On the excess		
K293,200/K213,200 x 37.5%	109,950	79,950
Income Tax payable	122,310	92,310

(2) the emoluments will attract employee's NAPSA contributions for each individual and these will amount to:

Chishiba's employee's NAPSA contribution

K322,080 x 5% = K16,104

Kashiba's employee's NAPSA contribution

K320,000 x 5% = K16,000

(ii) TAX IMPLICATIONS FOR SHIBA LTD

(1) The gross director's emoluments of K720,000 (K400,000 +K320,000) will be allowable when computing taxable profits.

(2) The extraction of the above amounts as emoluments will therefore result in tax savings of:

K720,000 x 30% = K216,000

(3) The emoluments will attract employers NAPSA contributions which will be allowable when computing taxable profits and these will amount to:

Chishiba's employee's NAPSA contribution

K322,080 x 5% = K16,104

Kashiba's employee's NAPSA contribution

K320,000 x 5% = K16,000

(4) The payment of the employer's NAPSA contributions will therefore result in tax savings for the company of:

(K16,104 +16,000) x 30% = K9,631

(iii) OVERALL TAX POSITION

Their overall tax position will be as shown below:

Personal Income Tax payable	
Chishiba	122,310
Kashiba	92,310
Employee's NAPSA (K16,104 +K16,000)	32,104
Employer's NAPSA (K16,104 +K14,000)	32,104
Total statutory payments	278,828
Less Tax Savings on:	
Director's emoluments	(216,000)
Employer's NAPSA Contributions	(9,631)
Net after tax cash outflow	53,197

(b) (i) TAX IMPLICATIONS FOR CHISHIBA AND KASHIBA INDIVIDUALLY

(1) Dividends are subjected to withholding tax at the rate of 15%. This amount of withholding tax is the final tax payable, and therefore the individual directors will not be subjected to personal income tax on the dividends.

(2) The amount of the WHT on the dividends will be:

(K400,000 + K320,000) x 15% = K108,000

(3) Employees NAPSA contributions will not payable by Chishiba nor Kashiba as dividends are not earnings for NAPSA purposes.

(ii) TAX IMPLICATIONS FOR SHIBA LTD

(1) The dividends paid will not be allowable when computing the taxable profit of the company. The final taxable profit will therefore be higher by the amount of the dividends not given as an allowable deduction ultimately increasing the company income tax payable by K216,000 [(K400,000 +K320,000) x 30%]

(2) Employer's NAPSA contributions will not payable on the dividends as they are not earnings for NAPSA contributions purposes.

(iii) The overall after-tax cash outflow position will therefore be equal to the WHT paid on dividends of K108,000 plus the increase in the company income tax payable of K216,000, giving a total tax outflow of K324,000.

(c) It will be beneficial to withdraw profits as emoluments as the overall after-tax cash outflow under this option will be lower than if dividends are drawn by:

K324,000 – K53,197 = K270,803

SOLUTION THREE

(a) COMPUTATION OF TAXABLE INCOME AND COMPANY INCOME TAX PAYABLE

	K'000	K'000
Gross premiums		7,440,000
Interest Income		
Government bond interest		
(K3,060,000 x 100/85)		3,600
Other income		
Management fees (K6,800 x 100/85)	8,000	
Commission income	2,860	
		10,860
		7,454,460
Less premiums paid on reinsurance		(140,900)
Add:		
Reserve for unearned risks at 1 Jan 2023	71,500	
Reserve for unearned risks at 31 Dec 2023	(61,300)	
		10,200
Less		
Outstanding claims from customers at 1 Jan 2023	25,500	
Outstanding claims from customers at 31 Dec 2023	(36,300)	
		(10,800)
Less		
Actual losses/insurance claims paid to customers	195,650	
Amounts received under reinsurance	(63,650)	
		(132,000)
		7,180,960
Less Other allowable expenses		
Salaries and Employees Benefits	22,090	
Frauds and forgeries by employees	260	
Operating lease rentals for motor cars (K50,000 x 4)	200	
Administration expenses	261,400	
Finance lease interest	185,000	
		(468,950)
Less capital allowances		
Administrative offices (K12m x 2%)	240	
Toyota Fortuner SUV (K950,000 x 20%)	190	
Toyota Hilux double cab (K900,000 x 20%)	180	
		(610)
		6,711,400
Add Personal to holder motor car benefit		
Toyota Fortuner	48,000	
Toyota Hilux Double cab	36,000	
		84,000
Taxable income		6,795,400
Company income Tax		
(K6,795,400 x 30%)		2,038,620

Less WHT on	
Government bond interest (K3,600,000 x 15%)	540
Management fees (K8,000,000 x 15%)	1200
	2,036,880

(b) Tax Implications

(i) **Issue of ordinary shares**

If ordinary shares are issued to raise the required finance then, then the tax implications will be that:

(1) The share issue costs of K696,000 will not be allowable deductions when arriving at taxable business profit.

(2) Input VAT on the cost of the property will be recoverable. The amount of the recoverable VAT will be:

=K29,000,000 x 4/29

= K4,000,000

(3) The company will be able claim capital allowances on the buildings component of the property at the rate of 2% as the property will be owned by company.

The amount of the capital allowances will be:

(K29,000,000 – K5,800,000) x 25/29 x 2%

= K400,000

(4) Dividends the company will subsequently start paying to providers of the finance will not be allowable.

(5) Costs that will subsequently be incurred in making dividend distributions to the providers of the finance will not be allowable.

(ii) **Issue of bonds**

If loan notes are issued to raise the required finance, then the tax implications will be that:

(1) The issues costs of K348,000 be allowable for tax purposes as part of the finance cost of the company subject to the 30% Tax EBITDA interest expense restrictions.

(2) Annual interest payable on the bonds will be allowable for tax purposes subject to the 30% Tax EBITDA interest expense restrictions and this will amount to:

20% x (K29,000,000+K348,000)
= K5,896,600

(3) Input VAT on the cost of the property will be recoverable. The amount of the recoverable VAT will be:

=K29,000,000 x 4/29

= K4,000,000

(4) The company will be able claim capital allowances on the buildings component of the property at the rate of 2% as the property will be owned by company.

The amount of the capital allowances will be:

(K29,000,000 – K5,800,000) x 25/29 x2%

= K400,000

SOLUTION FOUR

(a) PENALTIES AND INTEREST ON OVERDUE TAXES

(1) Balance of income tax for the tax year 2022

The balance of income tax for the tax year 2022 of K46,125(W) was paid on 1 September 2023 and was delayed by 2 months and 11 days (i.e.,71 days) from its due date of 21 June 2023.

The penalty for late payment of tax is:

= 5% x K46,125(W1) x 3
= K 6,919

The interest on the overdue tax will be is charged at the rate of BOZ rate of 9.5% plus 2% per annum and will accrue from the due date of the payment of the tax to the date of the actual payment. **The interest is charged for each month or part thereof that the payment is not settled.**

The amount of the interest will therefore be:

(9.5%+2%) =11.50% x K46,125 x 3/12

= K1,326

Full credit was given for computations of the interest chargeable using the actual number of days the tax was paid late. (i.e. 11.50% x K46,125 x 71/365 = K1,032).

(W1) COMPUTATION OF THE BALANCE OF INCOME TAX FOR THE TAX YEAR 2022

	K
Taxable income for the tax year 2022	1,265,000
Less provisional taxable income for the tax year 2022	(1142000)
Additional taxable income	123,000
Balance of income tax payable (K123,000 x37.5%)	46,125

Alternatively:

	Estimated	Actual
	K	K
Taxable income	1,142,000	1,265,000
Income Tax		
On first K106,800	12,360	12,360
On excess (K1,035,200/K1,158,200) x 37.5%	388,200	434,325
	400,560	446,685
Balance of income Tax Payable (K446,685 - K400,560)		46,125

(2) Provisional Income tax for the quarter ended 31 March 2023

The amount of K147,765 (W2) was delayed by 1 month and 21 days (or 51 days) from 10 April 2023 to 31 May 2023, when it was paid.

Penalty for late payment of tax is:

5% x K147,765 x 2

= K14,777

Interest on overdue income tax is:

11.50% x K147,765 x 2/12 = K2,832

Full credit was given for computations of the interest arising using the actual number of days the tax was paid late. (i.e. 11.50% x K147,765 x 51/365 = K2,374

(W2) COMPUTATION OF PROVISIONAL INCOMETAX PAYABLE FOR THE TAX YEAR 2023

	K
Provisional income	1,650,000
Income Tax	
On first K106,800	12,360
On excess (K1,650,000 - K106,800) x 37.5%	578,700
	591,060
Provisional income tax per quarter	
K591,060/4	147,765

PENALTIES FOR LATE SUBMISSION OF RETURNS

(1) The self-assessment income tax return for the tax year 2022

This return should have been filed by 21 June 2023. When filed on 1 September 2023, it was delayed by two months and 10 days.

The penalty is chargeable for individuals at the rate of K300 (1,000 penalty units) per month or part thereof and will amount to:

K300 x 3 = K900 (or 1,000 penalty units x 3= 3,000 penalty units)

(1) The return of provisional income for the tax year 2023

This return should have been filed by 31 March 2023. When filed on 31 May June 2023, it was delayed by two months.

The penalty is chargeable for individuals is:

Penalty chargeable is therefore:

K300 x 2= K600 (or 1,000 penalty units x 2 = 2,000 penalty units)

(b) Initial courses of action and resolution of disputes with

(1) Lemba may make an objection to the notice of assessment stating the reasons for making the objection. He should make the objection in writing and it should be addressed to the Commissioner General.
(2) The Commissioner General may entertain the objection and the matter may be settled immediately, with Lemba agreeing to the pay the final tax determined.
(3) In the event that the Commissioner General does not entertain Lemba's objection, he can make an appeal to the Tax Appeals Tribunal on a point of fact, law or mixed fact and law.
(4) The Tax Appeals Tribunal would make a decision either in Lemba's favour or in the Commissioner General's favour.
(5) If either party is not satisfied with the decision of the Tax Appeals Tribunal may, the aggrieved part may make an appeal to the High Court on a point of law or mixed law and fact. A final appeal may be made by either party to the Supreme Court on a point of law only.

(c) Interest on overdue tax at 11.50% per annum will be charged on the amount of K26,250 covering the period from the due date of 21 June 2023 to the date of payment.

In addition, a penalty at the rate of 5% per month or part thereof will be charged on the amount of K26,250 covering the period from the due date of 21 June 2023 to the date of payment.

The interest and penalties would be charged as the amount of K26,250 will be treated as underpayment of income tax for the tax year 2022.

SOLUTION FIVE

(a) When a settlor transfers property to trustees during the settlor's life time, property transfer tax property transfer tax is not payable as the transfer of property into a trust is an exempt transfer for PTT purposes.

(b) **Types of trusts**

Interest in Possession trust

With an interest in possession trust, at least one of the beneficiaries of the trust have the immediate and automatic right to receive the income arising from the trust property as it arises, or have the use and enjoyment of it, such as by living in a property owned by the trustees. The trustee must pass all of the income received, less any trustees' expenses, to the beneficiary.

A beneficiary who is entitled to the income of the trust for life, who will typically be the surviving spouse is known as a life tenant and in Ng'andu's case this will be his wife. The life tenant is granted by the settlor (i.e. Ng'andu) the right to the income of the trust or a right to remain in the family home for the remainder of their life although the right to sell the trust assets themselves is usually restricted.

The interest in possession ends when the income beneficiary, in this case Ng'andu's wife dies or remarries, at which point the beneficiary who then becomes entitled to the trust capital is known as the remainderman or remaindermen, if more than one. In the case of Ng'andu these will be his three children.

Discretionary trust

A discretionary Trust is a trust set up for the benefit of a beneficiary or beneficiaries, but for which the Trustee is given full discretion. The Trustee decides when and how much funds are distributed to the beneficiaries, who in the case of Ng'andu will be his three children.

The beneficiaries will have no rights or any legal claims to the funds held in the trusts. The trustee has complete control and is considered the legal owner, although they cannot benefit from the funds in any way. It is up to the trustee to decide if Ng'andu's children should receive any distributions, how much, and when.

Discretionary trusts are also usually set up with specific terms that instruct the Trustee to distribute funds to beneficiaries on a set schedule. The terms also usually set on how much should be distributed. Such trusts are most useful when the settlor feels that it is in the best interest of the beneficiaries as in the case of Ng'andu, since his children are still minors. This will enable the trustee who will be appointed by Ng'andu to help protect the trust assets from misuse.

Accumulation and maintenance trust

An accumulation and maintenance trust is a particular type of a discretionary trust intended to make provisions for children and young adults up to the age of 25.

The key feature is that trustees are given discretion over how to use the income for the benefit of the child up to a specified age. The income generated from the trust is accumulated or used for their maintenance, education or benefit of such minors.

The beneficiaries must become absolutely entitled to the property, or to an interest in possession in the property, before they are 25. Also, except where all of the beneficiaries have at least one common grandparent, the trust period cannot normally be more than 25 years. Property may be transferred into trust by a settlor while he is alive or via his will.

(c) COMPUTATION OF INCOME TAX CHARGEABLE ON TRUST

A trust is assessed as a person other than an individual and therefore the income of a trust is taxable at 30%. However, if the letting business is transferred into a trust it will generate income arising from letting of property and as such will therefore be subjected to rental income tax as opposed to normal income tax at 30%. This is because income arising from letting of real property received by both individuals and persons other than individuals is assessed under rental income tax.
The rental income tax will be charged on the gross rentals without deducting any expenses which will be incurred wholly and exclusively in running the letting business and will be payable on the 14th day following the end of each month.

	K
Gross income from	
-Residential flats	
(K10,000 x12 x 5)	600,000
-Shopping mall	
(30,000 x 15 x 12)	5,400,000
Gross annual rental income	6,000,000
Annual Amount of rental income Tax	
On first K12,000 X 0%	12,000
On next K(800,000 – K12,000) x 4%	31,520
On excess (K6,000,000 – K800,000) x 12.5%	650,000
Annual rental income tax	693,520
Monthly amount of rental income tax	
(K693,520/12)	57,793

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

ADVISORY PROFESSIONAL IN ACCOUNTANCY

CA3.5: ADVANCED MANAGEMENT ACCOUNTING

TUESDAY 12 DECEMBER 2023

TOTAL MARKS – 100: TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question. You will be told when to start writing.

2. This paper is divided into TWO (2) sections:

   Section A: ONE (1) **Compulsory** scenario question.
   Section B: FOUR (4) Optional scenario questions. Attempt any THREE (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Present legible and tidy work.

9. Graph paper (if required) is provided at the end of the answer booklet.

10. Modified Internal Rate of Return formulae, Present Value and Annuity Tables are attached at the end of the question paper.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

SECTION A

This Question is compulsory and must be attempted

QUESTION ONE- (COMPULSORY)

(a) Solile Chicken and Chips Ltd (SCC Ltd) is one of the largest food manufacturing companies in the Southern Africa. To operate effectively, the company is divisionalised. SCC Ltd has always been successful through its franchising model and continuous innovation in its business strategies. The company is a global icon that has maintained its position in the food manufacturing industry since its inception. Its operations have been aligned with the company's core values. The firm's extended supply chain is independent with the primary and supporting activities to ensure the efficient and effective running of the business. SCC Ltd has always faced competitive forces in the food industry and, therefore, it has created strategies to counter these competitive forces. The chicken and chips business is a world-leading brand and is continuously innovating and formulating strategies in the business model to have an edge in the competitive environment. Also, the balanced scorecard of the firm provides an effective measurement of the management to understand the company's performance. The firm also takes the initiative in practising sustainability in its business operations. The business takes sustainability issues seriously and has developed means such as sustainability scorecards to measure its performances against targets.

SCC Ltd wishes to evaluate its performance using the balanced scorecard. Statistics relating to the years 2021 and 2022 including the set targets are presented as follows:

Details	2022	2021	Target
Cost per unit(average)	K62.5	K65	K60.5
Selling price per unit(average)	K86	K79.5	K85
Selling price of competitors	K82.5 to K85	K77.5 to K80	Not provided
Return of capital employed	15%	17%	20%
Revenue growth	5%	3%	7%
Customer complaints	4%	9%	target reduction= 75%
Customer retention rate	45%	46%	28%
Number of new customers	180	150	Target increase = 30%
New food products launched	20	15	25
Employee retention rate	75%	72%	80%
Delivery on time with reference to orders placed	90%	88%	96%

Number of units produced by an employee	2,500kg	2,450kg	2,600kg

Required:

(i) Explain the balanced scorecard. (3 marks)

(ii) Explain three (3) advantages and three (3) disadvantages of the balanced scorecard to SCC Ltd. (6 marks)

(iii) Evaluate the performance of SSC Ltd using the balanced scorecard. (10 marks)

(b) As noted above, SCC Ltd has a number of food divisions. Division X makes a number of spices for sale to external customers and for transfers to other companies in the group. Two of the spices, Spice1 (S1) and spice2 (S2), are made on a machine with limited capacity. There are only 40,000 hours of machine time available each year.

S1 requires 2 hours of machine time and its selling price outside the group is K5.
S2 requires 4 hours of machine time and is sold for K7. The variable costs per unit are, respectively, K2 and K4.

Division Y buys both S1 and S2 from division X and uses them in Final Product Burgers (FPB) and Final Product Pizzas(FPP). FPB is sold for K25 and requires one S1 and one S2. The variable processing costs incurred by division Y are K6 per unit of FPB. Estimated demand for FPB is 3,000 units per annum.

FPP is sold for K35 and requires one S1 and two S2. Its variable processing costs are K8 per unit. Estimated demand for FPP is 2,500 units per annum.

Required:

(i) Compute the optimal budget for the SCC Ltd group. (5 marks)

(ii) Calculate the transfer prices which ought to be set for S1 and S2 based on your answer in (i) above. (2 marks)

(iii) Calculate the total contributions for Division X, Division Y and the SCC group using the transfer prices in (ii). (5 marks)

(c) Divisionalised structures are normal in large firms, and occur even when centralized structures would be feasible.

Required:

(i) Explain and discuss the arguments for divisionalised structures in large firms. (5 marks)

(ii) Explain the costs and potential inefficiencies of a divisionalised structure. (4 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any THREE (3) questions.

QUESTION TWO

In the recent past, Mazowe Ltd (M Ltd) followed a policy of conglomerate diversification as a strategy of growth, and often effected by mergers. However, M Plc is considering a policy of 'de-merger' as way of growth because it felt "2+2 is not always equal to 5" but "2+2 may be equal to 3".

The Board of Directors of M Ltd has noted further that a number of companies intending to enter a new market with a product that is materially different from their current products prefer to acquire or invest in existing businesses. This strategy, of course, has inherent costs, e.g. goodwill has to be paid for, and inefficiencies existing in the acquired firm supported until any necessary re-organisation has taken place. Consequently, this could mean possible losses in production and a lowering of employee morale. However, in spite of these factors many companies prefer this acquisition strategy to internal or 'green' growth.

M Ltd 's financial performance has been deteriorating and the Board of Directors is considering a number of models such as the Ansoff's product/ market matrix to analyse the possible strategic direction to follow. This will, in turn, highlight key areas, i.e. critical success factors, that need to be monitored and controlled.

Required:

(a) Explain how "Ansoff's product/market matrix or grid" might be used in the formulation of M Ltd's corporate strategy. (5 marks)

(b) The following information relates to the financial position of M Ltd for the two years ended December 2021 and 2022.

Statements of Financial Position (Extract) as at 2021 and 2022

	2021	2022
	K'm	K'm
Plant and machinery (net of depreciation	4,800	4,400
Freehold land and buildings	3,200	1,800
inventory	1,120	2,160
Receivables	640	1,960
Cash/(overdraft)	320	(360)
Payables	(560)	(1,560)
Net assets	**9,520**	**8,400**

Share capital	3,200	3,200
Loan from directors	4,400	2,800
Cumulative retained profits	1,920	2,400
	9,520	**8,400**

Statements of Comprehensive Income (Extract)
For the Years Ended 2021 and 2022

	2021	2022
	K'm	K'm
Turnover	9,600	11,600
Operating profit	640	840
Dividends paid	160	360

Notes

1. The nature of M Ltd's business is such that most of its business costs are purchases.
2. The managing director's comment in the latest annual report was as follows:
   "M Ltd has continuously been a profitable entity but since we are following a high growth strategy this has put constraints on cashflow growth. Nevertheless, we have attracted new customers to our dear organisation and I believe the future is bright for this company"

   Required:

   (i) Calculate the following ratios for 2021 and 2022 using the above financial statements.
   - Return on capital employed (ROCE)
   - Current ratio(Liquidity)
   - Profit margin
   - Receivables days
   - Payables days
   - Cash conversion period

   Make any relevant assumptions in your calculations.

   (7 marks)

   (ii) Appraise the Managing Director's statement and determine whether in your opinion M Ltd is credit worthy.

   (5 marks)

(c) Explain what you understand by "critical success factors" as identified in the Ansoff's matrix and give an example that relates to M Ltd.

(3 marks)

[Total: 20 Marks]

QUESTION THREE

The National Sports Centre (NSC) in Lusaka was established forty (40) years ago. NSC is run as a profit making venture. It has the basketball courts, football fields and a swimming pool in its facilities. The basketball courts are used for local games. The football fields are mainly used for academies and training for the national teams. The swimming pool is used for leisure purposes and as a venue for swimming competitions. NSC management is concerned at falling profit levels which are due to falling revenue and rising costs.

A proposal to change, and hence improve, the method used for heating the water in the swimming pool is currently being investigated as part of a quality improvement programme. A survey of the centre to check energy usage has been carried out at a cost of K90,000. This has shown that the solar heat generated could be used to heat the swimming pool. At present the heat from the solar panels is not utilised.

The following additional information is available:

(i) The expected costs for the solar panels heat extraction for the year ended 31 December 2022 are K360,000. It is estimated that, due to rising prices, this cost will increase by 7% during the year to 31 December 2023. Heat extracted totalled 250,000 units of heat during the year to 31 May 2022 and this figure is expected to apply for the year to 31 May 2023.

(ii) The water in the swimming pool is currently heated by a separate system which is also used for a range of other heating purposes in the sports centre. In the year ended 31 May 2022, the swimming pool share of the system had operating costs of K450,000 and used 100,000 units of heat. This was made up of 80% variable avoidable cost and 20% which is a share of general fixed overhead. On average all such costs will increase by 7% through price changes in the year to 31 May 2023.

(iii) In order to utilise the heat extracted from solar panels the water in the swimming pool, equipment would need to be hired at a cost of K225,000 per annum. This equipment would be supervised by an employee who is currently paid a salary of K45,000 for another post in the year ended 31 May 2022 and who would be retiring if not given this new role. His salary for the year to 31 May 2023 would be K52,500. His previous post would not be filled on his retirement.

(iv) Only part of the heat extracted from solar panels could be recovered for use in heating the water in the swimming pool using the new equipment. The current most likely estimate of the recovery level is 20% of the heat extracted from solar panels.

If the quantity of heat available were insufficient for the heating of the swimming pool, any balance could continue to be obtained from the existing system.

Required:

(a) Prepare computations analysing this proposal for the year to 31 May, 2023 showing whether the NSC should proceed with the solar panel installation on financial grounds where a 20% level of recovery applies. Explain any assumptions made and give reasons for omitting or including figures in your computations. (10 marks)

(b) Evaluate the use of the net present value as a measure of performance. (10 marks)

[Total: 20 Marks]

QUESTION FOUR

Mukula Plc (M Plc) is a Zambian based company with the mandate to establish and manage commercial timber plantations countrywide. The company has been listed on the Lusaka Stock Exchange for about 4 years and enjoys a fairly high profile reputation in the forestry sector. Since its listing, M Plc has traditionally used earnings per share (EPS), growth and share price in order to assess its performance.

At a recent stakeholder meeting on the performance of listed companies hosted by the Securities Exchange Commission (SEC), one of the presenters talked about Value Based Management and the need to adopt such approaches. The presenter further talked in detail about the Economic Value Added (EVA™) as one of the modern performance measurement approaches adopted by companies. The Managing Director of M Plc was keen to adopt these measures although the changes being proposed were considered significant. He wants to be briefed on the implications of the EVA performance approach and also how to convince both the board and the shareholders on its benefits.

While at the office, he read more about the EVA method and noticed that it is also a way of focusing on shareholder interests and in the current tough economic climate. He thought that would be a useful development for the company.

Below is the latest extract of the financial results for M Plc for the year ended 31 December 2022

Financial data	**2022**	**2021**
	K'000	**K'000**
Profit before Interest and tax	354,900	304,500
Interest paid	28,000	54,600
Profit after interest and tax	245,000	187,600
Average number of shares in issue (millions)	1,120	1,120
Capital employed at the start of the year	694,400	728,700
M Plc aims for a capital structure of 50:50 debt to equity.		
Cost of capital		
Equity	22.7%	25.3%
Debt (post tax)	14.2%	13.9%
Corporation tax is at the rate of 30%		
LuSe Stock market all share index	556.350	362.225
Forestry sector index	306.400	226.775

M Plc average share price	K3.050	K2.675

Required:

(a) Evaluate the financial performance of M Plc for the year ended 31 December 2022 using both the traditional way and the proposed Economic Value Added (EVA) approach. (12 marks)

(b) Discuss the advantages and disadvantages to M Plc of the use of the EVA for the measurement of performance compared to the traditional approach. (8 marks)

[Total: 20 Marks]

QUESTION FIVE

Tola Ulipile Supermarket (TUS) has 40 stores in Zambia and is listed on the Lusaka Stock Exchange (LUSE). The company is known for the quality of its products, mainly food, cleaning materials and hardware equipment. The majority of its goods are sourced from trusted manufacturers and branded under the company's own 'Ulitola' label.

Currently, TUS faces a tough competitive environment with all the major players in its market trying to secure their positions. The management of TUS intends to carry out a financial benchmarking exercise against one of the major players in the industry. Poor economic conditions worldwide have significantly affected Zambia. The consumer spending is falling throughout the economy and there is no immediate likelihood of a resumption of growth.

Tizione Tembo, the Chief Executive Officer has recently conducted a strategic review of the business in the context of the current economic recession. She has identified the following strategies as critical for TUS's success:

(i) Focus on key customers – those who are occasional shoppers but not currently loyal to the business.
(ii) Ensure TUS's customer offerings address their needs.
(iii) Cut out costs that do not address these customers' priorities.
(iv) Amend current processes to meet this new focus.
(v) Build for the future with a programme of sustainable development.

TUS needs to address the impact of this new strategy on its performance measurement systems. The company uses a balanced scorecard to assess its strategic performance and the scorecard is used to connect the business strategy with its more detailed performance measures.

	2021	**2022**
	K'm	**K'm**
Operating profit	1,011.4	870.20
Interest	80.4	155.2
Profit before tax	931.0	751.0
Profit for the year	707.6	543.4
Average number of shares in issue	3,200	3,200

	2021	**2022**
LUSE information:		
Zambia market index	2,230.4	1,449.8
Retailing sector index	4,901.4	3,823.0
TUS (average share price)	K4.90	K4.16

Required:

(a) Explain the problems that could be inherent in the proposed financial benchmarking exercise at TUS.
(6 marks)

(b) Describe the four (4) perspectives of the balanced scorecard showing how the new strategy of the business as outlined by Tizione links to the different perspectives. (8 marks)

(c) Evaluate the financial performance of TUC using the two (2) shareholder performance indicators, namely, the Earnings Per Share and the share price. (6 marks)

[Total: 20 Marks]

END OF PAPER

Modified Internal Rate of Return

$$MIRR = \left[\frac{PV_R}{PV_I}\right]^{\frac{1}{n}} \left(1 + r_e\right) - 1$$

The Black-Scholes option pricing model

$$c = P_a N(d_1) - P_e N(d_2) e^{-rt}$$

Where:

$$d_1 = \frac{\ln(P_a / P_e) + (r + 0.5s^2)t}{s\sqrt{t}}$$

$$d_2 = d_1 - s\sqrt{t}$$

The Put Call Parity relationship

$$p = c - P_a + P_e e^{-rt}$$

Present Value Table

Present value of 1 i.e. $(1 + r)^{-n}$

Where r = discount rate
n = number of periods until payment

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	0·980	0·961	0·943	0·925	0·907	0·890	0·873	0·857	0·842	0·826	2
3	0·971	0·942	0·915	0·889	0·864	0·840	0·816	0·794	0·772	0·751	3
4	0·961	0·924	0·888	0·855	0·823	0·792	0·763	0·735	0·708	0·683	4
5	0·951	0·906	0·863	0·822	0·784	0·747	0·713	0·681	0·650	0·621	5
6	0·942	0·888	0·837	0·790	0·746	0·705	0·666	0·630	0·596	0·564	6
7	0·933	0·871	0·813	0·760	0·711	0·665	0·623	0·583	0·547	0·513	7
8	0·923	0·853	0·789	0·731	0·677	0·627	0·582	0·540	0·502	0·467	8
9	0·941	0·837	0·766	0·703	0·645	0·592	0·544	0·500	0·460	0·424	9
10	0·905	0·820	0·744	0·676	0·614	0·558	0·508	0·463	0·422	0·386	10
11	0·896	0·804	0·722	0·650	0·585	0·527	0·475	0·429	0·388	0·305	11
12	0·887	0·788	0·701	0·625	0·557	0·497	0·444	0·397	0·356	0·319	12
13	0·879	0·773	0·681	0·601	0·530	0·469	0·415	0·368	0·326	0·290	13
14	0·870	0·758	0·661	0·577	0·505	0·442	0·388	0·340	0·299	0·263	14
15	0·861	0·743	0·642	0·555	0·481	0·417	0·362	0·315	0·275	0·239	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	0·812	0·797	0·783	0·769	0·756	0·743	0·731	0·718	0·706	0·694	2
3	0·731	0·712	0·693	0·675	0·658	0·641	0·624	0·609	0·593	0·579	3
4	0·659	0·636	0·613	0·592	0·572	0·552	0·534	0·516	0·499	0·482	4
5	0·593	0·567	0·543	0·519	0·497	0·476	0·456	0·437	0·419	0·402	5
6	0·535	0·507	0·480	0·456	0·432	0·410	0·390	0·370	0·352	0·335	6
7	0·482	0·452	0·425	0·400	0·376	0·354	0·333	0·314	0·296	0·279	7
8	0·434	0·404	0·376	0·351	0·327	0·305	0·285	0·266	0·249	0·233	8
9	0·391	0·361	0·333	0·308	0·284	0·263	0·243	0·225	0·209	0·194	9
10	0·352	0·322	0·295	0·270	0·247	0·227	0·208	0·191	0·176	0·162	10
11	0·317	0·287	0·261	0·237	0·215	0·195	0·178	0·162	0·148	0·135	11
12	0·286	0·257	0·231	0·208	0·187	0·168	0·152	0·137	0·124	0·112	12
13	0·258	0·229	0·204	0·182	0·163	0·145	0·130	0·116	0·104	0·093	13
14	0·232	0·205	0·181	0·160	0·141	0·125	0·111	0·099	0·088	0·078	14
15	0·209	0·183	0·160	0·140	0·123	0·108	0·095	0·084	0·074	0·065	15

Annuity Table

Present value of an annuity of 1 i.e. $\frac{1 - (1 + r)^{-n}}{r}$

Where r = discount rate
n = number of periods

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	1·970	1·942	1·913	1·886	1·859	1·833	1·808	1·783	1·759	1·736	2
3	2·941	2·884	2·829	2·775	2·723	2·673	2·624	2·577	2·531	2·487	3
4	3·902	3·808	3·717	3·630	3·546	3·465	3·387	3·312	3·240	3·170	4
5	4·853	4·713	4·580	4·452	4·329	4·212	4·100	3·993	3·890	3·791	5
6	5·795	5·601	5·417	5·242	5·076	4·917	4·767	4·623	4·486	4·355	6
7	6·728	6·472	6·230	6·002	5·786	5·582	5·389	5·206	5·033	4·868	7
8	7·652	7·325	7·020	6·733	6·463	6·210	5·971	5·747	5·535	5·335	8
9	8·566	8·162	7·786	7·435	7·108	6·802	6·515	6·247	5·995	5·759	9
10	9·471	8·983	8·530	8·111	7·722	7·360	7·024	6·710	6·418	6·145	10
11	10·37	9·787	9·253	8·760	8·306	7·887	7·499	7·139	6·805	6·495	11
12	11·26	10·58	9·954	9·385	8·863	8·384	7·943	7·536	7·161	6·814	12
13	12·13	11·35	10·63	9·986	9·394	8·853	8·358	7·904	7·487	7·103	13
14	13·00	12·11	11·30	10·56	9·899	9·295	8·745	8·244	7·786	7·367	14
15	13·87	12·85	11·94	11·12	10·38	9·712	9·108	8·559	8·061	7·606	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	1·713	1·690	1·668	1·647	1·626	1·605	1·585	1·566	1·547	1·528	2
3	2·444	2·402	2·361	2·322	2·283	2·246	2·210	2·174	2·140	2·106	3
4	3·102	3·037	2·974	2·914	2·855	2·798	2·743	2·690	2·639	2·589	4
5	3·696	3·605	3·517	3·433	3·352	3·274	3·199	3·127	3·058	2·991	5
6	4·231	4·111	3·998	3·889	3·784	3·685	3·589	3·498	3·410	3·326	6
7	4·712	4·564	4·423	4·288	4·160	4·039	3·922	3·812	3·706	3·605	7
8	5·146	4·968	4·799	4·639	4·487	4·344	4·207	4·078	3·954	3·837	8
9	5·537	5·328	5·132	4·946	4·772	4·607	4·451	4·303	4·163	4·031	9
10	5·889	5·650	5·426	5·216	5·019	4·833	4·659	4·494	4·339	4·192	10
11	6·207	5·938	5·687	5·453	5·234	5·029	4·836	4·656	4·486	4·327	11
12	6·492	6·194	5·918	5·660	5·421	5·197	4·988	4·793	4·611	4·439	12
13	6·750	6·424	6·122	5·842	5·583	5·342	5·118	4·910	4·715	4·533	13
14	6·982	6·628	6·302	6·002	5·724	5·468	5·229	5·008	4·802	4·611	14
15	7·191	6·811	6·462	6·142	5·847	5·575	5·324	5·092	4·876	4·675	15

CA3.5: ADVANCED MANAGEMENT ACCOUNTING SUGGESTED SOLUTIONS

SOLUTION ONE

a) (i) The balanced scorecard is a strategic planning and management system that starts with defining the mission, outlining the strategies to achieve the mission, understanding the core customer requirements, defining the internal business processes and assessing the organizational infrastructure needed to achieve the objectives.

Under the balanced scorecard, the following four perspectives are considered:

- Financial
- Customer
- Internal business processes
- Learning and growth

In this way for any strategy, all four perspectives are considered and the performance is evaluated accordingly.

a) (ii)

- Advantages of balanced scorecard

The three advantages of the balanced scored card are:

- It evaluates short term and long term performance for both financial and non financial.
- It reduces managers' emphasis on the short term.
- Performance measures are provided in single report.
- It considers external and internal matters.
- Required changes can be made in time.

- Disadvantages of balanced scorecard

The three disadvantages of the balanced scored card are:

- It ignores other stakeholders such as competitors and suppliers.
- Selecting measures is sometimes difficult if there are too many measures.
- Analysis is difficult if there are too many measures.

a) (iii)

1) Financial perspective

Measures	Actual year 2022	Targets	Evaluation

Cost per unit	K62.5	K60.5	Cost per unit has reduced by K2.5. It is better than the previous year, but the target has not been achieved.
Selling price per unit	K86	K85	Selling price per unit has increased by K6.5. Competitors are also increasing their prices. However, the increase by SCC Ltd is higher. This may affect the quantity of sales/ number customers.
Return on capital employed	15	20	ROCE has reduced by 2%. Poor in comparison to previous year and target
revenue	5%	7%	Sales revenue growth has increased to 5%. The target was to increase to 7%. SCC Ltd did not meet the target.

2) Customer perspective

Measures	Actual year 2022	Targets	Evaluation
Customer complaints	4%	75%	Target was to reduce customer complaints by 75% but they were only reduced by 55%.
Customer retention	45%	28%	Customer retention rate decreased by 1%. This may be related to selling price. Since the selling price is high, customers may have gone to competitors.
Number of new customers	180	30%	Target was an increase of 30%, however, actual increase was only 20%.

3) Business processes perspective

Measures	Actual year 2022	Targets	Evaluation
Launched new food products	20	25	Launched five more new products compared to last

			year but the target was not achieved
Employee retention rates	75%	80%	Increase of 3% on previous year. However, target is not achieved

4) Learning and growth perspective

Measures	Actual year 2022	Targets	Evaluation
Delivery on time with reference to orders placed	90%	96%	Ratio has increased by 2%. Better than the previous year but lower than target.

b) (i)

	S1	S2		FPB		FPP
	K	K	K	K	K	K
Selling price/ unit	5	7		25		35
Variable cost/unit						
	(2)	(4)				
S1:K2X1/1			2		2	
S2:K4X1/2	-	-	4		8	
Own variable cost			6		8	
				(12)		(18)
Contribution per unit	3	3		13		17
Machine hours per hrs	2hrs	4hrs		6hrs		10hrs

Contribution per LF	K1.50	0.75		K2.17		K1.70
ranking	3rd	4th		1st		2nd

Optimal budget

		Demand	Hrs/unit	Total hours
1st	FPB	3,000	6	18,000
2nd	FPP	2,200	10	22,000
				40,000

Because one extra unit of machine time will be used on making spices for FPP, the contribution for that will now be K1.70, i.e. zero cost per unit.

	S1	S2
Variable costs per unit	K2	K4
Opportunity cost: K1.7x2/4=	K3.4	K6.80
Transfer price per unit	**K5.4**	**K10.80**

(iii) Contributions for Division X, Division Y and the Group

Division X Contributions

Quantities to be supplied			
	S1	S2	Total
FPB:30,000X1/1	3,000	3,000	
FPP:2,200X1/2	2,200	4,400	
	5,200	7,400	
Contributions per unit (iii)	XK3.4*	XK6.80	
	K17,680	K50,320	68,000

TP=VC + contribution. Therefore, Contribution = TP – VC. K5.4-K2=K3.4*

Division Y contributions

		FPB		FPP
selling price	Per unit	K25		K35
	K		K	
VC				
Transfer cost: S1 (K5.40 x1/1)	5.40		5.40	
Transfer cost: S2: K10.80 x1/2	10.80		21.6	
Own VC	6.0		8.0	
		(22.2)		(35)
Contribution per unit		K2.8		0
Sales unit		3,000		2,200
		8,400		0
Total contribution			K8,400	

SCC Group Contributions

	K
Division X	68,000
Division Y	8,400
Total contributions	76,400

Or simply:

FPB: 3,000units x K13 per unit =K39, 000
FPP: 2,200 units x K17 per unit =K37,400
K76, 400

c) (i) Divisional structures are favoured for so many reasons. Among the important ones are:

- They allow group management to concentrate on strategy, while local management can concentrate on detail.
- They allow specialization of divisions in product area, market or technology, allowing groups of companies to have diversified businesses.
- They help produce a 'flatter' management structure and prevent top management from being too distant from day-to-day decision-makers.
- They provide training ground for managers to make decisions in profit-conscious styles.
- They allow much faster response to local problems than non-divisional structure.
- There is a reduction in the volume of information flowing to head office, as only summary information is needed by it: local information remains local.
- They impose fewer constraints on local managers.
- It is possible to motivate local managers better because of segmental performance targets.

ii. Although divisionalised structures can be beneficial, they are many areas where they may be inefficient and costly. Among these are:

- Provisions of services and facilities in divisions may be more expensive than equivalent central provision. This is especially true if technology has severe economies of scale and could include, for example, research and development and information and technology development.
- Central management may not receive all the information it ought to have to manage the business: some autonomy and control is lost in divisional management. The group managers may lose touch with local managers as a result.
- There may be behaviour in divisions that is dysfunctional for the group as a whole. This can arise particularly in relation to transfer pricing, but there are other causes, e.g. where co-operation by divisions within the group frustrates group management.
- Where divisions are closely related and goods are transferred between divisions, it would take much management time to negotiate acceptable transfer prices.
- The system of performance measurement may be difficult to establish and control.

SOLUTION TWO

(a) A firm's structure of competitive advantage is determined by the firm's overall product-market mix, i.e. a combination of current and new products in current and new markets. This product/market mix is explained as follows.

(i) **Market penetration** in which M Ltd will seek to maintain or to increase its share of current markets with current products, e.g. M Ltd may do this through competitive pricing, advertising, sales promotion, spending more on distribution or direct selling, etc. This is quite a low risk strategy for M Ltd. It may use the strategy to dominate a high growth market.

(ii) **Market development** in which M Ltd will seek new markets for its current products, such as exporting if the firm has previously served only the domestic market. A high risk strategy for M plc because of venturing into the unknown markets.

(iii) **Product development** in which the M Ltd will seek in its corporate strategy formulation to develop new products to replace existing ones, for current markets and through existing distribution channels. A costly and risky strategy.

(iv) **Diversification** in which M plc will seek to develop new products in new markets. This is a high risk strategy because M Ltd will be moving into new markets and new product ranges.

These four options are shown in the following table (called the Ansoff matrix)

Product/Market	Existing	new
Present	1) Market penetration	3) product/service development
New	2) Market development	4) Diversification

(b) (i)

	2021	2022
ROCE(operating profit/capital employed)640/9,520;840/8,400x100%	6.72%	10%
Current ratio(current assets/current liabilities)2,080/560;4,120/1,920	3.7	2.1
Profit margin(operating profit/turnover)640/9,600;840/11,600	6.7%	7.2%
Inventory days (inventory/purchases)1,120/8,960;2,160/10,760x365	46 days	73 days
Receivable days(receivable/turnover) 640/9,600;1,960/11,600x365	24 days	62 days
Payable days (payables/purchases) 560/8,960;1,560/10,760x365	23 days	53 days
Cash conversion period(inventory days + receivable days less payable days)(46+24-23/73+62-53)	47 days	82 days

Assumptions

- in the absence of purchases, operating costs have been used in the calculation of inventory days and payable days.

  Operating costs = sales- operating profits

  Since most businesses costs are purchases, the inventory and payable days figures are meaningful and allow a clear inter-period comparison.

- Inventory and payable days position for 2022 are both based on year -end figures. Ideally we would base these figures on an average of end 2021 and end 2022 balances. However, these figures are not available, and year- end figures are deemed a suitable approximation.

(b) (ii) The performance of M Ltd appears to have been improving having regard to both ROCE and profit margin. Those are key performance metrics, but they do not tell the whole story. The asset turnover and liquidity position of the business has changed in a manner that should prompt some serious concerns:

- o Inventory days have risen dramatically. The company should investigate why this has happened? Does the extra inventory really exist and how has it been valued?
- o Receivable days have risen dramatically. There is need to investigate why this happened. Do the extra receivables actually exist and what is the chance of irrecoverable debts arising?
- o Payable days have risen dramatically. M Ltd should find out why this has happened. Are suppliers still making deliveries even when M Ltd is taking longer to pay?

In addition to this, it looks like assets are being stripped out of the business by its owners. Some assets have been sold (evidenced by a decrease in non-current assets from K4.8m to K4.4m), a director loan partly repaid and dividends have been increased form K160m to K360m. These negative movements may not impact immediately on the key performance metrics (which are essentially 'backward looking' or ' lagging' measures) reporting only what has happened over a short period in the immediate past. But what is happening suggests a clear lack of commitment on the part of its directors that might impact on performance in the longer term.

To form a fuller evaluation of performance, one would need to obtain a range of forward looking indicators(leading measures) which are linked to market share, quality of service, response time to customer orders, proportion of customer repeat business being achieved, staff turnover and relationships with suppliers.

c) Critical success factors (CSF) are factors which are either particularly valued by customers or which provide significant advantage in terms of cost. CSF are the few key areas in which M Ltd has to do well in order to succeed. Key performance indicators (KPI'S) should then be developed in each key area to measure how well M Ltd is performing in the key activities or processes.

One key area for M Ltd may be customer satisfaction considering that performance has been poor. The KPI'S to measure customer satisfaction could be customer retention, repeat business, number of complaints, etc. Other key areas for M Ltd could be quality, the technology used to produce its products, market share (product development strategy to increase market share as identified by Ansoff's matrix in part (a)), motivated employees, innovation, etc.

SOLUTION THREE

(a)

National Sports Centre – Heat recovery proposal
Cash flows for year to 31 May 2023

	Accept proposal	*Reject proposal*
	K	K
At 20% level of recovery		
Variable swimming pool costs(note 1)	192,600	385,200
New equipment hired(note 2)	225,000	
Employee to supervise equipment(note 3)	52,500	
	470,100	**385,200**

Advice: The proposal should be rejected on financial grounds since there is a net increase in cost of K84,900 if it is accepted.

Notes:

1 At 20% heat recovery we have 50,000 units of heat available (250,000 × 20%). This is sufficient for 50% of the 100,000 units of heat required by the swimming pool. This means that 50% of the variable costs from the existing system will remain, i.e. 50% × K450,000 × 80% × 1.07 = K192,600.

If the proposal is rejected, the total variable costs for 2022 are relevant, i.e. K450,000 × 80% × 1.07 = K385,200.

2 The new equipment hire charge of K225,000 is an incremental cost of the proposal.

3 The salary of K52,500 to the employee is avoidable if the proposal is rejected. Therefore it is an incremental cost of the proposal.

4 The survey fee of K90,000 is irrelevant since the money has already been spent, i.e. it is a sunk cost.

5 The solar panels heat extraction cost of K360,000 (plus 7% price increase) will remain whether or not the new heating scheme for the swimming pool is implemented. It is, therefore, irrelevant to the decision. It may be omitted entirely or shown to apply to both acceptance and rejection of the proposal.

(b) **Net Present value**

Although net present value (NPV) is often used to evaluate whether or not to undertake new capital investments, it can also be used as a measure of performance. It can be useful as a control by comparing actual results to those planned.

Moreover, it is useful because it focuses on future cash flows and makes allowance for risk (through the use of discount factors).

Advantages include:
- Cash flows are less subject to manipulation and subjective decisions than accounting profits.
- It considers the opportunity cost of not holding money.
- Risk can be allowed for by adjusting the cost of capital.
- Shareholders are interested in cash flows (both in the short term and long term).

The **disadvantages** of the NPV approach are centred on the assumptions underlying the values of critical variables within the model. For example:
- The duration of the cash flows
- The timing of the cash flows
- The appropriate cost of capital

Cash flows and NPVs for strategic control: shareholder wealth
Control and performance measures at a strategic level do need to pay some attention to wealth. Shareholders are interested in cash flow as the safest indicator of business success. According to one model of share valuations, the market value of the shares is based on the expected future dividend.
Control at a strategic level should be based on measurements of cash flows (actual cash flows for the period just ended and revised forecasts of future cash flows). Since the objective of a company might be to maximise the wealth of its shareholders, a control technique based on the measurement of cash flows and their NPV could be a very useful technique to apply. Strategic progress can be measured by reconciling successive net present values and the intervening cash flows.

SOLUTION FOUR

Part (a)

(a) EVA^{TM} = NOPAT – (K x capital) Where: NOPAT = Net operating profits after tax. (K x capital) is the finance charge, where K = the firms weighted average cost of capital and capital = equity plus long-term debt of the company at the start of the period.

	2022	**2021**
	K'000	**K'000**
Accounting profit	245,000	187,600
Add back interest (net of tax)	19,600	38,220
NOPAT	**264,600**	**225,820**
WACC (equity+debt)/2	18.45%	19.6%
Imputed capital charge	(128,117)	(142,825)
EVA	**136,483**	**82,995**
Other Key indicators		
EPS (PAT/No of shares)	21.875n	16.75n

Growth indicators

EPS	30.6% increase
EVA	30.8% increase
Market index	53.6% increase
Forestry sector	35.1% increase
Share price	14.0% increase

In the case of MUKULA, the market generally has seen an increase of about 53.6% as indicated by the market index, however, the forestry index has only increased by 35.1%, this could be due to the strong competition in this sector. MUKULA's earnings per share has grown by about 30.6% while the EVA has grown by 30.8%. Although these are below the forestry sector, there is an increase in the value to shareholders MUKULA. The market price has only increased by 14%, possibly to attract potential investors.

Part (b)

Value based management involves focus on activities which can increase value (market capitalization) of the organization and shareholder's wealth. Value added activities are the benefit perceived by a customer from purchase and use of product. Activities, which do not add value directly, but necessary for effective completion of core value-added activities are known as supporting activities. EVA (economic value added) is suitable performance measure for value-based management. EVA focuses on cash flows rather than profit and value based management requires focus on cash flows to increase shareholders wealth.

EVA can be used to identify activities, which do not add value to the shareholders wealth. In addition, activities can be identified according to its ability to increase shareholders wealth. Value based management focuses only on EVA for adding value to the organization. Therefore, it results in only one organizational objective and eliminates confusion associated with various organizational objectives. Performance of managers is only evaluated against EVA. It should lead to goal congruence, as employees will focus on activities, which lead to increase in shareholders wealth. Therefore, below is a list of advantages and disadvantages of EVA;

Advantages

1. Considers all costs some of which would be ignored in normal accounting
2. Focuses on cash and directly increases shareholder value
3. Eliminates accounting depreciation in preference of economic depreciation
4. Use of cost of capital for the imputed capital charge aligns it to shareholder wealth creation

Disadvantages

1. Similar to traditional methods, does not take account of non-financial factors in performance measurement
2. Subject to manipulation by managers particularly when used as a single measure
3. Lacks uniformity and consistency among different companies
4. Practicality of computation is complex.

SOLUTION FIVE

(a) **Financial benchmarking**

Benchmarking is a means of making comparisons and setting targets using external data. It is important for the benchmarks to be valid (ie comparable) or else the comparison is misleading.

TUS's intended benchmarking against a major player in the same industry should be on the basis on similar generic strategies in order for the benchmarks to be comparable. customers.

Benchmarking can be difficult to do in practice and companies often have to select their data carefully. Of course, published data is backward looking so a company seeking to improve cannot only rely on data that is several months out of date. Where companies seek more up to date financial information, this may rely on sharing information systems with companies which could be rivals. There may be mutual benefits from doing this but the participants need to be confident that the risks to their confidential data are outweighed by the benefits from obtaining the financial data.

(b) The four perspectives of the balanced scorecard are:

- Financial – how do we create value for our shareholders?
- Customer – how should we present ourselves to our customers? What do our customers(both existing and new) want from us?
- Internal business processes – what processes are critical to achieving our financial and customer goods and how can we optimise these?
- Innovation and learning – how do we ensure we continue to improve, and are able to create value in the future?

The new strategy addresses these perspectives in different ways. Ultimately all of the perspectives will have financial effects whether in the short or long-term interests of our shareholders.

Focus on key customers: this directly addresses the customer perspective and will require the collection of the profiles and needs of these customers in order to generate market growth and so improve our financial position. Suitable performance measurement would segment our market (for example, by customer age or gender) and identify our changing market share within each segment.

Ensuring we meet key customer needs: This again addresses the customer perspective but will also have an impact on the products/services that TUS offers and so affect the internal business process perspective. Suitable performance measures from the customer perspective would be levels of repeat business (measured as repeat visits per customer, for example) and customer satisfaction scores. In relation to the business process perspective, TUS will measure its product range and quality. Range would be measured by comparing TUS's product range against competitors, while the level of customer complaints or returns could provide an indication about the quality of products. Customer satisfaction scores could also provide some insight in quality (eg if product quality declines customer satisfaction scores might also fall).

Cost cutting: This connects to the business process perspective as it seeks to focus the business on value-added activities.(By doing so, and reducing avoidable costs, a targeted cost- cutting programme should also help to support the financial perspective of the scorecard.) Suitable performance measures would be efficiency savings generated by removing or reducing unnecessary processes/products. TUS could possibly look to simplify its supply chain by cutting the number of suppliers with which it deals.

Amend current processes to meet the new focus: Clearly, the process perspective and measurement of this objective will be by the way of the achievement of goals in a specific change programme to assist the other objectives.
Programme of sustainable development: This objective looks to the future and so could be linked to the innovation and learning perspective. However, one of the criticisms sometimes made against the balanced scorecard is that the perspectives don't specifically take account of social responsibility and sustainability. Suitable measures for this area would include the efficiency of energy use of the business and the level of packaging waste generated.

TUS's financial performance
The year on year performance has declined , with earnings per share failing by 23%. Normally, this would imply that the company would be heavily out of favour with investors. However, the share price seems to have held up relatively well, with a decline of only 15% compared to a fall in the retail sector of 22% and the Zambia stock market as a whole of 35%.
The sector comparison is the more relevant to the performance of TUS's management as the main market index will contain data from manufacturing, financial and other industries. Shareholders will be encouraged by the implication that the market views TUS as one of the better future prospects for investment within the retail sector.

Workings

	2021	2022	Change
1. EPS	0.221	0.170	Down 23%
2. Zambia market index	2,230.4	1,449.8	Down 35%
3. Retail sector index	4,901.4	3,823.0	Down 22%
4. TUS share price	K4.90	K4.16	Down 15%

(c) Evaluation of the financial performance measures
Earnings per share growth is important to shareholders as it relates to dividend growth which is a fundamental variable used in the calculation of share value (dividend valuation method). It is a widely used measure by equity analysists and so is a key driver of share prices. However, it is based on accounting profit and only captures year on year changes and so can be subject to short-term manipulation if the trend over a number of years is not considered.

Share price performance reflects the capital performance of an investment but tends to be volatile and subject to significant fluctuations outside of the control of management. It will be the figure that most shareholders turn to in order to get a quick impression of their investment performance but it can lead to judgements being formed on the basis of that short-term volatility which are more appropriate for speculators rather than investors. The use of an average share price in this instance should help to ameliorate such problems but the averaging method and time period should be further investigated.

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

ADVISORY PROFESSIONAL IN ACCOUNTANCY

CA3.6: ADVANCED FINANCIAL MANAGEMENT

FRIDAY 15 DECEMBER 2023

TOTAL MARKS – 100: TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question. You will be told when to start writing.

2. This paper is divided into TWO (2) sections:

   Section A: ONE (1) **Compulsory** scenario question.
   Section B: FOUR (4) Optional scenario questions. Attempt any THREE (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Present legible and tidy work.

9. Graph paper (if required) is provided at the end of the answer booklet.

10. Formulae, Present Value, Annuity and normal distribution tables are attached at the end of the question paper.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

SECTION A

This question is compulsory and must be attempted.

<u>QUESTION ONE</u> - (COMPULSORY)

Assume today is 3 October and BULK Energy Corporation a multinational company with significant investments in electricity power generation across the globe has completed the financial evaluation of an investment in setting up a renewable energy project in Zambia. The goal of the project is to produce 2, 000 megawatts of electricity. The initial cost of investment is estimated at K12 billion. The expected present value of the net cash flows are as follows:

Year	**1**	**2**	**3**	**4**	**5**
Present Value of Net Cash Flows (K'billion)	4.5	3.5	3	1	0.01

Despite the proposed investment showing a positive Net Present Value (NPV) of K0.01 billion, the Board of Directors expressed concern that it is a very small positive amount and pose a high risk. One of the Board members has questioned the results and suggested that the company should consider using the Adjusted Present Value (APV) method rather than the NPV method because of its merits.

However, the Zambian government is pleased with such investments because it would help to end load shedding and foster economic growth in the country. Therefore, if BULK Energy Corporation undertakes this investment, the company would gain the right, but not the obligation to invest in a second renewable energy project in five years' time at a capital cost of K20 billion. The financial evaluation of the second investment shows the following expected present value of the associated future net cash inflows, with a standard deviation of 28.3%:

Year	**1**	**2**	**3**	**4**	**5**
Present Value of Net Cash Flows (K'billion)	5	3.6	2.5	2.4	1.5

The expected risk free rate of interest is 6%. The demand for renewable energy is expected to increase and analysts strongly believe the government likely to introduce attract financial incentives in the near future.

For BULK Energy Corporation to undertake the first proposed investment, it would need to borrow 50% of the initial cost of the investment at an annual fixed interest rate of 8% for a period of six months. If the investment is undertaken, the company will need to borrow starting on 1 January. The three (3) months January interest rate futures are available at 92.00.

Required:

(a) As a Financial Consultant, write a report to the board of BULK Energy Corporation advising whether the proposed investments should be undertaken or not, by determining the following:

(i) The value of the call option to undertake the second project (20 marks)

(ii) The value of the combined projects (4 marks)

(b) Explain the merits of APV method as an investment appraisal technique. (4 marks)

(c) Discuss the reasons BULK Energy Corporation may need to hedge against interest rate risk on 3 October instead of 1 January when the loan would be taken. (5 marks)

(d) Illustrate how interest rate futures may be used to hedge the risk, and calculate the outcome on 1 January. You should assume that on 1 January interest rates have changed to 10% and the futures price to 90.00. (7 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any THREE questions.

QUESTION TWO

MARKO Pharmaceuticals Inc. is one of the most renowned brands of medical supplies in the world. The brand was built around expansion strategies through acquisition that were adopted in the formative years of the company. MARKO Pharmaceuticals Inc. has a focus on identifying target medium-sized Pharmaceuticals companies of exceptional quality and hence ensures that the values of the business are not blurred. MARKO Pharmaceuticals Inc. makes sure that the brand is a distinguishing edge and no compromises are entertained. Corporate planning and control is one of the integral part of MARKO Pharmaceuticals Inc. success stories over the years.

MARKO Pharmaceuticals Inc. reported losses in the past two financial years and some financial market analysts have attributed it to poor implementation of the strategies adopted by the company. Recently, the board chairperson expressed concern that the directors who determine the companies' financial strategies do not have a completely free hand in setting strategy. Therefore, it is often a difficult balancing act between fulfilling the obligations of MARKO Pharmaceuticals Inc. and selecting appropriate strategic choices. The Chairperson identified funding, investor relation and business strategy as key constraints on financial strategies.

Required:

(a) Discuss the factors identified by the board chairperson of MARKO Pharmaceuticals Inc. that may affect the implementation of its financial strategies. (10 marks)

(b) Explain the reason corporate planning is important to MARKO Pharmaceuticals Inc. and the types of plans it may have adopted. (4 marks)

(c) Discuss the relative advantages of business expansion through acquisitions. (6 marks)

[Total: 20 Marks]

QUESTION THREE

NIC Plc a multinational company based in the UK expects to receive $2 million on the 30 June which is in three (3) months' time. Although the company treasurer expects that the spot exchange rate will move in their favour, he is still worried about currency risk exposure and wants to reduce the exposure by hedging using either a money market or options.

Spot: $/£ 1.5484 – 1.5526				
		Investing		Borrowing
Current 3 month interest rates:	US prime	5.2%	–	5.8%
	UK LIBOR	3.6%	–	3.9%

Option exercise price	$/£ 1.5400
Premium on option	£20,200

Alternatively, NIC Plc can invest in a US dollar Certificate of Deposit (CD) with a face value of $2 million starting from 1 July maturing on 30 March the following year. The coupon is 8% per year. Assume a 360 day year.

(a) Advise the Treasurer for NIC Plc the hedging method to use for managing the currency risk exposure if on 30 June the exchange rate is:

(i) $/£ 1.5310
(ii) $/£ 1.5510 (12 marks)

(b) Calculate the maturity value of the CD. (4 marks)

(c) Explain the importance of financial intermediation. (4 marks)

[Total: 20 Marks]

QUESTION FOUR

Global companies continuously explore ways to be more efficient and effective to survive the challenging global competition. Some resort to mergers and acquisitions to survive. To realize the benefits of merging, InSight Ltd and Simtec Ltd are planning to merge to form Datatec Ltd.

It has been agreed that Simtec's shareholders will accept three shares in InSight Ltd for every share in Simtec Ltd they hold. Other details are as follows:

	InSight Ltd	**Simtec Ltd**
Number of shares	40m	10m
Annual earnings	K10m	K5.8m
P/E ratio	8	10

Post-merger annual earnings of the enlarged company are expected to be eight per cent higher than the sum of the earnings of each of the companies before the merger, due to economies of scale and other benefits. The market is expected to apply a P/E ratio of 9 to Datatec Plc.

Required:

(a) Explain to the stakeholders of both companies the justification for the following integration strategies in mergers and acquisitions.

(i) Horizontal take-over. (4 marks)

(ii) Vertical backward and forward take-overs. (4 marks)

(iii) Conglomerate mergers. (2 marks)

(b) Determine the extent to which the shareholders of Simtec Ltd will benefit from the proposed merger. (10 marks)

[Total: 20 Marks]

QUESTION FIVE

MITEC is a prestigious University and a member of the Education Premier Group (EPG), a group made up of the highest ranked universities in the world, and known for offering some of the best standards of higher education worldwide. These Universities draw their funding from endowment funds, which they use to offer generous financial aid packages to talented students from low income backgrounds. For this reason, they have an international student population and world class faculty. These institutions have historically drawn their international student population from western and Asian countries like India and China. MITEC has been no exception.

The University has recognized the African Union as its next frontier market, since the continent has a large population of exceptional students who cannot afford to study overseas.

The University is evaluating how it can offer some of its most popular degrees through on line, residential and scholarship programs in Zambia, where students can be drawn from the SADC region and be able to study at a significantly lower cost compared to its fulltime study programs in the USA. It is considering whether to enter into a joint venture with a local institution or to set up a fully owned independent university site in Zambia.

A number of international but less reputable academic institutions offer courses physically on the African continent. There have been lower ranked and less renowned international academic institutions which have formed joint ventures with private institutions in Zambia to deliver degree programs. In comparison to MITEC, these institutions are generally small in size and are of lower ranking internationally. Some of the private universities have physical campuses with a few degree programs including medicine, but mostly social sciences.

Some Government owned universities have running partnerships with international universities that involve post - graduate research programs. Although the government universities have experienced a reduction in education standards over the years, they are generally preferred by the Zambian public, because of the financial support they receive from government in form of student scholarships. However, the demand for places in these institutions far outstrips the supply of places and many students are forced to attend the smaller private institutions or to study overseas if they can afford it.

After an initial investigation the following points have come to light:

(i) The Zambia government is keen to attract foreign direct investment (FDI) and offer tax concessions to businesses which bring investment funds into the country. It is likely that MITEC would need to seek a substantial amount of funding if it were to set up independently. However, the investment funds required would be considerably smaller if it went into a joint venture.

(ii) The success of private universities in Zambia and regionally, is somewhat mixed, with some of them perceived by the general public as offering degree programs of inferior quality in comparison to established government owned institutions. Employments prospects for graduates from these institutions can therefore be comparatively poorer. This has been worsened by generally low employment prospects for graduates regionally.

(iii) A large proportion of MITEC's academic success is due to innovative teaching, technologically driven teaching methods, and high quality research. In addition, the university has world class faculty and student scholars, financed by its massive endowment funds. On the contrary, the teaching and learning infrastructure used in educational institutions in Zambia and regionally is generally insufficient.

Apart from grant funded programs, academic research is hindered by poor funding, adversely impacting research undertaken by the universities in Zambia and the education sector in Sub – Saharan Africa. With regard to funding education infrastructure, some of the positive developments impacting the sector include appreciation of the Kwacha over the past year against the US dollar, following changes in governance.

Required:

Discuss the following in relation to MITEC:

(a) Benefits and demerits of MITEC entering into a joint venture instead of setting up independently in Zambia. As part of your discussion, consider how the disadvantages can be mitigated and, (16 marks)

(b) The additional information the University should consider when making its final decision on entering the African market. (4 marks)

[Total: 20 Marks]

END OF PAPER

Formulae

Modigliani and Miller Proposition 2 (with tax)

$$k_e = k_e^i + (1 - T)(k_e^i - k_d)\frac{V_d}{V_e}$$

Two asset portfolio

$$s_p = \sqrt{w_a^2 s_a^2 + w_b^2 s_b^2 + 2w_a w_b r_{ab} s_a s_b}$$

The Capital Asset Pricing Model

$$E(r_i) = R_f + \beta_i(E(r_m) - R_f)$$

The asset beta formula

$$\beta_a = \left[\frac{V_e}{(V_e + V_d(1-T))}\beta_e\right] + \left[\frac{V_d(1-T)}{(V_e + V_d(1-T))}\beta_d\right]$$

The Growth Model

$$P_o = \frac{D_o(1+g)}{(r_e - g)}$$

Gordon's growth approximation

$$g = br_e$$

The weighted average cost of capital

$$WACC = \left[\frac{V_e}{V_e + V_d}\right]k_e + \left[\frac{V_d}{V_e + V_d}\right]k_d(1-T)$$

The Fisher formula

$$(1+i) = (1+r)(1+h)$$

Purchasing power parity and interest rate parity

$$S_1 = S_0 x \frac{(1+h_c)}{(1+h_b)} \qquad F_0 = S_0 x \frac{(1+i_c)}{(1+i_b)}$$

Modified Internal Rate of Return

$$MIRR = \left[\frac{PV_R}{PV_I}\right]^{\frac{1}{n}}\left(1+r_e\right)-1$$

The Black-Scholes option pricing model

$$c = P_a N(d_1) - P_e N(d_2) e^{-rt}$$

Where:

$$d_1 = \frac{\ln(P_a / P_e) + (r + 0.5s^2)t}{s\sqrt{t}}$$

$$d_2 = d_1 - s\sqrt{t}$$

The Put Call Parity relationship

$$p = c - P_a + P_e e^{-rt}$$

Present Value Table

Present value of 1 i.e. $(1 + r)^{-n}$

Where r = discount rate
n = number of periods until payment

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	0·980	0·961	0·943	0·925	0·907	0·890	0·873	0·857	0·842	0·826	2
3	0·971	0·942	0·915	0·889	0·864	0·840	0·816	0·794	0·772	0·751	3
4	0·961	0·924	0·888	0·855	0·823	0·792	0·763	0·735	0·708	0·683	4
5	0·951	0·906	0·863	0·822	0·784	0·747	0·713	0·681	0·650	0·621	5
6	0·942	0·888	0·837	0·790	0·746	0·705	0·666	0·630	0·596	0·564	6
7	0·933	0·871	0·813	0·760	0·711	0·665	0·623	0·583	0·547	0·513	7
8	0·923	0·853	0·789	0·731	0·677	0·627	0·582	0·540	0·502	0·467	8
9	0·941	0·837	0·766	0·703	0·645	0·592	0·544	0·500	0·460	0·424	9
10	0·905	0·820	0·744	0·676	0·614	0·558	0·508	0·463	0·422	0·386	10
11	0·896	0·804	0·722	0·650	0·585	0·527	0·475	0·429	0·388	0·305	11
12	0·887	0·788	0·701	0·625	0·557	0·497	0·444	0·397	0·356	0·319	12
13	0·879	0·773	0·681	0·601	0·530	0·469	0·415	0·368	0·326	0·290	13
14	0·870	0·758	0·661	0·577	0·505	0·442	0·388	0·340	0·299	0·263	14
15	0·861	0·743	0·642	0·555	0·481	0·417	0·362	0·315	0·275	0·239	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	0·812	0·797	0·783	0·769	0·756	0·743	0·731	0·718	0·706	0·694	2
3	0·731	0·712	0·693	0·675	0·658	0·641	0·624	0·609	0·593	0·579	3
4	0·659	0·636	0·613	0·592	0·572	0·552	0·534	0·516	0·499	0·482	4
5	0·593	0·567	0·543	0·519	0·497	0·476	0·456	0·437	0·419	0·402	5
6	0·535	0·507	0·480	0·456	0·432	0·410	0·390	0·370	0·352	0·335	6
7	0·482	0·452	0·425	0·400	0·376	0·354	0·333	0·314	0·296	0·279	7
8	0·434	0·404	0·376	0·351	0·327	0·305	0·285	0·266	0·249	0·233	8
9	0·391	0·361	0·333	0·308	0·284	0·263	0·243	0·225	0·209	0·194	9
10	0·352	0·322	0·295	0·270	0·247	0·227	0·208	0·191	0·176	0·162	10
11	0·317	0·287	0·261	0·237	0·215	0·195	0·178	0·162	0·148	0·135	11
12	0·286	0·257	0·231	0·208	0·187	0·168	0·152	0·137	0·124	0·112	12
13	0·258	0·229	0·204	0·182	0·163	0·145	0·130	0·116	0·104	0·093	13
14	0·232	0·205	0·181	0·160	0·141	0·125	0·111	0·099	0·088	0·078	14
15	0·209	0·183	0·160	0·140	0·123	0·108	0·095	0·084	0·074	0·065	15

Annuity Table

Present value of an annuity of 1 i.e. $\frac{1-(1+r)^{-n}}{r}$

Where r = discount rate
n = number of periods

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	1·970	1·942	1·913	1·886	1·859	1·833	1·808	1·783	1·759	1·736	2
3	2·941	2·884	2·829	2·775	2·723	2·673	2·624	2·577	2·531	2·487	3
4	3·902	3·808	3·717	3·630	3·546	3·465	3·387	3·312	3·240	3·170	4
5	4·853	4·713	4·580	4·452	4·329	4·212	4·100	3·993	3·890	3·791	5
6	5·795	5·601	5·417	5·242	5·076	4·917	4·767	4·623	4·486	4·355	6
7	6·728	6·472	6·230	6·002	5·786	5·582	5·389	5·206	5·033	4·868	7
8	7·652	7·325	7·020	6·733	6·463	6·210	5·971	5·747	5·535	5·335	8
9	8·566	8·162	7·786	7·435	7·108	6·802	6·515	6·247	5·995	5·759	9
10	9·471	8·983	8·530	8·111	7·722	7·360	7·024	6·710	6·418	6·145	10
11	10·37	9·787	9·253	8·760	8·306	7·887	7·499	7·139	6·805	6·495	11
12	11·26	10·58	9·954	9·385	8·863	8·384	7·943	7·536	7·161	6·814	12
13	12·13	11·35	10·63	9·986	9·394	8·853	8·358	7·904	7·487	7·103	13
14	13·00	12·11	11·30	10·56	9·899	9·295	8·745	8·244	7·786	7·367	14
15	13·87	12·85	11·94	11·12	10·38	9·712	9·108	8·559	8·061	7·606	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	1·713	1·690	1·668	1·647	1·626	1·605	1·585	1·566	1·547	1·528	2
3	2·444	2·402	2·361	2·322	2·283	2·246	2·210	2·174	2·140	2·106	3
4	3·102	3·037	2·974	2·914	2·855	2·798	2·743	2·690	2·639	2·589	4
5	3·696	3·605	3·517	3·433	3·352	3·274	3·199	3·127	3·058	2·991	5
6	4·231	4·111	3·998	3·889	3·784	3·685	3·589	3·498	3·410	3·326	6
7	4·712	4·564	4·423	4·288	4·160	4·039	3·922	3·812	3·706	3·605	7
8	5·146	4·968	4·799	4·639	4·487	4·344	4·207	4·078	3·954	3·837	8
9	5·537	5·328	5·132	4·946	4·772	4·607	4·451	4·303	4·163	4·031	9
10	5·889	5·650	5·426	5·216	5·019	4·833	4·659	4·494	4·339	4·192	10
11	6·207	5·938	5·687	5·453	5·234	5·029	4·836	4·656	4·486	4·327	11
12	6·492	6·194	5·918	5·660	5·421	5·197	4·988	4·793	4·611	4·439	12
13	6·750	6·424	6·122	5·842	5·583	5·342	5·118	4·910	4·715	4·533	13
14	6·982	6·628	6·302	6·002	5·724	5·468	5·229	5·008	4·802	4·611	14
15	7·191	6·811	6·462	6·142	5·847	5·575	5·324	5·092	4·876	4·675	15

Standard normal distribution table

	0·00	0·01	0·02	0·03	0·04	0·05	0·06	0·07	0·08	0·09
0·0	0·0000	0·0040	0·0080	0·0120	0·0160	0·0199	0·0239	0·0279	0·0319	0·0359
0·1	0·0398	0·0438	0·0478	0·0517	0·0557	0·0596	0·0636	0·0675	0·0714	0·0753
0·2	0·0793	0·0832	0·0871	0·0910	0·0948	0·0987	0·1026	0·1064	0·1103	0·1141
0·3	0·1179	0·1217	0·1255	0·1293	0·1331	0·1368	0·1406	0·1443	0·1480	0·1517
0·4	0·1554	0·1591	0·1628	0·1664	0·1700	0·1736	0·1772	0·1808	0·1844	0·1879
0·5	0·1915	0·1950	0·1985	0·2019	0·2054	0·2088	0·2123	0·2157	0·2190	0·2224
0·6	0·2257	0·2291	0·2324	0·2357	0·2389	0·2422	0·2454	0·2486	0·2517	0·2549
0·7	0·2580	0·2611	0·2642	0·2673	0·2704	0·2734	0·2764	0·2794	0·2823	0·2852
0·8	0·2881	0·2910	0·2939	0·2967	0·2995	0·3023	0·3051	0·3078	0·3106	0·3133
0·9	0·3159	0·3186	0·3212	0·3238	0·3264	0·3289	0·3315	0·3340	0·3365	0·3389
1·0	0·3413	0·3438	0·3461	0·3485	0·3508	0·3531	0·3554	0·3577	0·3599	0·3621
1·1	0·3643	0·3665	0·3686	0·3708	0·3729	0·3749	0·3770	0·3790	0·3810	0·3830
1·2	0·3849	0·3869	0·3888	0·3907	0·3925	0·3944	0·3962	0·3980	0·3997	0·4015
1·3	0·4032	0·4049	0·4066	0·4082	0·4099	0·4115	0·4131	0·4147	0·4162	0·4177
1·4	0·4192	0·4207	0·4222	0·4236	0·4251	0·4265	0·4279	0·4292	0·4306	0·4319
1·5	0·4332	0·4345	0·4357	0·4370	0·4382	0·4394	0·4406	0·4418	0·4429	0·4441
1·6	0·4452	0·4463	0·4474	0·4484	0·4495	0·4505	0·4515	0·4525	0·4535	0·4545
1·7	0·4554	0·4564	0·4573	0·4582	0·4591	0·4599	0·4608	0·4616	0·4625	0·4633
1·8	0·4641	0·4649	0·4656	0·4664	0·4671	0·4678	0·4686	0·4693	0·4699	0·4706
1·9	0·4713	0·4719	0·4726	0·4732	0·4738	0·4744	0·4750	0·4756	0·4761	0·4767
2·0	0·4772	0·4778	0·4783	0·4788	0·4793	0·4798	0·4803	0·4808	0·4812	0·4817
2·1	0·4821	0·4826	0·4830	0·4834	0·4838	0·4842	0·4846	0·4850	0·4854	0·4857
2·2	0·4861	0·4864	0·4868	0·4871	0·4875	0·4878	0·4881	0·4884	0·4887	0·4890
2·3	0·4893	0·4896	0·4898	0·4901	0·4904	0·4906	0·4909	0·4911	0·4913	0·4916
2·4	0·4918	0·4920	0·4922	0·4925	0·4927	0·4929	0·4931	0·4932	0·4934	0·4936
2·5	0·4938	0·4940	0·4941	0·4943	0·4945	0·4946	0·4948	0·4949	0·4951	0·4952
2·6	0·4953	0·4955	0·4956	0·4957	0·4959	0·4960	0·4961	0·4962	0·4963	0·4964
2·7	0·4965	0·4966	0·4967	0·4968	0·4969	0·4970	0·4971	0·4972	0·4973	0·4974
2·8	0·4974	0·4975	0·4976	0·4977	0·4977	0·4978	0·4979	0·4979	0·4980	0·4981
2·9	0·4981	0·4982	0·4982	0·4983	0·4984	0·4984	0·4985	0·4985	0·4986	0·4986
3·0	0·4987	0·4987	0·4987	0·4988	0·4988	0·4989	0·4989	0·4989	0·4990	0·4990

This table can be used to calculate $N(d)$, the cumulative normal distribution functions needed for the Black-Scholes model of option pricing. If $d_i > 0$, add 0·5 to the relevant number above. If $d_i < 0$, subtract the relevant number above from 0·5.

CA3.6: ADVANCED FINANCIAL MANAGEMENT SUGGESTED SOLUTIONS

SOLUTION ONE

Value of Call Option

(a)

t = 5; P_e = 20; P_a = 15; s = 0.283; r = 0.06

$$d_1 = \frac{\ln(15 \div 20) + (0.06 + 0.5 \times 0.283^2)5}{0.283\sqrt{5}}$$

$$= \frac{-0.2877 + 0.3 + 0.2002}{0.6328} = \frac{0.2125}{0.6328} = 0.3358$$

$$d_2 = 0.3358 - 0.283 \times \sqrt{5} = -0.297$$

Using the standard normal distribution tables:

d_1 = 0.3358 gives 0.1331; thus $N(d_1)$ = 0.5 + 0.1331 = 0.6331

d_2 = −0.297 gives −0.1179; thus $N(d_2)$ = 0.5 − 0.1179 = 0.3821

$$c = (15 \times 0.6331) - (20 \times 0.3821 \times e^{-0.06 \times 5})$$

$$= 9.4965 - (20 \times 0.3821 \times 0.7408)$$

$$= 9.4965 - 5.6613$$

= K3.84billion

Conclusion:

	K'billion
NPV of first project	0.01
Value of call option (to expand) on second project	3.84
Value of combined projects	3.85

Therefore, the project should be accepted, since the additional value (which incorporates the option to expand), allows BULK Energy Corporation to avoid the downside element of risk.

(b) The main advantages of the APV are as follows.
(1) APV can be used to evaluate all the effects of financing a product including:
- (i) Tax shield
- (ii) Changing capital structure
- (iii) Any other relevant cost

(2) When using APV you do not have to adjust the WACC using assumptions of perpetual risk free debt.

(c) If BULK Energy Corporation were to take the loan today, then the rate of interest that they would be charged is fixed interest rate of 8%. The problem is that they are not taking the loan on 3rd October but in 3 months' time on 1 January. If BULK Energy Corporation does nothing, then there is a risk that by the time it actually takes the loan the rate of interest will have changed.
The risk that BULK Energy Corporation should be concerned about is therefore, the risk of interest rates changing between now and the date the loan starts; and not the risk of interest rates changing after the start of the loan – the loan will be taken at a fixed rate.

(d)

Amount to borrow = 50% x K12bilion = K6billion

Interest at current interest rates: 6 billion × 8% × $^6/12$ = 0.24 billion
Futures 'gamble' required = 6 billion × $^6/3$ = 12 billion

On 1 January:		K'billion
Interest 6 billion × 10% × 6/12		= 0.3
Profit in futures: $12bn \times \frac{92.00 - 90.00}{400}$		= 0.06
	Net Cost	0.24

SOLUTION TWO

(a)

1. Funding constraints

MARKO Pharmaceuticals Inc. may be reluctant to obtain extra funds to finance the acquisitions for a variety of reasons such as gearing levels or dilution of control. However, shareholders may not have the financial resources to provide significant equity injections, and may also require the company to pay them a regular source of income.
Even if MARKO Pharmaceuticals Inc. listed on a securities exchange, it may be constrained when contemplating issuing shares by fears that the issue will not be fully taken up or that it will have to issue shares at a low price in order to ensure full take-up.

MARKO Pharmaceuticals Inc. may be reluctant to obtain further debt finance because:

i. They fear that the company may be unable to service the debt, to make the required capital and interest payments on time
ii. The tax position is such that they will be unable to use the tax shield, to obtain any tax benefit from interest payments
iii. The company lacks the asset base to be able to generate additional cash if needed or provide sufficient security
iv. The company wishes to maintain access to the capital markets on good terms, and hence needs a good credit rating

2. Investor relations

Financial constraints are bound up with the need to keep investors happy. Investors need to be convinced that companies are investing in projects generating sufficient long-term returns, and that en-route the company will also be able to generate enough dividends to satisfy investor requirements.

3. Business strategy

Obviously a business's financial strategy is not independent of its overall business strategy. For instance, MARKO Pharmaceuticals Inc. may depart from what appears to be the optimum financial strategy. It
may depart from its optimal capital structure to raise funds to seize a potentially valuable target.

MARKO Pharmaceuticals Inc. may also suffer from a shortage of key skills or limited production capacity, both of which may limit its ability to operate to its maximum wealth generating capacity. There may be organisational cultural crush between MARKO Pharmaceuticals Inc. and its target companies and key staff may leave.

(b)

Companies must plan and control their operations so that decisions can be taken in line with the company's objectives. A business plan is often regarded as being a combination of a strategic plan and a financial plan. The financial plan sets out quantified financial targets, which usually take the form of forecast financial statements. These are based on forecasts, and are derived from an analysis of past results and predictions of future changes within the economy/industry/company.

Corporate plans are usually classified into:

i. Strategic plans, which are concerned mainly with external problems, and in particular with deciding which products or services to produce for which market.
ii. Tactical plans, which are concerned with ensuring that the company's resources are adequate for carrying out the strategic plans in order to reach the desired objective
iii. Operational plans, which are concerned with the way in which the company is to be run from day to day in order to optimise performance

(c) **Organic growth versus acquisition**

Acquisitions are probably only desirable if organic growth alone cannot achieve the targets for growth that a company has set for itself.
Organic growth takes time. With acquisitions, entire existing operations are assimilated into the company at one fell swoop. Acquisitions can be made without cash. The acquirer may offer shares in itself to the shareholders of the Target Company rather than cash. As long as this type of share exchange transaction is acceptable to both the buyers and sellers the deal can proceed on those terms.

However, acquisitions do have their strategic problems.
(i) They might be too expensive. Some might be resisted by the directors of the target company. Others might be referred to the government under the terms of anti-monopoly legislation.
(ii) Customers of the target company might resent a sudden takeover and consider going to other suppliers for their goods.
(iii) In general, the problems of assimilating new products, customers, suppliers, markets, employees and different systems of operating might create 'indigestion' and management overload in the acquiring company.

SOLUTION THREE

Money Market Hedge
Borrowing interest rate = 5.8%÷4 =1.45%
Borrow $’s: 2m ÷ 1.0145 = $1,971,414.48
Convert at spot $1,971,414.48÷ 1.5526 = £1,269,750.41
Investing interest rate = 0.9%
Invest £’s £1,269,750.41× 1.009 = £1,281,178.16

(a) Do not exercise option:

$2m ÷ 1.5310		= £1,306,335.73
	less: premium	= £20,200
	Net receipt	**£1,286,135.73**

(b) Exercise option

$2m ÷ 1.5400		= £1,298,701.30
	less: premium	= £20,200
	Net receipt	**£1,278,501.30**

If the exchange rate is 1.5310 on 30 June, NIC Plc is better off hedging using the option but should not exercise is it as it would be more favorable than the money market by £4,957.57 (£1,286,135.73 - £1,281,178.16).

If the exchange rate is 1.5510on 30 June, NIC Plc is better off hedging using the money market but should not be exercised as it would be less favorable than the money market by £2,676.86 (£1,281,178.16 - £1,278,501.30).

b) The time to maturity (1st July to 30th March) is 273 days. And US certificates of deposits assume a 360-day year. So the value at maturity is $2,000,000 x [1+(0.08 x [273÷360]) = **$2,121,333.**
c) The importance of financial intermediation

Financial intermediation is important for two main reasons, namely the presence of transaction costs and the presence of credit risk.

The presence of transaction costs

Transactions costs (time and money spent carrying out financial transactions) are often prohibitively high for individual borrowers and lenders. Financial intermediaries, by handling a large volume of such
transactions, develop an expertise that allows them to make additional transactions much more cheaply than any individual could. Financial intermediaries exploit economies of scale. By conducting a very
high volume of business, they reach a point where the unit cost of transactions becomes smaller and smaller.

The presence of credit risk

The second reason for the importance of financial intermediaries is asymmetric information. The
borrower has much better information about his ability and intention to repay than the lender does. This exposes the lender to credit risk. An individual lender will not normally have the ability to ascertain the credit risk of another individual. A bank on the other hand employs a number of specialists who are in a better position to evaluate the credit quality

of an individual and it may have access to information on an individual that would be too costly for an individual lender to acquire.

SOLUTION FOUR

(a) (i) **Horizontal Take - Over**

- Economies of scale

The major justification put forward to explain horizontal mergers centre on the fact that the merging companies are in the same industry and so are likely to benefit from economies of scale. They may also benefit from synergy between operations as well.

- Breaking entry barriers

Horizontal mergers can also be justified as a way of breaking into new geographical markets.

- Obtaining Monopoly Power

Market share can also be a viable reason, so that companies can earn monopoly profits, but the bidder must beware of referral to the MMC.

- Enhanced Shareholder value

There may be financial economies and tax benefits from mergers, but increasing EPS is not a valid justification.

(ii) **Vertical backward and forward take-overs**

- Control of Raw Materials

Here the major justification is that a company can either secure control of vital raw material or guarantee an outlet for, and control the distribution of its product.

- Control of Distribution Channels

This helps companies to reduce the power of suppliers or to decrease the revenue lost to distributors. Economies of scale or synergy are less likely to occur than with horizontal take - overs.

(iii)

It is very difficult to see the rationale for conglomerate take-overs, as there will be few economies of scale or synergy due to the unrelated nature of the merging businesses. The take-over cannot be justified from the point of view of risk reduction, as shareholders are likely to hold diversified portfolios. Nor can the take-over be justified as the acquisition of a bargain, since if capital markets are efficient; the target’s share price will reflect its true value.

(b)

- Simtec’s market value, using its P/E ratio and earnings, is 5.8m x 10 = K58m
- The earnings of Datatec Ltd will be (K10m + K5.8m) x 1.08 =K17.06m

- Using a P/E ratio of 9, the value of Datatec is K17.06m x 9 = K153.54m

- The 10m shares of Simtec will be swapped for 30m InSight shares, making 70m shares in the new company in total. Therefore the wealth of Simtec's shareholders will now be K153.54m x (30m/70m) = K65.8m.

- Simtec's shareholders are K7.8m better off (78 Ngwee per share).

SOLUTION FIVE

Solution note: This question can be answered in a variety of ways and the suggested answer is indicative. Credit should be given for reasonable answers that take a different approach. This requires a discussion of whether or not MITEC should undertake a *joint venture*.

(a) There are a number of benefits that MITEC can potentially take advantage of if it went into a joint venture with a regional academic institution or governments, such as sharing of risks, possible lower running costs and the partner/s' existing experience of the local market and lower capital investment costs. These are balanced against the potential disadvantages of going into a joint venture such as loss of reputation, product quality and staffing, government restrictions, cultural differences, managerial issues, contractual issues and loss of tax concessions. Each of these issues should be considered together with strategies for mitigation of the disadvantages and other information that is required.

(b) MITEC does not have the experience of doing business in Africa and in particular in Zambia. Having a partner to guide MITEC on the regional market and its expectations would be beneficial. It may be able to assist MITEC in how to market the degree programs effectively. The partner may also be able to advise MITEC on pricing decisions and on how to minimize costs.

A well-constructed joint venture contract could be instrumental in effective risk sharing in case the demand and revenues do not grow as expected. The capital investment costs will likely be lower if MITEC enters into a joint venture. Presumably MITEC would have access to the partners' infrastructure and systems. They may also be able to utilize the expertise of regional academic and administrative staff. Training costs may also be lower as the academic staff may have the required level of expertise.

MITEC may have easier access to the regional capital markets. This may be particularly beneficial where revenues are matched with the costs of capital. If revenue is generated in Kwacha or other local currency, but costs are payable in the US Dollar, then there is potential for long-term currency exposure. This may create foreign currency risk if the Kwacha or other regional currencies continues to weaken. Although some economic data suggests that this may not be the case. It may therefore be beneficial to borrow money using the local currency markets.

Perhaps the most significant disadvantage of entering the African market with a joint venture is the potential loss of academic reputation. Regional governments may not treat the joint venture favorably. For Instance, by not adequately supporting students with scholarships and employment in government controlled organizations. Additionally, academic joint ventures, for various reasons have had a low reputation locally, with some partner institutions being considered as lacking international credibility. MITEC needs to consider contagion of its wider reputation as well. For example, there may be negative publicity if the regional institution/s chosen have poor academic reputation and/or ranking.

In order to mitigate this, MITEC needs to choose a partner carefully through detailed due diligence. It may consider partnering with an institution with a higher reputation and perhaps meet with and petition the government to give public and official backing to its degree programs. However, this may take considerable time and effort. MITEC also needs to consider how long it would take for the government to recognize its degrees if it sets up its own site.

Linked to this is the quality of the product. Students would have certain expectations of the institution and the quality of the degrees would need to match this. If MITEC enters into a joint venture with the expectation of using its partner's infrastructure, systems and staff, it needs to ensure that these match the expectations of its customers. For example, if it uses local staff to deliver its degrees then the regional staff must be properly trained to ensure that universal standards are achieved. It may be the case that training costs make it more expensive than getting staff to come from the USA or similar partner institutions in Asia or other parts of the world. It may be the case that initially a higher proportion of the staff are from the USA or other international locations and then the numbers are lowered as the local staff gain the required skills. Alternatively, the initial focus may be on online programs. However, this delivery mode may compromise standards.

MITEC also needs to consider government restrictions other than the ones described above. For example, would the government be willing to issue work permits for its international staff and would all regional governments allow repatriation of funds as easily from a joint venture as from MITEC's own investment. MITEC would need to conduct a due diligence or seek advice locally to clarify these issues.

MITEC also needs to ensure that cultural differences between expatriate staff from its overseas locations and regional staff are minimized and they all share common corporate values. The two organizational cultures may be very different. It would require time and resources to get a common ground between the two organizations and a shared identity. Strategies need to be developed and enacted to ensure that this happens, perhaps through implementation of staff exchange programs. Human resources need to develop techniques to help expatriate staff settle into the country. The costs related to all these need to be compared with MITEC setting up its own site.

Managers' actions may be restricted in the case of joint ventures because the opinions of both the partners need to be taken into account. Managers of the joint venture may feel that they are not being listened to by the management at MITEC. And the managers at MITEC may feel that the actions of the managers at the partner are incongruent with aims of MITEC. Clear guidelines need to be developed and communicated to limit dysfunctional behaviour between the managers, perhaps asking all the parties concerned to be involved in the development of the joint venture.

There may be difficulties in agreeing to the terms and conditions of the contract between the parties involved. Legal representation and clear communication between the senior management would be needed from both parties to agree: clear terms, conditions and boundaries; the roles and responsibilities of both sides; and, the ownership percentage and profit sharing arrangements.

Finally, if MITEC proceeds with financing the joint venture using local funding, it may lose the tax concessions attached to any FDI. The financial consequences of this will need to be assessed.

1. Discussion of financial assessment of both positions to include for example the consequences of loss of tax concessions, if local financing is used as opposed to FDI. Sensitivity analysis of scenarios and different projections, and an assessment of the likelihood of their occurrence.
2. Possibility of hiring experts to advise MITEC to set up in Zambia, as opposed to going for a joint venture.
3. Outcomes from the government discussions on whether or not MITEC degrees will get recognition in Zambia and regionally.
4. Assessment of whether the partner's infrastructure and systems meet MITEC's requirements.
5. Likely movement in regional currencies and instruments such as swaps to hedge currency fluctuations.
6. The reputation of a MITEC degree with its regional and international markets.
7. Quality of local staff, their ability to teach to the methods required and the need for expatriate staff from overseas locations.
8. An assessment of government restrictions on for example, issuing work permits, repatriation of funds, etc.

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

ADVISORY PROFESSIONAL IN ACCOUNTANCY

CA 3.7: PUBLIC SECTOR AUDITS AND ASSURANCE

FRIDAY 15 DECEMBER 2023

TOTAL MARKS – 100; TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question. You will be told when to start writing.
2. This paper is divided into TWO (2) sections:
   Section A: One (1) Compulsory scenario question.
   Section B: Four (4) Optional Questions. Attempt any Three (3) questions.
3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.
4. Do **NOT** write in pencil (except for graphs and diagrams).
5. **Cell Phones** are **NOT** allowed in the Examination Room.
6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.
7. All workings must be done in the answer booklet.
8. Present legible and tidy work.
9. Graph paper (if required) is provided at the end of the answer booklet.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

SECTION A

This question is compulsory and must be attempted.

QUESTION ONE

You are an Audit Manager in the Office of the Auditor General (OAG) and you are in charge of the audit of the financial statements for Matete Ltd for the year ended 31 March 2023. Matete Ltd is a public entity, which is wholly owned by the Government of the Republic of Zambia. The company was incorporated in 2018 and continues to operate profitably.

Matete Ltd imports and supplies affordable mining equipment to small-scale miners. You attended a planning meeting together with the director in charge of Public Department and Investment Audits. The OAG has abandoned the procedural approach to auditing and has adopted the risk-based approach. You are now reviewing the meeting notes in order to finalise the audit strategy and produce the audit plan.

On 1 April 2022, the company obtained a five (5) year $4 million loan which was not guaranteed by the Government of the Republic of Zambia. The loan was used specifically to cover the importation of various mining equipment which was urgently needed by a number of co-operatives of small-scale miners in North-western, Central and Luapula Provinces of the Republic of Zambia. The loan has conditions attached to it including the maintenance of liquidity ratios within agreed limits. Matete Ltd created a sinking fund into which equal annual instalments are paid in order to earn interest, so that by the end of the five (5) years, the investment will be large enough to repay the loan. Breach of any condition gives the bank an option to make the remaining loan balance repayable immediately.

The accounts receivable balance in the draft financial statements for the year ended 31 March 2023, show a figure of K30 million (2022: K8 million). The Accountant-in-Charge of receivables resigned from his position and has not been replaced. Approved customer credit terms are thirty (30) days but the co-operatives of small-scale miners in North-western, Central and Luapula Provinces of the Republic of Zambia's average collection period has been more than 90 days.

It has come to the attention of management of Matete Ltd that most small-scale miners have no mining licenses. The Permanent Secretary in the Ministry of Mines and Mineral Resources instructed Matete Ltd to stop supplying mining equipment to illegal miners.

The account payables balance in the draft financial statements is K4 million (2022: K9 million). The Payables Accountant recently completed the Zambia Institute of Chartered Accountants (ZICA) Diploma in Accountancy level 1.

The Zambia Revenue Authority (ZRA) is concerned with the level of non-compliance in respect import taxes. The company and the ZRA has a special import arrangement which enables Matete Ltd to pay import taxes after the mining equipment has been paid for by its customers. However, the company has not been paying import taxes for the past six (6) months and now ZRA has issued a demand notice. The Managing Director (MD) of Matete Ltd is, however, confident that the matter will be resolved soon with the help of the political leadership.

The draft financial statements for the company for the year ended 31 March 2023 show revenue of K600 million (2022: K807 million). The internal controls in respect of revenue have always been assessed as poor.

The Minister of Finance and National Planning has complained that Matete Ltd has not declared any dividends in the last three (3) years. He has asked the directors to declare a dividend and convince Government that Matete Ltd is still a viable entity.

An Accounts Assistant in the Accounts department is in charge of petty cash. She is given funds to spend up to a certain limit each month (an "imprest account") which is re-imbursed at the end of each month. The Auditor General would also like you to carry out a compliance audit in respect of the petty cash. There are strict guidelines on how petty cash must be operated. For example, amounts paid out of petty must not exceed the stated maximum amount and claims should not be split.

Required:

(a) Explain what is meant by risk-based approach in public sector auditing and state four (4) reasons why it is considered to be important in public sector auditing. (6 marks)

(b) Identify and explain six (6) audit risks in the financial statement audit of Matete Ltd for the year ended 31 March 2023 and suggest appropriate audit responses. (12 marks)

(c) Recommend six (6) specific audit procedures which can be performed in respect of the completeness of revenue shown in the draft financial statements for the year ended 31 March 2023. (12 marks)

(d) Using the information in the scenario:

(i) Describe the objectives of a compliance audit. (3 marks)

(ii) Define and discuss the need for a compliance audit in respect of the petty cash. (4 marks)

(iii) Suggest three (3) techniques which will be used to gather evidence in the compliance audit. (3 marks)

[Total: 40 Marks]

SECTION B

There are four (4) questions in this section.

Attempt any three (3) questions.

QUESTION TWO

The Mexico Declaration on Supreme Audit Institutions (SAI) on independence is an International Standard of Supreme Audit Institutions, ISSAI 10. It sets out the ideal conditions that should apply for a SAI to be independent in its eight (8) principles. All ISSAIs are issued by the International Organisation of Supreme Audit Institutions (INTOSAI).

The Office of the Auditor-General (OAG) is the SAI in the Republic of Zambia. It is a member of the INTOSAI and is required to use ISSAIs in conducting audits. You are a Senior Manager in the SAI and the AG wants you to prepare notes which will be used at a training session for newly appointed audit supervisors. The notes must clearly:

(1) Explain the principles in the Mexico Declaration which apply to audit reports.

(2) Consider how the stated principles in (1) above are applied in Zambia.

You are also responsible for the stand-alone Information Technology (IT) audit currently taking place at the Zuba National Building Society (ZNBS). It has come to your attention that the audit plan did not include audit work on the disaster recovery plan. The disaster recovery plan was recently updated following a major disaster which interrupted ZNBS operations for one (1) week.

You have assigned one (1) of the newly appointed audit supervisors to perform the audit work in respect of the updated disaster recovery plan. However, he has requested for specific guidance given that this area was omitted from the audit plan.

Required:

(a) Describe the principles in the Mexico Declaration which apply to reports issued by the Supreme Audit Institution (SAI) and state whether or not they are applied in Zambia. (4 marks)

(b) Discuss the quality control implications of the omission of audit work on the disaster recovery plan in the audit plan. (4 marks)

(c) Describe six (6) audit procedures which must be performed to obtain audit evidence on the updated disaster recovery plan. (6 marks)

(d) Using the guidelines given in ISSAI 5,300 *Guidelines on IT Audit,* for benefit of the Trainee Auditor, state any six (6) contents of an IT audit report where it is a stand-alone exercise. (6 marks)

[Total: 20 Marks]

QUESTION THREE

You have been appointed as Director of Audits in the Supreme Audit Institution (SAI). The SAI was established by an Act of Parliament in 2007 to provide quality audit services to government and other public entities with the view of promoting accountability and transparency.

The SAI belongs to a global association, the International Organisation of Supreme Audit Institutions (INTOSAI). INTOSAI has promoted the development of auditing practices in the public sector. Concepts in the Lima Declaration, including those relating to the functions, responsibilities and powers of SAIs, are now widely adopted internationally.

The SAI has a sufficiently broad mandate and full discretion. The Head of the SAI enjoys security of tenure and legal immunity in the normal discharge of his/her duties. This also applies to all SAI staff. The SAI has an audit manual which was developed by a consultant that gives detailed guidance on audit processes and procedures to be followed when performing audit work. The constitution requires the SAI to report its findings annually to parliament.

The financial statement audit for the Ministry of Tourism for the year ended 31 December 2022 is almost complete. However, the following matters have been brought to your attention:

Matter one
The Permanent Secretary has offered the audit team members T-Shirts which will be used at the forthcoming event to promote local tourism. In addition, the audit team members have been invited by the Permanent Secretary to join invited guests for lunch after the event.

Matter two
Management has refused to correct an understatement of K2.3 million which has been discovered in the account balance for receivables.

Required:

(a) Using the information given in the scenario, evaluate the Office of the Auditor General's (OAG's) adherence to the guidelines given in the Lima Declaration. (8 marks)

(b) Explain:

(i) Using the information in matter one, the ethical threats to independence in the financial statement audit of the Ministry of Tourism in as much detail as possible. (4 marks)

(ii) Suggest appropriate safeguards for each ethical threat identified in (b) (i) above. (2 marks)

(c) Recommend, with justification, the audit report and the audit opinion that you should give using the information in matter two. (6 marks)

[Total: 20 Marks]

QUESTION FOUR

The Office of Auditor General is investigating the fraudulent and corrupt acts of the government agency responsible for the tunnel piping of crude oil from the sea coast of Dar-es-Salaam, Tanzania to Ndola Zambia in the year 2022. The internal controls in the government agency in question came under scrutiny after a major accident at the pipeline which was under the supervision of this agency.

The accident caused a major oil spill with serious short- and long-term effects on the environment and wildlife, impacting on tourism and commercial and recreational fisheries in the northern region of the Country. However, this accident was never reported to the regulatory authorities responsible for environmental issues. The accident drew further attention to management challenges already identified in the government agency, and also brought new dynamics into reform efforts already in process in the agency.

Prior to the pipeline accident, public investigators identified a number of management flaws, ethical failures among the employees, and conflicts of interest in several offices of the agency, including the offices in the region where the accident was located. One of these offices was investigated after an anonymous tip to the local public prosecutor, claiming that several employees in the agency had accepted gifts from representatives of oil production companies.

To a large extent, this investigation confirmed these claims, as it revealed that a number of office employees had attended sporting events sponsored by oil companies. They had also received lunch and gifts from the same companies.

Required:

(a) Differentiate between the responsibilities of the auditor and the directors with respect to fraud. (4 marks)

(b) Explain the audit procedures that you can undertake in investigating the fraudulent and corrupt acts of the government agency. (4 marks)

(c) Discuss the implications of the incidents described with regard to management failure to report the accident to regulatory authority. (6 Marks)

(d) Briefly describe the key stages in a forensic investigation of the fraudulent activities at the Government Agency. (6 marks)

[Total: 20 Marks]

QUESTION FIVE

You are an Audit Senior for the Audit Office engaged to lead the audit team to undertake a performance and compliance audit on the government actions or measures to prevent large-scale power failure for the period ended 2022. The focus of the audit will be on the action plans of the Ministry of Energy to prevent large-scale power failures.

The objective of the audit is to determine as to whether government and the responsible agencies have sufficient action plans to prevent large-scale power failure. The audit will also scrutinise whether government preparations give the necessary requirements to handle a power failure on a national scale, should such a crisis occur.

The audit will be carried out with criteria that to a large extent were set by the Audit Office and covered reasonable demands for national crisis security, such as:

- Objectives and demands set as well as distribution of responsibility should give prerequisites for preparedness to handle crisis;
- Good preparation should be made to provide robust power supply systems;
- Risk analysis should cover the risks to power supply and be the basis for action plans;
- A good capacity should be present within agencies to handle operational crisis;
- Personal and material resources should be present to the extent required to handle crisis.

In the preparation for the audit, your supervisor has emphasized on the need to distinguish between the direct reporting and attestation engagement in compliance auditing. He has further reminded, you to recognise the three parties, the subject matter, criteria and subject matter information in conducting the compliance audit on the government actions or measures to prevent large-scale power failure.

Your initial assessment has revealed that the central government does not have a solid base for decisions concerning whether or not actions taken are sufficient to prevent large-scale crises in national power supply. In case of a power failure on national scale, the electricity agencies have a certain degree of preparedness to handle the crises, however, the ability to cope with such crises is insufficient.

Required:

(a) Explain the objective of performance audits in the public sector. (4 marks)

(b) Describe the difference between direct reporting and attestation engagement in compliance auditing. (4 marks)

(c) Explain the elements of public sector auditing as defined by ISSAI 100 relating to the three (3) parties, subject matter, criteria and subject matter information. (6 marks)

(d) Suggest how the audit team should obtain sufficient appropriate audit evidence on Government actions or measures to prevent large-scale power failure. (6 marks)

[Total: 20 Marks]

END OF PAPER

CA 3.7 PUBLIC SECTOR AUDITS AND ASSURANCE SUGGESTED SOLUTIONS

SOLUTION ONE

(a) **Risk-based approach in public sector auditing**

Risk-based approach refers to the development of auditing techniques that are responsive to risk factors in an audit. Public sector auditors apply judgement to determine what level of risk pertains to different areas of a client's system and devise appropriate audit tests.

Risk-based approach is important because it:

- is required by ISSAIs
- more efficiency as it directs more attention to risky areas
- more effective as the probability of giving a wrong audit opinion is significantly reduced
- saves money and other critical resources
- addresses the modern challenges, for example, challenges brought about by increased use of computers in the public sector.

(b) **Audit risks and suggested appropriate audit responses**

Audit risks	Explanations	Audit responses
(1) Non-compliance with the five (5) year $4 million loan conditions	There is a possibility of manipulating the liquidity ratios to ensure the agreed targets are met. In addition, there is a risk of the financial statements being incorrectly prepared on a going-concern basis, if Matete Ltd does not generate sufficient cash flows to meet its obligations.	The audit team should exercise appropriate levels of professional scepticism. Obtain the loan agreement and review the conditions and check for compliance. Recalculate liquidity ratios.
(2) Overstatement of accounts receivable balance	There is risk that the allowance for receivables could be understated.	Check the reasonableness of the allowance for receivable by reviewing the age analysis and reviewing any post year-end receipts from customers.
(3) Loss of customers	The instruction to stop supplying illegal miners	Review the impact on cash flows following the

	could significantly reduce cash flows and eventually negatively impact on the going-concern status of Matete Ltd.	instruction and discuss the same with management, including those charged with governance.
(4) Understatement of accounts payable balance	There is a risk that some liabilities could be omitted or understated in order to meet the agreed targets.	Review supplier statements especially for major suppliers. Review the exchange rates used to retranslate the accounts payable amounts.
(5) Non-compliance in respect import taxes	There is a risk that liabilities arising from the non-compliance could be omitted or understated.	Review correspondence with the Zambia Revenue Authority (ZRA) and ensure the accounting treatment is in accordance with the guidelines provided by the relevant accounting standard. In addition, obtain management representations to support their position on the matter.
(6) Incorrect recognition of revenue	There is a risk that revenue is not recognised correctly given the poor controls.	Review the accounting for revenue and ensure it is line with the recommended accounting treatment by the relevant accounting standards.
(7) Pressure to pay a dividend	There is a risk that Management could manipulate the financial statements	Review the internal controls related to the financial reporting processes including the existence of an effective audit committee.

(c) **Recommend specific audit procedures which can be conducted in respect of the**

completeness of revenue shown in the draft financial statements for the year ended 31 March 2023

(1) Obtain the revenue schedule and cast it to confirm arithmetical accuracy
(2) For a sample of invoices during the year, trace the amounts to the revenue schedule
(3) Agree the total revenue for each month from the sales ledger to the control account in the general ledger and revenue schedule
(4) Analyse the quantities sold each month and perform a trend analysis. Investigate any unexpected fluctuations.
(5) Obtain the price lists and check for any price changes, including discounts.
(6) Perform cut-off tests by reviewing in as much detail as possible invoices a few weeks before the year-end and after the year-end and confirm they are recorded in the correct period.
(7) Confirm that accounting for revenue is in line with the recommended accounting treatment in the relevant accounting standard.
(8) Seek explanations from management for the huge difference between current and previous revenue.

(d) (i) **The objective of a compliance audit**

The main objective of compliance auditing is to provide the intended user(s) with information on whether the audited public entities follow parliamentary decisions, laws, legislative acts, policy, established codes and agreed upon terms. These form the relevant authorities governing the subject matter/entity that is going to be audited. The authorities are the sources of audit criteria.

In general, the objectives of compliance audits in the public sector are to:

- Gather sufficient audit evidence to conclude whether the information on a particular subject matter is in compliance, in all material respects, with a particular set of audit criteria, and
- Report the findings and conclusions to the legislative and/or other bodies (as appropriate).

The objectives and criteria for a compliance audit may include aspects of both regularity (adherence to formal criteria such as relevant laws, regulations and agreements) and/or propriety (observance of the general principles governing sound financial management and the conduct of public officials).

(ii) **Need for a compliance audit in respect of the petty cash**

Compliance audits are performed by the public sector auditors with a view to establish whether or not activities have been performed in accordance with the authorities.

In the case of Matete Ltd, the petty cash must operate according to the strict guidelines in place. Hence, by performing the compliance audit in respect of the petty cash, audit evidence will be obtained to establish whether the operations are in accordance with the strict guidelines.

The auditors could also recommend some improvements to address identified some deficiencies.

(d) (iii) **Evidence gathering techniques**

These include:

- Observing how the Accounts Assistant is operating petty cash activities
- Inspecting the petty cash documents to confirm adherence to strict guidelines
- Seeking information from the Accounts Assistant and other employees regarding the operation of the petty cash.

SOLUTION TWO

(a) **Principles in the Mexico Declaration which apply to reports issued by the Supreme Audit Institution (SAI)**

Principles	**Application in Zambia**
(1) The SAI should have the right to report on its work. It should also be required to report, at least once a year, on the results of its audit.	This is applied in Zambia.
(2) The SAI should be free to decide the contents of its audit reports, and to make recommendations in its reports (taking into account, as appropriate, the views of the audited entity).	This is applied in Zambia.
(3) The SAI should also be free to decide the timing of its reports, except where specific reporting requirements are prescribed by law.	This is applied in Zambia.
(4) Once a report by the SAI has been formally presented to the appropriate authority, the SAI should be free to publish it.	This is applied in Zambia.

(b) **Discussion of quality implications for the omission of audit work on the disaster recovery plan in the audit plan**

According to ISSAI 40 *Quality Control for SAIs,* a SAI should have policies and procedures to provide it with reasonable assurance that its audits (and other work) are carried out in accordance with relevant standards and applicable legal requirements and regulations.

Planning is one (1) of the activities which is highly emphasised by auditing standards in order to ensure an audit will be performed in affective manner.

The omission of such a sensitive activity like the disaster recovery plan could be an indicator that the IT audit was poorly planned. If this is true, than the quality of the IT audit could questionable. There will be need for a thorough review of this IT audit by an independent quality review before the audit is finalised.

(c) **Audit procedures which must be performed to obtain audit evidence on the disaster recovery plan**

- Obtain a copy of the updated disaster recovery plan and review its contents
- Check that the updated disaster recovery plan has been approved by those charged with governance.
- Seek detailed explanations from IT experts and senior management regarding the contents
- Evaluate the effectiveness of the updated recovery plan and if necessary use an auditor expert
- Inspect any alternative processing facilities meant to support critical functions
- Test the back-up procedures in place for both data and software, and check whether the back-up copies are taken to a remote location.
- Interview selected regarding their knowledge of the updated disaster recovery plan and whether training was conducted regarding the same.
- Evaluate whether key IT personnel have the required knowledge, skills and experience to effectively implement the updated disaster recovery plan.

(d) **Using the guidelines given in ISSAI 5,300 *Guidelines on IT Audit,* for benefit of the Trainee Auditor, state any eight (8) contents of an IT audit report where it is a stand-alone exercise**

- Audit objectives
- Audit scope
- Applicable dates of coverage of audit
- Audit criteria
- Audit methodology
- Summary
- Audit findings
- Audit conclusions
- Audit recommendations
- Any associated cause(s) and risk(s), restrictions, reservations, limitations, or concerns that the auditor holds in relation to the audit.

SOLUTION THREE

(a) **Evaluation of the Supreme Audit Institution's (SAI's) adherence to the guidelines given in the Lima Declaration**

(1) **Independence of SAI –** The SAI was established by an Act of Parliament in 2007. The Lima Declaration states that the establishment of a Supreme Audit Institution (SAI) with the necessary degree of independence should be included in the constitution, and details may be set out in legislation. Hence, the SAI is not in adherence to the guideline given in the Lima Declaration.

(2) **Independence of SAI members** – According to the LIMA Declaration, the independence of SAI members should be embodied in the constitution. In the case of this SAI, the details on independence of SAI members do not refer to any legal framework. The details reflect the details given in the Mexico Declaration. Hence, the SAI is difficult to state whether the SAI is or is not in adherence with the Lima Declaration. More information is required.

(3) **Audit methods –** The Lima Declaration states that the SAI should audit in accordance with a self-determined programme. The SAI has an audit manual which was developed by a consultant and this is definitely not in accordance with the guidance given in the Lima Declaration. Each public sector entity is unique and audit methods be tailored by the SAI to the particular circumstances through a self-determined programme. The SAI is therefore not in adherence with the guideline in the Lima Declaration.

(4) **Reporting –** The SAI is required by the constitution to report its findings annually to Parliament. The Lima Declaration states that the SAI should be required by the constitution to report its findings annually to Parliament (or any other responsible body). This report should be published. The SAI is in adherence to the guideline given in the Lima Declaration, although the question is silent on publication.

(b) (i)& (ii) **Ethical threats& Actions**

Ethical threats	Explanations	Actions
(1) The Permanent Secretary has offered the audit team members T-Shirts	This may create a self-interest threat. There could be pressure to try and impress the Permanent Secretary at all costs. Objectivity could have been impaired.	The value of the T-Shirts may not be significant and it is unlikely that it could impair their objectivity. Hence, the audit team members could get the T-Shirts.

(2) Invitation for lunch	This may create familiarity and self-interest threats. The audit teams' independence and objectivity could come under serious question. Auditors are expected to be independent both in fact and in appearance.	The invitation for lunch must be politely declined. The auditors may not be seen to independent, especially in appearance.

(c) **Audit report and audit opinion**

The misstatement is likely to be material given that the audit is a public entity. Hence, the audit report will be modified. The audit report will include a modified audit opinion.

The audit opinion which will be given depends on whether the misstatement is pervasive or not. If the misstatement is not pervasive, then the audit opinion will be a qualified audit opinion. If the misstatement is pervasive, then the audit opinion will be an adverse audit opinion.

SOLUTION FOUR

(a) **Differentiate between the responsibilities of the auditor and the directors with respect to fraud**

The primary responsibility for the prevention and detection of fraud rests with both those charged with governance of the entity and management. It is important that management, with the oversight of those charged with governance, place a strong emphasis on fraud prevention, which may reduce opportunities for fraud to take place, and fraud deterrence, which could persuade individuals not to commit fraud because of the likelihood of detection and punishment. This involves a commitment to creating a culture of honesty and ethical behavior which can be reinforced by an active oversight by those charged with governance.

Auditors are responsible for obtaining reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. The objectives of the auditor are:

- To identify and assess the risks of material misstatement of the financial statements due to fraud;
- To obtain sufficient appropriate audit evidence regarding the assessed risks of material misstatement due to fraud, and
- To respond appropriately to fraud or suspected fraud identified during the audit through designing and implementing appropriate responses.

Auditors should maintain professional skepticism throughout the audit, recognizing that fraud could exist, notwithstanding the auditor‛s past experience with the entity and management.

(b) **The audit procedures that you can undertake in investigating the fraudulent and corrupt acts of the government agency**

Forensic procedures would include:

- Interview the staff members involved and question them regarding the accepted gifts from representatives of oil production companies.
- Inquiring of management and, where appropriate, those charged with governance, as to whether the entity is in compliance with laws and regulations concerning the major oil spill; and
- Inspecting correspondence, if any, with the relevant licensing or regulatory authorities for reporting of the accident of the major oil spill.
- Inspecting of the government agency policy on the employees regarding the accepting gifts from representatives of oil production companies.

(c) **The implications of the incidents described with regard to management failure to report the accident to regulatory authority**

The government agency operates in a highly regulated industry, and auditors must consider the requirements of ISAI 1250 Consideration of Laws and Regulations in an Audit of Financial Statements. ISSAI 1250 states that it is management's responsibility to ensure that operations are conducted in accordance with relevant law and regulations. The auditor is expected to obtain a general understanding of the applicable legal and regulatory framework and how the entity is complying with that framework. In this case, there is a suspected non-compliance with the Authority's health and safety requirements.

The accident may have been caused by non-maintenance of the pipeline which could have failed to meet the authority's strict requirements. Management has not informed the authority, which may be for a genuine belief that there is no need to make a report concerning the accident, or it could be because management has something to hide and does not wish to come under the scrutiny of the authority.

ISSAI 1250 states that if the auditor becomes aware of information concerning an instance of non-compliance or suspected non-compliance with laws and regulations, the auditor shall obtain an understanding of the nature of the act and the circumstances in which it has occurred; and further information to evaluate the possible effect on the financial statements. Further audit procedures will therefore be necessary. The matter should be discussed with those charged with governance, as required by ISSAI 1250. Management should be asked to confirm the reason why the authority has not been notified of the accident, and a written representation should be obtained.

The auditors may wish to encourage management to disclose the accident to the authority. ISSAI 1250 also requires that the auditor shall determine whether the auditor has a responsibility to report the identified or suspected non-compliance to parties outside the entity. The Auditors needs to carefully evaluate their legal responsibility to report suspected non-compliance to the Authority, and legal advice should be obtained to determine the appropriate course of action. Confidentiality is an issue, as usually auditors cannot disclose information obtained during the audit to external parties without the prior consent of the client. However, this may be overridden in some cases by legislation or court order. In certain cases, disclosure in the public interest may warrant disclosure without client consent. Again, legal advice would be helpful here, to determine whether confidentiality can or should be breached and a report made to the Authority if management fail to do so.

(d) **The key stages in a forensic investigation of the fraudulent activities at the government agency**

The key stages in a forensic investigation are:

- **Define the scope and objectives** of the investigation. This includes establishing the truth of any allegations.
- **Understand the organisation** through reviewing financial information and any media coverage.

- The forensic auditor also needs to understand the nature of the matter under investigation, and to understand the **nature of fraud** and the circumstances in which it occurs.
- Take steps to **secure and safeguard financial and other information**. Information may be physical or digital and it is vital to ensure that information is not destroyed, corrupted or altered.
- **Inspect financial** and other documents for evidence of 'red flags' that suggest fraud or other illegal activity.
- **Interview staff and third parties** with a view to obtain information or an admission of guilt.
- **Draw conclusions** which are unbiased, objective and supported by sufficient adequate evidence.
- **Report** on the findings with reference to the original brief and recommend further action to be taken.

SOLUTION FIVE

(a) **The objective of performance audits in the public sector**

The main objective of performance auditing is constructively to promote economical, effective and efficient governance. It also contributes to accountability and transparency.

The following objectives are also relevant to performance audits:

- Performance auditing promotes accountability by assisting those charged with governance and oversight responsibilities to improve performance.
- Performance auditing focuses on areas in which it can add value for citizens and which have the greatest potential for improvement.
- Performance auditing promotes transparency by affording Parliament, taxpayers and other sources of finance, those targeted by government policies and the media an insight into the management and outcomes of different government activities.
- It contributes in a direct way to providing useful information to the citizen, while also serving as a basis for learning and improvements.

(b) **The difference between direct reporting and attestation engagement in compliance auditing**

In a direct reporting engagement, it is the auditor who measures or evaluates the subject matter evidence against the criteria. The auditor is responsible for producing the subject matter information. The auditor selects the subject matter and criteria, taking into consideration risk and materiality. By measuring the subject matter evidence against the criteria, the auditor is able to form a conclusion. The conclusion is expressed in the form of findings, answers to specific audit questions, recommendations or an opinion.

When providing limited assurance, the conclusion conveys that nothing has come to the auditor's attention that the findings are not in compliance with the audit criteria. When the auditor has been aware of instances of non-compliance, the conclusion needs to reflect this.

In an attestation engagement the responsible party measures the subject matter against the criteria and presents the subject matter information, on which the auditor then gathers sufficient and appropriate audit evidence to provide a reasonable basis for forming a conclusion. The conclusion is expressed in the form of findings, conclusions, recommendations or an opinion.

In an attestation engagement with reasonable assurance the auditor's conclusion expresses the auditor's view that the subject matter information is/is not in accordance with the applicable criteria.

(c) **Elements of public sector auditing**

Three separate parties

Public-sector audits involve at least three separate parties: the auditor, a responsible party and intended users. The relationship between the parties should be viewed within the context of the specific constitutional arrangements for each type of audit.

- *The auditor:* In public-sector auditing the role of auditor is fulfilled by the Head of the SAI and by persons to whom the task of conducting the audits is delegated. The overall responsibility for public-sector auditing remains as defined by the SAI's mandate.
- *The responsible party*: In public-sector auditing the relevant responsibilities are determined by constitutional or legislative arrangement. The responsible parties may be responsible for the subject matter information, for managing the subject matter or for addressing recommendations, and may be individuals or organisations.
- *Intended users:* The individuals, organisations or classes thereof for whom the auditor prepares the audit report. The intended users may be legislative or oversight bodies, those charged with governance or the general public.

Subject matter

Subject matter refers to the information, condition or activity that is measured or evaluated against certain criteria. It can take many forms and have different characteristics depending on the audit objective. An appropriate subject matter is identifiable and capable of consistent evaluation or measurement against the criteria, such that it can be subjected to procedures for gathering sufficient and appropriate audit evidence to support the audit opinion or conclusion.

Criteria

The criteria are the benchmarks used to evaluate the subject matter. Each audit should have criteria suitable to the circumstances of that audit. In determining the suitability of criteria the auditor considers their relevance and understandability for the intended users, as well as their completeness, reliability and objectivity (neutrality, general acceptance and comparability with the criteria used in similar audits). The criteria used may depend on a range of factors, including the objectives and the type of audit. Criteria can be specific or more general, and may be drawn from various sources, including laws, regulations, standards, sound principles and best practices. They should be made available to the intended users to enable them to understand how the subject matter has been evaluated or measured.

Subject matter information

Subject matter information refers to the outcome of evaluating or measuring the subject matter against the criteria. It can take many forms and have different characteristics depending on the audit objective and audit scope.

(d) **How the audit team should obtain sufficient appropriate audit evidence on government actions or measures to prevent large-scale power failure**

The following procedures may be applied in obtaining the audit evidence:

- Inspection of preparedness plans for personal and material resources present to the extent required to handle crisis;
- Observation of reported measures that have been taken;
- Inspection of budgets and staff establishment documents for capacity present within agencies to handle operational crisis;
- Inspection of government and the responsible agencies annual reports and annual work plans, for information about measures that have been implemented to prevent large-scale power failure;
- Inspection of communications between the Government and the responsible agency, for information about recommendations about implementation of measures;
- Extensive inquiries and evidence from other sources such as minutes of meetings;
- Inspection of risk analysis reports for the risks to power supply and the basis for action plans.

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

ADVISORY PROFESSIONAL IN ACCOUNTANCY

CA 3.8: PUBLIC SECTOR FINANCIAL MANAGEMENT

FRIDAY 15 DECEMBER 2023

TOTAL MARKS: 100; TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question.

2. This paper is divided into TWO (2) sections:
   Section A: One (1) compulsory scenario question.
   Section B: Four (4) Optional scenario Questions. Attempt any three (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Present legible and tidy work.

9. Graph paper (if required) is provided at the end of the answer booklet.

10. Formulae, Present Value and Annuity tables are attached at the end of this paper.

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.

SECTION A

This question is compulsory and must be attempted.

<u>QUESTION ONE</u> – (COMPULSORY)

Public/Private Partnerships (PPPs) are an established method for financing major public sector capital projects in different countries across the globe. The Zambian government has also undertaken some capital projects such as constructions of border posts and hydroelectric dams financed by PPP arrangement. The Livingstone City Council (LCC) is considering a capital project involving the construction of an Intercity Bus Terminal.

A brief description of the project is as follows:

Project Name:	**Intercity Bus Terminal**
Estimated Cost:	K42 million
Project Duration:	20 months
Partners:	National Pension Scheme (NAPSA) - Public
	Livingstone City Council (LCC) – Public
	ZamChin Contractors (ZCC) - Private

The project team has identified the following risk areas in relation to the project:

(i) Design

(ii) Construction & development

(iii) Performance

(iv) Operating cost

(v) Variability of revenue

(vi) Termination

(vii) Technology & obsolescence

(viii) Residual value

Required:

(a) Identify the risk that may be associated with each of the risk areas given by the project team from the scenario above.

(b) Discuss who should bear the risk identified in (a) above and the justification for the risk allocation for each area of risk.

***Note**: candidates are encouraged to provide answers for (a) and (b) in a combined table form, using initials to designate the project partners.*

(25 marks)

(c) Discuss the reasons Public Private Partnerships are still considered a useful way of delivering major capital projects by governments. (5 marks)

(d) Assuming that the management of the Intercity Bus Terminal held a board meeting, where they approved three projects, whose expenditure budget requirements exceed K100 million which is the annual government maintenance grant.

(i) Explain the other sources of financing the government may consider in order remedying the shortfall of funds in a year at the Intercity Bus Terminal. (5 marks)

(ii) Explain the merits and demerits of the Treasury policy directive requiring public entities not to carry forward unused funds. (5 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any THREE (3) questions.

QUESTION TWO

Kambombo Primary School is a public owned grant aided school. Management at the school recently held a meeting with the Parent's Teachers Association where they approved three projects. It is government's policy not to commit capital expenditure budget of more than K40 million in a year. In addition, any project that is executed in the first year, institutions are not allowed to carry over the funds to the second year. Kambombo Primary School assesses projects using a discounted rate of 15% based on equity beta for the education sector and private sector.

Project	Cash Out-Flow K'm Year 0	Cash Out-Flow K'm Year 1	Cash-In-Flow
A	10	17	K5m - From year 1 in perpetuity
B	11	11	K5m - From Year 2 in Perpetuity
C	11	13	K6m - In years 1 to 10

Required:

(a) Evaluate which project should be undertaken purely on the basis of Net Present value. Ignore Inflation. (5 marks)

(b) Identify other non-financial considerations management at the school may take into account that is likely to influence the decision other than financial. (3 marks)

(c) Explain how management at Kambombo Primary School could respond to the risks of loss from the project. (8 marks)

(d) Discuss whether the method management has used to determine the cost of capital of 15% is an appropriate method, and what alternative might have been used. (4 marks)

[Total: 20 Marks]

QUESTION THREE

(a) The office of the Secretary to the Treasury is a key public office charged with the responsibility of ensuring custody, safety and integrity of public funds. The Secretary to the Treasury has responsibility to ensure effective implementation of the Public Financial Management Systems across Government.

Required:

Explain any five (5) responsibilities of the Secretary to the Treasury as outlined under the Public Finance Management Act of 2018. (10 marks)

(b) The oversight influence of the National Assembly over the executive results in crucial checks and balances for sound Public Financial Management in Zambia. It is a key ingredient for social, economic and political development. It is therefore imperative that Members of Parliament and the National Assembly become fully aware of their important role in promoting good governance, bearing in mind Zambia's Political economy.

Required:

Explain the implications of good governance in the context of public sector financial management in Zambia. (10 marks)

[Total: 20 Marks]

QUESTION FOUR

Similar to the private sector, the public sector treasury management is mainly focused on the management of cash flows. Under Section 25 of the Public Finance Management Act, no. 1 of 2018, the Treasury Single Account (TSA) system is recommended for managing cash resources of the government. As part of improving the public financial management, The Government launched the citizens budget in the recent past for the 2023 budget.

Required:

(a) Explain the purpose of the Treasury Single Account (TSA). (2 marks)
(b) Discuss any FOUR (4) benefits of the TSA system to Zambia. (8 marks)
(c) Explain the challenges of the current Public Financial Management system in Zambia. (5 marks)
(d) Explain the citizen budget and its benefits in the Public Financial Management cycle. (5 marks)

[Total: 20 Marks]

QUESTION FIVE

The Government of the Republic of Zambia engages stakeholders on the execution of the budget every quarter. Below is an extract of disbursed and approved budget.

Revenue Estimates	**Funding**	**Approved Estimates**
Tax	450,000	800,000
Non – Tax	46,000	100,000
Grants	5,600	15,000
Loans	18,000	28,000

Totals	**519,600**	**943,000**
Disbursement to Ministries		
Salaries	151,000	153,000
Goods and Services	64,000	123,000
Capital Expenditure	91,000	300,000
Interest	41,000	182,000
Social Benefits	21,000	125,000
Subsidies	1,500	5,000
Grants	44,000	50,000
Totals	**413,000**	**938,000**

Additional Information
During the year, parliament approved supplementary budget as follows:

Salaries	K500,000
Subsidies	K50,000
Grants	K100,000
Total	**K650,000**

Required:

(a) Prepare a budget performance report showing variances. (10 marks)

(b) Explain any five (5) guiding principles of formulating and implementing fiscal policy objectives of the Zambian Government as outlined in the National Planning and Budgeting Act, of 2020. (10 marks)

[Total: 20 Marks]

END OF PAPER

Formulae

Modigliani and Miller Proposition 2 (with tax)

$$k_e = k_e^i + (1 - T)(k_e^i - k_d)\frac{V_d}{V_e}$$

Two asset portfolio

$$s_p = \sqrt{w_a^2 s_a^2 + w_b^2 s_b^2 + 2w_a w_b r_{ab} s_a s_b}$$

The Capital Asset Pricing Model

$$E(r_i) = R_f + \beta_i (E(r_m) - R_f)$$

The asset beta formula

$$\beta_a = \left[\frac{V_e}{(V_e + V_d(1-T))}\beta_e\right] + \left[\frac{V_d(1-T)}{(V_e + V_d(1-T))}\beta_d\right]$$

The Growth Model

$$P_o = \frac{D_o(1+g)}{(r_e - g)}$$

Gordon's growth approximation

$$g = br_e$$

The weighted average cost of capital

$$WACC = \left[\frac{V_e}{V_e + V_d}\right]k_e + \left[\frac{V_d}{V_e + V_d}\right]k_d(1-T)$$

The Fisher formula

$$(1+i) = (1+r)(1+h)$$

Purchasing power parity and interest rate parity

$$S_1 = S_0 x \frac{(1+h_c)}{(1+h_b)} \qquad F_0 = S_0 x \frac{(1+i_c)}{(1+i_b)}$$

Modified Internal Rate of Return

$$MIRR = \left[\frac{PV_R}{PV_I}\right]^{\frac{1}{n}}\left(1 + r_e\right) - 1$$

The Black-Scholes option pricing model

$$c = P_a N(d_1) - P_e N(d_2) e^{-rt}$$

Where:

$$d_1 = \frac{\ln(P_a / P_e) + (r + 0.5s^2)t}{s\sqrt{t}}$$

$$d_2 = d_1 - s\sqrt{t}$$

The Put Call Parity relationship

$$p = c - P_a + P_e e^{-rt}$$

Present Value Table

Present value of 1 i.e. $(1 + r)^{-n}$

Where r = discount rate
n = number of periods until payment

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	0·980	0·961	0·943	0·925	0·907	0·890	0·873	0·857	0·842	0·826	2
3	0·971	0·942	0·915	0·889	0·864	0·840	0·816	0·794	0·772	0·751	3
4	0·961	0·924	0·888	0·855	0·823	0·792	0·763	0·735	0·708	0·683	4
5	0·951	0·906	0·863	0·822	0·784	0·747	0·713	0·681	0·650	0·621	5
6	0·942	0·888	0·837	0·790	0·746	0·705	0·666	0·630	0·596	0·564	6
7	0·933	0·871	0·813	0·760	0·711	0·665	0·623	0·583	0·547	0·513	7
8	0·923	0·853	0·789	0·731	0·677	0·627	0·582	0·540	0·502	0·467	8
9	0·941	0·837	0·766	0·703	0·645	0·592	0·544	0·500	0·460	0·424	9
10	0·905	0·820	0·744	0·676	0·614	0·558	0·508	0·463	0·422	0·386	10
11	0·896	0·804	0·722	0·650	0·585	0·527	0·475	0·429	0·388	0·305	11
12	0·887	0·788	0·701	0·625	0·557	0·497	0·444	0·397	0·356	0·319	12
13	0·879	0·773	0·681	0·601	0·530	0·469	0·415	0·368	0·326	0·290	13
14	0·870	0·758	0·661	0·577	0·505	0·442	0·388	0·340	0·299	0·263	14
15	0·861	0·743	0·642	0·555	0·481	0·417	0·362	0·315	0·275	0·239	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	0·812	0·797	0·783	0·769	0·756	0·743	0·731	0·718	0·706	0·694	2
3	0·731	0·712	0·693	0·675	0·658	0·641	0·624	0·609	0·593	0·579	3
4	0·659	0·636	0·613	0·592	0·572	0·552	0·534	0·516	0·499	0·482	4
5	0·593	0·567	0·543	0·519	0·497	0·476	0·456	0·437	0·419	0·402	5
6	0·535	0·507	0·480	0·456	0·432	0·410	0·390	0·370	0·352	0·335	6
7	0·482	0·452	0·425	0·400	0·376	0·354	0·333	0·314	0·296	0·279	7
8	0·434	0·404	0·376	0·351	0·327	0·305	0·285	0·266	0·249	0·233	8
9	0·391	0·361	0·333	0·308	0·284	0·263	0·243	0·225	0·209	0·194	9
10	0·352	0·322	0·295	0·270	0·247	0·227	0·208	0·191	0·176	0·162	10
11	0·317	0·287	0·261	0·237	0·215	0·195	0·178	0·162	0·148	0·135	11
12	0·286	0·257	0·231	0·208	0·187	0·168	0·152	0·137	0·124	0·112	12
13	0·258	0·229	0·204	0·182	0·163	0·145	0·130	0·116	0·104	0·093	13
14	0·232	0·205	0·181	0·160	0·141	0·125	0·111	0·099	0·088	0·078	14
15	0·209	0·183	0·160	0·140	0·123	0·108	0·095	0·084	0·074	0·065	15

Annuity Table

Present value of an annuity of 1 i.e. $\frac{1 - (1 + r)^{-n}}{r}$

Where r = discount rate
n = number of periods

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	1·970	1·942	1·913	1·886	1·859	1·833	1·808	1·783	1·759	1·736	2
3	2·941	2·884	2·829	2·775	2·723	2·673	2·624	2·577	2·531	2·487	3
4	3·902	3·808	3·717	3·630	3·546	3·465	3·387	3·312	3·240	3·170	4
5	4·853	4·713	4·580	4·452	4·329	4·212	4·100	3·993	3·890	3·791	5
6	5·795	5·601	5·417	5·242	5·076	4·917	4·767	4·623	4·486	4·355	6
7	6·728	6·472	6·230	6·002	5·786	5·582	5·389	5·206	5·033	4·868	7
8	7·652	7·325	7·020	6·733	6·463	6·210	5·971	5·747	5·535	5·335	8
9	8·566	8·162	7·786	7·435	7·108	6·802	6·515	6·247	5·995	5·759	9
10	9·471	8·983	8·530	8·111	7·722	7·360	7·024	6·710	6·418	6·145	10
11	10·37	9·787	9·253	8·760	8·306	7·887	7·499	7·139	6·805	6·495	11
12	11·26	10·58	9·954	9·385	8·863	8·384	7·943	7·536	7·161	6·814	12
13	12·13	11·35	10·63	9·986	9·394	8·853	8·358	7·904	7·487	7·103	13
14	13·00	12·11	11·30	10·56	9·899	9·295	8·745	8·244	7·786	7·367	14
15	13·87	12·85	11·94	11·12	10·38	9·712	9·108	8·559	8·061	7·606	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	1·713	1·690	1·668	1·647	1·626	1·605	1·585	1·566	1·547	1·528	2
3	2·444	2·402	2·361	2·322	2·283	2·246	2·210	2·174	2·140	2·106	3
4	3·102	3·037	2·974	2·914	2·855	2·798	2·743	2·690	2·639	2·589	4
5	3·696	3·605	3·517	3·433	3·352	3·274	3·199	3·127	3·058	2·991	5
6	4·231	4·111	3·998	3·889	3·784	3·685	3·589	3·498	3·410	3·326	6
7	4·712	4·564	4·423	4·288	4·160	4·039	3·922	3·812	3·706	3·605	7
8	5·146	4·968	4·799	4·639	4·487	4·344	4·207	4·078	3·954	3·837	8
9	5·537	5·328	5·132	4·946	4·772	4·607	4·451	4·303	4·163	4·031	9
10	5·889	5·650	5·426	5·216	5·019	4·833	4·659	4·494	4·339	4·192	10
11	6·207	5·938	5·687	5·453	5·234	5·029	4·836	4·656	4·486	4·327	11
12	6·492	6·194	5·918	5·660	5·421	5·197	4·988	4·793	4·611	4·439	12
13	6·750	6·424	6·122	5·842	5·583	5·342	5·118	4·910	4·715	4·533	13
14	6·982	6·628	6·302	6·002	5·724	5·468	5·229	5·008	4·802	4·611	14
15	7·191	6·811	6·462	6·142	5·847	5·575	5·324	5·092	4·876	4·675	15

Standard normal distribution table

	0·00	0·01	0·02	0·03	0·04	0·05	0·06	0·07	0·08	0·09
0·0	0·0000	0·0040	0·0080	0·0120	0·0160	0·0199	0·0239	0·0279	0·0319	0·0359
0·1	0·0398	0·0438	0·0478	0·0517	0·0557	0·0596	0·0636	0·0675	0·0714	0·0753
0·2	0·0793	0·0832	0·0871	0·0910	0·0948	0·0987	0·1026	0·1064	0·1103	0·1141
0·3	0·1179	0·1217	0·1255	0·1293	0·1331	0·1368	0·1406	0·1443	0·1480	0·1517
0·4	0·1554	0·1591	0·1628	0·1664	0·1700	0·1736	0·1772	0·1808	0·1844	0·1879
0·5	0·1915	0·1950	0·1985	0·2019	0·2054	0·2088	0·2123	0·2157	0·2190	0·2224
0·6	0·2257	0·2291	0·2324	0·2357	0·2389	0·2422	0·2454	0·2486	0·2517	0·2549
0·7	0·2580	0·2611	0·2642	0·2673	0·2704	0·2734	0·2764	0·2794	0·2823	0·2852
0·8	0·2881	0·2910	0·2939	0·2967	0·2995	0·3023	0·3051	0·3078	0·3106	0·3133
0·9	0·3159	0·3186	0·3212	0·3238	0·3264	0·3289	0·3315	0·3340	0·3365	0·3389
1·0	0·3413	0·3438	0·3461	0·3485	0·3508	0·3531	0·3554	0·3577	0·3599	0·3621
1·1	0·3643	0·3665	0·3686	0·3708	0·3729	0·3749	0·3770	0·3790	0·3810	0·3830
1·2	0·3849	0·3869	0·3888	0·3907	0·3925	0·3944	0·3962	0·3980	0·3997	0·4015
1·3	0·4032	0·4049	0·4066	0·4082	0·4099	0·4115	0·4131	0·4147	0·4162	0·4177
1·4	0·4192	0·4207	0·4222	0·4236	0·4251	0·4265	0·4279	0·4292	0·4306	0·4319
1·5	0·4332	0·4345	0·4357	0·4370	0·4382	0·4394	0·4406	0·4418	0·4429	0·4441
1·6	0·4452	0·4463	0·4474	0·4484	0·4495	0·4505	0·4515	0·4525	0·4535	0·4545
1·7	0·4554	0·4564	0·4573	0·4582	0·4591	0·4599	0·4608	0·4616	0·4625	0·4633
1·8	0·4641	0·4649	0·4656	0·4664	0·4671	0·4678	0·4686	0·4693	0·4699	0·4706
1·9	0·4713	0·4719	0·4726	0·4732	0·4738	0·4744	0·4750	0·4756	0·4761	0·4767
2·0	0·4772	0·4778	0·4783	0·4788	0·4793	0·4798	0·4803	0·4808	0·4812	0·4817
2·1	0·4821	0·4826	0·4830	0·4834	0·4838	0·4842	0·4846	0·4850	0·4854	0·4857
2·2	0·4861	0·4864	0·4868	0·4871	0·4875	0·4878	0·4881	0·4884	0·4887	0·4890
2·3	0·4893	0·4896	0·4898	0·4901	0·4904	0·4906	0·4909	0·4911	0·4913	0·4916
2·4	0·4918	0·4920	0·4922	0·4925	0·4927	0·4929	0·4931	0·4932	0·4934	0·4936
2·5	0·4938	0·4940	0·4941	0·4943	0·4945	0·4946	0·4948	0·4949	0·4951	0·4952
2·6	0·4953	0·4955	0·4956	0·4957	0·4959	0·4960	0·4961	0·4962	0·4963	0·4964
2·7	0·4965	0·4966	0·4967	0·4968	0·4969	0·4970	0·4971	0·4972	0·4973	0·4974
2·8	0·4974	0·4975	0·4976	0·4977	0·4977	0·4978	0·4979	0·4979	0·4980	0·4981
2·9	0·4981	0·4982	0·4982	0·4983	0·4984	0·4984	0·4985	0·4985	0·4986	0·4986
3·0	0·4987	0·4987	0·4987	0·4988	0·4988	0·4989	0·4989	0·4989	0·4990	0·4990

This table can be used to calculate $N(d)$, the cumulative normal distribution functions needed for the Black-Scholes model of option pricing. If $d_i > 0$, add 0·5 to the relevant number above. If $d_i < 0$, subtract the relevant number above from 0·5.

CA 3.8: PUBLIC SECTOR FINANCIAL MANAGEMENT SUGGESTED SOLUTIONS

SOLUTION ONE

(a) and (b)
The risks identified may vary from the examples given below, but the reasoning should focus on which party should own the risk based on their ability to control it, benefit from it, and/or their legal responsibility. It is likely that some risks will not be solely the responsibility of one partner.

Risk Type	Risk	Whom	Justification
Design	Does not meet user requirements	LCC, NAPSA	The end user and other interested party approves the design as it needs to be fit for their purposes, the builder will not be involved in using the end product.
Construction & development	Late delivery and over budget	ZCC	Builder bears the risk as they should have control over this stage, and it is their responsibility to agree a budget and timetable that they can achieve.
Performance	Services not available when required or of an appropriate standard	LCC, NAPSA, ZCC	Operator bears most of the risk as they have control over service delivery. NAPSA bears some risks as they have a responsibility to ensure the facility is functional to achieve a return on investment. The contractors bear some risk initially, linked to delivering the building on time, but also to an appropriate standard so it is fit for use.
Operating cost	Cost overrun	LCC	The Livingstone City Council is responsible for operating costs once the bus stop is operational.
Variability of revenue	Variable performance resulting in variable revenue	LCC	The operator bears this risk as they are responsible for the day to day use of the facilities, including letting of the spare capacity, and income generated from its use by bus operators and rental space.

Termination	Private Finance Initiative (PFI) not viable	ZCC	The original bid for construction by the builder should be sufficient to deliver the building as an operational asset for LCC in time. If they fail to do this, the risk and consequences should be borne by them.
Technology & obsolescence	Out of date service facilities	LCC, ZCC	The operator is responsible for the content of the building. The builder is ensuring the facilities that are built into the building - wiring, telephony, heating arrangements; toilets etc. are suitable for the users of the building over the long term and can keep pace with potential changing needs.
Residual value	Assets have no value at the end of the contract	NAPSA	The owner bears this risk as although they may not be able to control market value, they can control the condition of the building, and will ultimately benefit from the residual value of the land and building.

The other issue to consider in such analysis is how the retained risks could be managed. The usual procedure would be to follow the "Four Ts" approach – treat, tolerate, transfer or terminate.

(c) PPP has continuing appeal for several national Governments on the basis of the strong interrelationship between public sector investment and private sector achievement and success. The ability for Government's to achieve both public service objectives and support the growth of the economy through the mechanism of PPP has been accepted by many countries. The challenge is one of implementation, how best to ensure that the twin objectives are satisfactory to all parties.

The PPP mechanism is, however, complex and can be a time consuming process with no guarantee of success. The response by some Governments has been to address these obstacles head on. PPPs have not yet achieved the status of a solution for addressing all public service infrastructure needs; its market is still relatively small. However, it can be said that its contribution to public services worldwide is likely to increase.

Q1(d) Q1d	(i) Explain the other sources of financing government may consider in order removing the funds shortfall in a year. (ii) Explain the merits and demerits of the Treasury policy directive requiring public entities not to carry forward unused funds.	• Government may consider extra taxation as a way of raising funds especially if the project is of a social benefit any extra taxation might be accepted by the public. • Grants from donors that are interested in financing the education sector. They can be small but significant source for the project. • Foreign and domestic loans can also be mobilized to take care of the short fall. • Public Private Partnership can also be explored as a way of financing the project. • Joint venture with other governments that have interest in advancing education in rural areas can also be explored. **Merits** • It facilitates for bulk cash flows and avoiding unnecessary bank charges. • Enable borrowing to be arranged in bulk which can provide lower interest rates. • Larger volumes of cash are available to invest. This	

		provides better short term investment opportunities. • Bulk funds can be funded to needy areas as opposed to availing them to the same institutions that have no capacity to spend. • Leaving funds with institutions may result in abuse of resources as institutions may not spend funds for intended purposes. **Demerits** • Delays in implementing programmes has unused funds may be needs immediately at the beginning of the year. • It encourages inefficiency in the use of funds. • Avoiding idle cash balances which could be prone to fraud. • Encourages over budgeting.	

Section B

SOLUTION TWO

Q2	(a) Evaluate which project should be undertaken purely on the basis of Net Present value. Ignore Inflation.	A = -10 + (-17 x 0.87) + 5/0.15 = 18.74 B = -11+(-11 x 0.87) + 5/0.15 x 1/1.15 =8.41 C = -10 + (-13 x 0.87) + (6 x 5.019) =8.80 The ranking of the projects will be as follows: A, C, B.	
Q2	(b) Identify other non-financial consideration management at the school may take into account that is likely to influence the decision other than financial.	• Other non-financial consideration the significant benefits to society by reducing inequalities that may be intangible. • For example construct additional classes aimed at increasing enrolment. • Another example is the school may introduce outreach programmes aimed at increasing	

		literacy rates among the citizens. This may call for additional costs in terms of teachers but society benefits at large.	
Q2	(c) Explain how management at Kambombo Primary School could respond to the risks of loss from the project.	• Tolerate – Risks can simply be accepted. Plans should be put in place to ensure that should risk occur it is known what action to take in order to minimize the impact. This will be problematic as it may be difficult to predict if the risk will occur and therefore to budget for the outcome. • Treat – design processes to either stop the risk occurring , identify that a risk has occurred, fix the problem when it occurs or make more desirable outcomes more likely. This is the option most frequently chosen at the entity level and reduces likelihood and impacy • Transfer – move the risk to a third party , perhaps through an insurance contract. Some risks may not be able to be transferred as there may be no third party willing to take on the risk. • Terminate – Stop the risk occurring by not allowing the risky activity to happen at all. This may be more problematic if	

		the entity has a legal obligation to provide a risky service.	
Q2	(d) Is the method management has used to determine the cost of capital of 15% an appropriate method, what alternative might have been used.	The use of a traditional cost of capital figure to discount the projects may have been appropriate if the education services were being provided at a commercial rate and a market price for those services needs to be determined. This means less likely in this case. The supply is a Education services, which may be essential or at least highly desirable, services for the public and the entity is publicly funded rather than reliant on sales and private financing. Given that the entity is publicly funded it may be more appropriate to use government borrowing rate as a proxy for the cost of capital to the government , of which Kambobo is part as this is more representative actual costs. It is also generally felt to be more appropriate to use a social discount rate when assessing projects in the public sector – either social opportunity cost or social time preference rate. Social opportunity cost similar to traditional methods but the social time preference rate considers time preference, growth and	

		marginal utility in calculating the rate.	

SOLUTION THREE

Q3	a) Explain any **FIVE** (5) responsibilities of the Secretary to the Treasury as outlined under the Public Finance Management Act, no. of 2018;	• Subject to the Constitution, designate a controlling officer in respect of each head of revenue and expenditure provided for in any financial year, as appropriated by Parliament; • Manage the Government payroll and Constitutional payments in accordance with the Constitution; Prepare the annual consolidated statement of assets and liabilities including a statement of the public debt of the Republic as well as the consolidated revenue statement; • Submit the statements under paragraph (c) to the Auditor-General for examination and certification; • Consolidate audited annual revenue statements, appropriation accounts and statements of financial position for incorporation in the financial report to be laid before the National Assembly; • Release funds from the Consolidated Fund for appropriation by controlling officers and Boards;	

		• Issue treasury authority to expend Public Funds; implement the recommendations of the Parliamentary Committee on Public Accounts; • Prepare the treasury minute in respect of the implementation of the recommendations of the Public Accounts Committee for submission to the National Assembly; • Manage and administer the Consolidated Fund and other public funds established under this Act or any other law; • Responsible for opening, maintaining and closing accounting units in ministries, departments, Government Agencies, local authorities, provinces, districts, and projects; • Subject to the approval of the Civil Service Commission, be responsible for seconding accounting and internal audit staff to the units referred to and ensure that they perform their duties in accordance with the provisions of this Act; • Ensure that the annual appropriation accounts and annual consolidated statement of	

		financial position of assets and liabilities of the Republic and consolidated revenue statements are promptly prepared by controlling officers or controlling body for certification by the Auditor- General in accordance with section 73 and included in the financial report as applicable; • Ensure that consolidated financial statements for statutory corporations and state owned Enterprises are prepared in accordance with applicable accounting reporting framework and Government guidelines for each financial year; • Compile financial statistics and aggregation concerning spheres of government operations in accordance with international standards and publish them in the Gazette; • Ensure maintenance of a compatible, effective, efficient and transparent, financial management information systems in ministries, departments and Government agencies, local authorities and projects; • Provide advice and guidance on matters relating to budgeting, accounting and internal auditing policy and general financial management;	

		• monitor and inspect the operations of the decentralized accounting and internal audit units in public bodies to ensure value for money; • Provide a regulatory framework for sound financial management and accounting in public bodies; • Approve accountable documents to be utilised by public bodies; • Appoint Audit Committee members and oversee their operations; • Submit on a quarterly basis to the Minister, internal audit reports on the performance of public bodies with regard to internal controls, risk management and governance matters; • institute disciplinary action against controlling officers in breach of this Act; • Design and implement effective controls, risk management and governance systems in public bodies;	

		• Ensure that risk management, internal control and governance systems are regularly reviewed in public bodies so as to enhance transparency and accountability; • Carry out any other functions that may be prescribed by the Minister or that may be considered reasonably necessary for proper financial management of the Republic. a) Good governance refers to "the manner in which power is exercised in the management of a country's economic and social resources for development" (IFAD, 1999). In Zambia, it can be described as encompassing the sound, transparent, accountable, effective, efficient and equitable planning, mobilisation and utilisation of public financial resources for the benefit of the Zambian people. • Transparency: This refers to the openness and accessibility of public institutions such as Ministries, Provinces and Spending Agents (MPSAs) in their sharing of information with each	

	i) Explain the implications of good governance in the context of public financial management in Zambia.	other and with the public, including the international community. For instance, the Ministry of Finance and National Development is required, by law, to publish the Financial Report for each fiscal year ended 31st December but is not legally required to publish monthly Financial Statements or monthly public debt status updates. When the Ministry goes above and beyond what it is legally required to do in terms of reporting and information sharing, e.g., publishing public debt status updates, it is being transparent or open about its dealings. • Accountability: This refers to the establishing of clear lines of responsibility, appropriate levels of delegation of authority, and systems to hold people and institutions in authority or with delegated authority accountable for the results they set out to achieve. In Zambia, the main custodian of public resources is the Executive arm of the Government. The underpinning system for enhancing accountability and preventing wasteful spending and other forms of misappropriation of public resources includes a set of "watchdog" institutions within the Government system. These include the Auditor General's Office, the Financial Intelligence	

		Centre (FIC) and the National Assembly. • Effectiveness: This refers to the ability of public institutions or MPSAs to raise and use public resources appropriately and reliably such that the resources ultimately reach the intended beneficiaries, the citizens. In practice, MPSAs can potentially be ineffective in their public financial management. They are capable of misappropriating public resources, misallocating or diverting them from their planned and budgeted uses to other uses. • Efficiency: This refers to the ability of public institutions to use public resources with minimal waste of resources. It refers to the practice of "doing more with fewer resources". The National Assembly must oversee the Executive and ensure that its MPSAs use public resources wisely and efficiently to reduce waste and maximize the benefits.	

SOLUTION FOUR

4a	Explain the Treasury Single Account (TSA) and discuss benefits of such a system to Zambia	A Treasury single Account is a unified structure of bank accounts that give a consolidated view of Government cash resources; • And into which all government cash including monies received by public bodies shall be deposited and from which all expenditure of government and public entities shall be made.	
4b	Benefits of TSA in Zambia	**Benefits of TSA in Zambia** • Allows complete and timely information on government cash resources. In countries with advanced payment and settlement systems and an Integrated Financial Management Information System (IFMIS) with adequate interfaces with the banking system, this information will be available in real time. As a minimum, complete updated balances should be available daily.	

		• Improves appropriation control. The TSA ensures that the MoF has full control over budget allocations, and strengthens the authority of the budget appropriation. When separate bank accounts are maintained, the result is often a fragmented system, where funds provided for budgetary appropriations are augmented by additional cash resources that become available through various creative, often extra-budgetary, measures. • Improves operational control during budget execution. When the treasury has full information about cash resources, it can plan and implement budget execution in an efficient, transparent, and reliable manner. The existence of uncertainty regarding whether the treasury will have sufficient funds to finance programmed expenditures may lead to sub-optimal behavior by budget entities, such as exaggerating their estimates for cash needs or channeling expenditures through off-budget arrangements. • Enables efficient cash management. TSA facilitates regular monitoring of government cash balances. It also enables higher quality cash out-turn analysis to be undertaken (e.g., identifying causal factors of variances and	

		distinguishing causal factors from random variations in cash balances). • Reduces bank fees and transaction costs. Reducing the number of bank accounts results in lower administrative cost for the government for maintaining these accounts, including the cost associated with bank reconciliation, and reduced banking fees. • Facilitates efficient payment mechanisms. A TSA ensures that there is no ambiguity regarding the volume or the location of the government funds, and makes it possible to monitor payment mechanisms precisely. It can result in substantially lower transaction costs because of economies of scale in processing payments. The establishment of a TSA is usually combined with elimination of the "float" in the banking and the payment systems, and the introduction of transparent fee and penalty structures for payment services. Many governments have achieved substantial reductions in their real cost of banking services by introducing a TSA.	
4c	Explain the challenges of the current Public Financial Management system in Zambia.		

4d	The Government launched the citizen's budget in the recent past for the 2023 budget. Explain the citizen budget and the benefits in the Public Financial Management cycle.	• Improves bank reconciliation and quality of fiscal data. A TSA allows for effective reconciliation between the government accounting systems and cash flow statements from the banking system. This reduces the risk of errors in reconciliation processes, and improves the timeliness and quality of the fiscal accounts. • Lowers liquidity reserve needs. A TSA reduces the volatility of cash flows through the treasury, thus allowing it to maintain a lower cash reserve/buffer to meet unexpected fiscal volatility. • Creating independent institutions • Fiscal responsibility laws fiscal rules and the management of fiscal risks not clearly spelt out • Lack of expertise • Inability to collect arrear debt • Extensive corruption • The Ministry of Finance prepares the Citizens' Budget in order to improve public access to budget information and promote accountability and transparency in Public Finance Management.	

		• The citizens' budget presents the budget in simple language, highlighting its important features, thus facilitating the understanding of the budget and its basic information by ordinary citizens. Benefits of citizen's budget in the Public Financial Management Cycle • Gives government control over resources that have been appropriated by parliament hence making service delivery a reality. • Helps citizens and government's focus on strategic goals. • Makes it easier for citizens and government to tack spending. • Assist government and citizens know to what extent the government will borrow to meet the shortfall.	

SOLUTION FIVE

BUDGET PERFORMANCE REPORT FOR THE YEAR ENDED 31ST DECEMBER 2022

	Annual Budget	**Supplementary**	**Revised Budget**	**Actual**	**Out Turn**	**%**
Revenue	800,000.00		800,000.00	450,000.00	350,000.00	43.75
Non Tax	100,000.00		100,000.00	46,000.00	54,000.00	54
Grants	15,000.00		15,000.00	5,600.00	9,400.00	62.67
Loans	28,000.00		28,000.00	18,000.00	10,000.00	35.71
Total Revenue	**943,000.00**		**943,000.00**	**519,600.00**	**423,400.00**	**44.90**
Expenditure			-		-	
Salaries	153,000.00	500,000.00	653,000.00	151,000.00	502,000.00	76.88
Goods and Services	123,000.00		123,000.00	64,000.00	59,000.00	47.97
Capital Expenditure	300,000.00		300,000.00	91,000.00	209,000.00	69.67
Interest	182,000.00		182,000.00	41,000.00	141,000.00	77.47
Social Benefit	125,000.00		125,000.00	21,000.00	104,000.00	83.2
Subsidies	5,000.00	50,000.00	55,000.00	15,000.00	40,000.00	72.73
Grants	50,000.00	100,000.00	150,000.00	44,000.00	106,000.00	70.67
Total Expenditure	**938,000.00**	**650,000.00**	**1,588,000.00**	**427,000.00**	**1,161,000.00**	**73.11**
Net Operating Results	**5,000.00**	**- 650,000.00**	**- 645,000.00**	**92,600.00**	- 737,600.00	114.36

(a) Prepare a budget performance report showing variances.

(b) Discuss any FIVE (5) guiding principles of formulating and implementing fiscal policy objectives of the Zambian Government as outlined in the National Planning and Budgeting Act, of 2020.

In accordance with section 3 of the National Planning and Budgeting Act, of 2020, the following principles apply:

- Development plans and budgets are formulated in a transparent and accountable manner;
- Planning processes including fiscal responsibilities and functions are undertaken in accordance with the subsidiarity principle;
- Resources are distributed equitably and sustainably for national development;
- Development plans and budgets are responsive to the development needs of the people;
- Credibility of national development planning, budget preparation and budget execution is assured through expenditure in accordance with approved plans and national budget and effective implementation of plans and budgets in accordance with the financial provisions;
- Time frames and milestones for planning and budgeting process are appropriately defined;
- All levels of society are involved in the planning and budgeting process; Input into the national planning and budgeting process at all levels of Government shall be systematic and synchronized;
- The national planning and budgeting system is applied to ensure that the planning and budgeting process comprehensively covers all public resources;
- The management of development objectives and definitions of milestones and targets are achieved through result oriented performance; and
- The national planning and budgeting system ensures sustainable development and intergenerational equity.

END OF SOLUTIONS

Formulae

Modigliani and Miller Proposition 2 (with tax)

$$k_e = k_e^i + (1-T)(k_e^i - k_d)\frac{V_d}{V_e}$$

Two asset portfolio

$$s_p = \sqrt{w_a^2 s_a^2 + w_b^2 s_b^2 + 2w_a w_b r_{ab} s_a s_b}$$

The Capital Asset Pricing Model

$$E(r_i) = R_f + \beta_i(E(r_m) - R_f)$$

The asset beta formula

$$\beta_a = \left[\frac{V_e}{(V_e + V_d(1-T))}\beta_e\right] + \left[\frac{V_d(1-T)}{(V_e + V_d(1-T))}\beta_d\right]$$

The Growth Model

$$P_o = \frac{D_o(1+g)}{(r_e - g)}$$

Gordon's growth approximation

$$g = br_e$$

The weighted average cost of capital

$$WACC = \left[\frac{V_e}{V_e + V_d}\right]k_e + \left[\frac{V_d}{V_e + V_d}\right]k_d(1-T)$$

The Fisher formula

$$(1+i) = (1+r)(1+h)$$

Purchasing power parity and interest rate parity

$$S_1 = S_0 \text{x} \frac{(1+h_c)}{(1+h_b)} \qquad F_0 = S_0 \text{x} \frac{(1+i_c)}{(1+i_b)}$$

Modified Internal Rate of Return

$$MIRR = \left[\frac{PV_R}{PV_I}\right]^{\frac{1}{n}}\left(1 + r_e\right) - 1$$

The Black-Scholes option pricing model

$$c = P_a N(d_1) - P_e N(d_2) e^{-rt}$$

Where:

$$d_1 = \frac{\ln(P_a / P_e) + (r + 0.5s^2)t}{s\sqrt{t}}$$

$$d_2 = d_1 - s\sqrt{t}$$

The Put Call Parity relationship

$$p = c - P_a + P_e e^{-rt}$$

Present Value Table

Present value of 1 i.e. $(1 + r)^{-n}$

Where r = discount rate
n = number of periods until payment

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	0·980	0·961	0·943	0·925	0·907	0·890	0·873	0·857	0·842	0·826	2
3	0·971	0·942	0·915	0·889	0·864	0·840	0·816	0·794	0·772	0·751	3
4	0·961	0·924	0·888	0·855	0·823	0·792	0·763	0·735	0·708	0·683	4
5	0·951	0·906	0·863	0·822	0·784	0·747	0·713	0·681	0·650	0·621	5
6	0·942	0·888	0·837	0·790	0·746	0·705	0·666	0·630	0·596	0·564	6
7	0·933	0·871	0·813	0·760	0·711	0·665	0·623	0·583	0·547	0·513	7
8	0·923	0·853	0·789	0·731	0·677	0·627	0·582	0·540	0·502	0·467	8
9	0·941	0·837	0·766	0·703	0·645	0·592	0·544	0·500	0·460	0·424	9
10	0·905	0·820	0·744	0·676	0·614	0·558	0·508	0·463	0·422	0·386	10
11	0·896	0·804	0·722	0·650	0·585	0·527	0·475	0·429	0·388	0·305	11
12	0·887	0·788	0·701	0·625	0·557	0·497	0·444	0·397	0·356	0·319	12
13	0·879	0·773	0·681	0·601	0·530	0·469	0·415	0·368	0·326	0·290	13
14	0·870	0·758	0·661	0·577	0·505	0·442	0·388	0·340	0·299	0·263	14
15	0·861	0·743	0·642	0·555	0·481	0·417	0·362	0·315	0·275	0·239	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	0·812	0·797	0·783	0·769	0·756	0·743	0·731	0·718	0·706	0·694	2
3	0·731	0·712	0·693	0·675	0·658	0·641	0·624	0·609	0·593	0·579	3
4	0·659	0·636	0·613	0·592	0·572	0·552	0·534	0·516	0·499	0·482	4
5	0·593	0·567	0·543	0·519	0·497	0·476	0·456	0·437	0·419	0·402	5
6	0·535	0·507	0·480	0·456	0·432	0·410	0·390	0·370	0·352	0·335	6
7	0·482	0·452	0·425	0·400	0·376	0·354	0·333	0·314	0·296	0·279	7
8	0·434	0·404	0·376	0·351	0·327	0·305	0·285	0·266	0·249	0·233	8
9	0·391	0·361	0·333	0·308	0·284	0·263	0·243	0·225	0·209	0·194	9
10	0·352	0·322	0·295	0·270	0·247	0·227	0·208	0·191	0·176	0·162	10
11	0·317	0·287	0·261	0·237	0·215	0·195	0·178	0·162	0·148	0·135	11
12	0·286	0·257	0·231	0·208	0·187	0·168	0·152	0·137	0·124	0·112	12
13	0·258	0·229	0·204	0·182	0·163	0·145	0·130	0·116	0·104	0·093	13
14	0·232	0·205	0·181	0·160	0·141	0·125	0·111	0·099	0·088	0·078	14
15	0·209	0·183	0·160	0·140	0·123	0·108	0·095	0·084	0·074	0·065	15

Annuity Table

Present value of an annuity of 1 i.e. $\frac{1 - (1 + r)^{-n}}{r}$

Where r = discount rate
n = number of periods

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	1·970	1·942	1·913	1·886	1·859	1·833	1·808	1·783	1·759	1·736	2
3	2·941	2·884	2·829	2·775	2·723	2·673	2·624	2·577	2·531	2·487	3
4	3·902	3·808	3·717	3·630	3·546	3·465	3·387	3·312	3·240	3·170	4
5	4·853	4·713	4·580	4·452	4·329	4·212	4·100	3·993	3·890	3·791	5
6	5·795	5·601	5·417	5·242	5·076	4·917	4·767	4·623	4·486	4·355	6
7	6·728	6·472	6·230	6·002	5·786	5·582	5·389	5·206	5·033	4·868	7
8	7·652	7·325	7·020	6·733	6·463	6·210	5·971	5·747	5·535	5·335	8
9	8·566	8·162	7·786	7·435	7·108	6·802	6·515	6·247	5·995	5·759	9
10	9·471	8·983	8·530	8·111	7·722	7·360	7·024	6·710	6·418	6·145	10
11	10·37	9·787	9·253	8·760	8·306	7·887	7·499	7·139	6·805	6·495	11
12	11·26	10·58	9·954	9·385	8·863	8·384	7·943	7·536	7·161	6·814	12
13	12·13	11·35	10·63	9·986	9·394	8·853	8·358	7·904	7·487	7·103	13
14	13·00	12·11	11·30	10·56	9·899	9·295	8·745	8·244	7·786	7·367	14
15	13·87	12·85	11·94	11·12	10·38	9·712	9·108	8·559	8·061	7·606	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	1·713	1·690	1·668	1·647	1·626	1·605	1·585	1·566	1·547	1·528	2
3	2·444	2·402	2·361	2·322	2·283	2·246	2·210	2·174	2·140	2·106	3
4	3·102	3·037	2·974	2·914	2·855	2·798	2·743	2·690	2·639	2·589	4
5	3·696	3·605	3·517	3·433	3·352	3·274	3·199	3·127	3·058	2·991	5
6	4·231	4·111	3·998	3·889	3·784	3·685	3·589	3·498	3·410	3·326	6
7	4·712	4·564	4·423	4·288	4·160	4·039	3·922	3·812	3·706	3·605	7
8	5·146	4·968	4·799	4·639	4·487	4·344	4·207	4·078	3·954	3·837	8
9	5·537	5·328	5·132	4·946	4·772	4·607	4·451	4·303	4·163	4·031	9
10	5·889	5·650	5·426	5·216	5·019	4·833	4·659	4·494	4·339	4·192	10
11	6·207	5·938	5·687	5·453	5·234	5·029	4·836	4·656	4·486	4·327	11
12	6·492	6·194	5·918	5·660	5·421	5·197	4·988	4·793	4·611	4·439	12
13	6·750	6·424	6·122	5·842	5·583	5·342	5·118	4·910	4·715	4·533	13
14	6·982	6·628	6·302	6·002	5·724	5·468	5·229	5·008	4·802	4·611	14
15	7·191	6·811	6·462	6·142	5·847	5·575	5·324	5·092	4·876	4·675	15

Standard normal distribution table

	0·00	0·01	0·02	0·03	0·04	0·05	0·06	0·07	0·08	0·09
0·0	0·0000	0·0040	0·0080	0·0120	0·0160	0·0199	0·0239	0·0279	0·0319	0·0359
0·1	0·0398	0·0438	0·0478	0·0517	0·0557	0·0596	0·0636	0·0675	0·0714	0·0753
0·2	0·0793	0·0832	0·0871	0·0910	0·0948	0·0987	0·1026	0·1064	0·1103	0·1141
0·3	0·1179	0·1217	0·1255	0·1293	0·1331	0·1368	0·1406	0·1443	0·1480	0·1517
0·4	0·1554	0·1591	0·1628	0·1664	0·1700	0·1736	0·1772	0·1808	0·1844	0·1879
0·5	0·1915	0·1950	0·1985	0·2019	0·2054	0·2088	0·2123	0·2157	0·2190	0·2224
0·6	0·2257	0·2291	0·2324	0·2357	0·2389	0·2422	0·2454	0·2486	0·2517	0·2549
0·7	0·2580	0·2611	0·2642	0·2673	0·2704	0·2734	0·2764	0·2794	0·2823	0·2852
0·8	0·2881	0·2910	0·2939	0·2967	0·2995	0·3023	0·3051	0·3078	0·3106	0·3133
0·9	0·3159	0·3186	0·3212	0·3238	0·3264	0·3289	0·3315	0·3340	0·3365	0·3389
1·0	0·3413	0·3438	0·3461	0·3485	0·3508	0·3531	0·3554	0·3577	0·3599	0·3621
1·1	0·3643	0·3665	0·3686	0·3708	0·3729	0·3749	0·3770	0·3790	0·3810	0·3830
1·2	0·3849	0·3869	0·3888	0·3907	0·3925	0·3944	0·3962	0·3980	0·3997	0·4015
1·3	0·4032	0·4049	0·4066	0·4082	0·4099	0·4115	0·4131	0·4147	0·4162	0·4177
1·4	0·4192	0·4207	0·4222	0·4236	0·4251	0·4265	0·4279	0·4292	0·4306	0·4319
1·5	0·4332	0·4345	0·4357	0·4370	0·4382	0·4394	0·4406	0·4418	0·4429	0·4441
1·6	0·4452	0·4463	0·4474	0·4484	0·4495	0·4505	0·4515	0·4525	0·4535	0·4545
1·7	0·4554	0·4564	0·4573	0·4582	0·4591	0·4599	0·4608	0·4616	0·4625	0·4633
1·8	0·4641	0·4649	0·4656	0·4664	0·4671	0·4678	0·4686	0·4693	0·4699	0·4706
1·9	0·4713	0·4719	0·4726	0·4732	0·4738	0·4744	0·4750	0·4756	0·4761	0·4767
2·0	0·4772	0·4778	0·4783	0·4788	0·4793	0·4798	0·4803	0·4808	0·4812	0·4817
2·1	0·4821	0·4826	0·4830	0·4834	0·4838	0·4842	0·4846	0·4850	0·4854	0·4857
2·2	0·4861	0·4864	0·4868	0·4871	0·4875	0·4878	0·4881	0·4884	0·4887	0·4890
2·3	0·4893	0·4896	0·4898	0·4901	0·4904	0·4906	0·4909	0·4911	0·4913	0·4916
2·4	0·4918	0·4920	0·4922	0·4925	0·4927	0·4929	0·4931	0·4932	0·4934	0·4936
2·5	0·4938	0·4940	0·4941	0·4943	0·4945	0·4946	0·4948	0·4949	0·4951	0·4952
2·6	0·4953	0·4955	0·4956	0·4957	0·4959	0·4960	0·4961	0·4962	0·4963	0·4964
2·7	0·4965	0·4966	0·4967	0·4968	0·4969	0·4970	0·4971	0·4972	0·4973	0·4974
2·8	0·4974	0·4975	0·4976	0·4977	0·4977	0·4978	0·4979	0·4979	0·4980	0·4981
2·9	0·4981	0·4982	0·4982	0·4983	0·4984	0·4984	0·4985	0·4985	0·4986	0·4986
3·0	0·4987	0·4987	0·4987	0·4988	0·4988	0·4989	0·4989	0·4989	0·4990	0·4990

This table can be used to calculate $N(d)$, the cumulative normal distribution functions needed for the Black-Scholes model of option pricing. If $d_i > 0$, add 0·5 to the relevant number above. If $d_i < 0$, subtract the relevant number above from 0·5.