CA ZAMBIA PROGRAMME EXAMINATIONS

CA CERTIFICATE IN ACCOUNTANCY

CA 1.1: FINANCIAL ACCOUNTING

MONDAY 18 MARCH 2024

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

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 Mutinta and Kasuba have commenced a partnership business investing K150,000 and K90,000, respectively, sharing profits and losses in the ratio 3:2. The profit for the year ended 31 December, 2023 was K24,000. Kasuba is more involved in the day to day running of the business. The drawings account balances at the end of the year were, Mutinta K8,000 and Kasuba K6,000. The agreement provides for

- A salary of K9,600 per annum payable to Kasuba
- Interest on capital of K240 for Mutinta and K180 for Kasuba.
- Interest on drawings account of K7,500 for Mutinta and K4,500 for Kasuba.

Calculate the balance on Kasuba's current account as at 31 December, 2023.

A. K9,672

B. K9,480

C. K9,660

D. K7,920

(2 marks)

1.2 Kabwe Limited distributes sugar to major retailers around the country. They are concerned about their cash flow situation and have asked the accountant to calculate the quick ratio to determine the company's ability to pay their sugar suppliers.

The following figures were extracted from the statement of financial position as at 30 November 2023:

Inventory	K25,000
Trade receivables	K22,000
Cash in hand	K23,000
Cash at bank	K5,000 Credit
Trade payables	K60,000

The acid test ratio for Kabwe limited is:

A. 1.08

B. 0.69

C. 1.25

D. 0.75

(2 marks)

1.3 Government agencies produces financial reports regarding the sources and application of public funds. Which of the following is **NOT** a user of public sector financial reports?

A. Central Government

B. Taxpayers

C. International funding Organizations

D. Company shareholders

(2 marks)

1.4 On a statement of cash flows, which of the following types of activities would **NOT** be discussed in a separate section?

A. Operating activities

B. Financing activities

C. Contractual activities

D. Investing activities

(2 marks)

1.5 Sakala plc has issued share capital of K50,000,000; comprising 50 million ordinary shares on 1 January 2022. During the year, they made a 2 for 5 rights issue in order to finance a recapitalization project. How many shares were available on 31 December 2022?

A. 10,000,000

B. 50,000,000

C. 50,500,000

D. 70,000,000

(2 marks)

1.6 Financial statement ratio analysis helps us to assess a company's liquidity, efficiency, profitability, working capital and other indicators. The inventory turnover relates to:

A. Liquidity

B. Working capital

C. Profitability

D. Efficiency

(2 marks)

1.7 Which of the following is true about the date format of financial statements?

A. The statement of profit or loss represents a snapshot of a business's position.

B. Both the statement of financial position and the statement of profit or loss represent a period of time.

C. The statement of cash flows and the statement of financial position record a specific date.

D. The statement of financial position is a snapshot of a business's position, so a specific date is used.

(2 marks)

1.8 Which of the following affects both the statement of financial position and the statement of profit or loss?

A. Purchase of goods

B. Receipt of accounts receivables

C. Year-end inventory valuation

D. Loan repayment

(2 marks)

1.9 Incurring an expense before cash is paid is an example of what kind of adjustment?

A. Accrued liability

B. Deferred expense

C. Accrued asset

D. Deferred revenue

(2 marks)

1.10 Idah enterprises Ltd operates an imprest system with a cash float of K550.00. During the month of February 2023, the following payments were made:

	K
Stationery	145.00
Postage	110.50

Refreshments	89.20
Travel expenses	65.00
Office supplies	90.30

How much cash reimbursement was made from the bank to restore the imprest at the end of the month?

A. K500.00

B. K550.00

C. K50.00

D. K600.00

(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)

Below are draft Statements of financial position of Muzuli, a Public listed manufacturing company as at 31 March 2023 and 31 March 2022, together with the statement of profit or loss and other comprehensive income for the year ended 31 March 2023.

Statements of financial position for Muzuli as at:

	31 March 2023 K'000	31 March 2022 K'000
Non-current assets:		
Property, plant and equipment	67,500	67,725
Current assets:		
Inventory	7,875	6,750
Trade account receivables	4,725	4,050
Cash and cash equivalents	1,395	675
Total current assets	13,995	11,475
Total assets	**81,495**	**79,200**
Equity and liabilities		
Ordinary shares of K0.50 each	27,000	13,500
Share premium	11,250	4,500
Revaluation reserve	13,500	13,500
Retained earnings	7,655	4,500
Total shareholders' funds	59,405	36,000
Non-current liabilities		
Loan	13,230	33,525
Current liabilities		
Trade payables	3,285	3,600
Accrued interest	1,485	2,700
Current tax payable	4,090	3,375
Total current liabilities	8,860	9,675
Total equity and liabilities	**81,495**	**79,200**

Statement of profit or loss for the year ended 31 March 2023

K'000

Revenue	72,000
Cost of sales	(45,000)
Gross profit	27,000
Administrative expenses	(9,000)
Distribution costs	(5,400)
Operating profit	12,600
Finance cost	(2,700)
Profit before tax	9,900
Income tax expense	(4,496)
Profit for the year	5,404

The following information is to be taken into account:

(1) During the year, Muzuli sold plant for K270,000 which had a carrying amount of K158,000. The profit on this sale was included in operating profit for the year ended 31 March 2023.

(2) Depreciation expense for the current year amounted to K4,995,000. This was included in cost of sales.

(3) Dividends paid during the year amounted to K2,249,000.

(4) During the year, shares were issued at a premium.

Required:

(a) Prepare Muzuli's statement of cash flows for the year ended 31 March, 2023 in accordance with **IAS 7 Statement of Cash Flows** using the indirect method.

(17 marks)

(b) Explain the meaning of *'cash and cash equivalents'* under IAS 7 *Statement of Cash Flows*.

(3 marks)

[Total: 20 Marks]

QUESTION THREE

The following trial balance was extracted from the books of Lindaboni, a sole trader based in Kawambwa, on 31 December 2023.

	K	K
Land	251,200	
Equipment	202,220	
Accumulated depreciation on equipment		62,830
Inventory	49,620	
Receivables and Payables	124,200	104,350
Value Added Tax (refund due)	10,320	
Deposit on rented premises (security deposit)	17,900	
Bank and Cash balances	15,640	
Allowance for doubtful debt		11,250
Tax Liability		7,420
Business Rent	30,000	
Sales		804,500
Purchases	390,200	
Returns	8,300	7,500
Discount	4,300	6,240
Distribution and Advertising	8,900	
Power	4,200	
Communication	1,540	
Insurance	22,500	
Wages and Salaries	164,380	
Employers contribution (NAPSA)	16,560	
4% Long term loan		182,500
Long term loan interest	3,520	
Bad debt	2,240	
Drawings	10,580	
Capital		148,530
Suspense		3,200
	1,338,320	**1,338,320**

Additional Information:

(i) The inventory count as at 31 December 2023 showed closing inventory value of K42,390.

(ii) Lindaboni has agreed an annual rent of K40,000 with his landlord.

(iii) Included in insurance above is an amount of K18,000 paid to insure the equipment. The insurance policy year ends 28 February 2024.

(iv) Lindaboni has specific concerns over K5,120 of receivables balance and wishes to set up a specific provision with respect to these balances. The general provision on the remaining receivable balance should be at 5%.

(v) Depreciation is to be charged on Equipment at 15% reducing balance method.

(vi) The suspense account balance above relates to sales of K1,600 which was recorded as purchases in error. The receivables and payables balances are correct.

Required:

(a) Prepare a Statements of profit or loss for the year ended 31 December 2023. (10 marks)

(b) Prepare a Statement of financial position as at 31 December 2023. (10 marks)

[Total: 20 Marks]

QUESTION FOUR

A business primarily exists to make profit and one of the jobs of an Accountant is to prepare financial statements and to determine the profitability of a business.

When there is a difference in a trial balance, a suspense account is opened with the amount of the difference so that the trial balance agrees (pending the discovery and correction of the errors causing the difference). This is the only time an entry is made in the records without a corresponding entry elsewhere. Not all types of errors affect the balancing of the records and the suspense account.

Required:

(a) Explain four (4) objectives of preparing a trial balance. (4 marks)

(b) Explain four (4) reasons why bank reconciliation statements are prepared. (4 marks)

(c) Explain three (3) reasons why control accounts are prepared. (3 marks)

(d) Explain four (4) purposes of financial accounting. (4 marks)

(e) Describe the five (5) key elements in the principal financial statements. (5 marks)

[Total: 20 Marks]

QUESTION FIVE

Muunga and Kuunga have been operating as cross border sole traders for some time now. Recently, they agreed to put resources together and operate as a partnership business. They have been trading as partners for a few years now. Their business is governed by the partnership agreement they drew up on commencement of operations.

Among the issues agreed upon in the agreement are the following:

- Interest on capital is 9% per annum.
- Profit or loss sharing ratio is 3:2.
- Interest on drawings is 4% per annum.
- Muunga is entitled to a salary of K40,000 per annum

In the current year ending 31 March 2023, their business made a profit of K750,000. Additional balances are as follows:

		K'000	
Capital account:	Muunga	175,000	
	Kuunga	125,000	
Current account:	Muunga	90,000	Cr
	Kuunga	60,000	Cr
Drawings:	Muunga	337,500	
	Kuunga	162,500	

Kuunga made his drawings on 1 October 2022 while Muunga's drawings had been made at start of the year ending 31 March 2023.

Required:

(a) Explain four (4) benefits and four (4) setbacks, each, of sole traders forming a partnership business compared to operating as sole traders.

(8 marks)

(b) Prepare for Muunga and Kuunga:

(i) Partnership appropriation account for the year ended 31 March 2023. (7 marks)

(ii) Partnership current accounts for the year 31 March 2023**.** (5 marks)

[Total: 20 Marks]

QUESTION SIX

You have been invited to review the accounting records of one of the small enterprises within your community. The business owner, Chaikatisha tells you that a new trainee accounts assistant has just been recruited and has prepared accounts for the first time. Chaikatisha is a registered trader for sales tax. After your review of the accounts assistant's work, you discovered some errors as follows:

(i) No entry has been made for goods taken by Chaikatisha worth K38,900 for personal use.

(ii) Depreciation charge for the year amounting to K25,000 has been debited to depreciation expense account, with no other entry being made.

(iii) A sale, subject to sales tax at 20%, amounting to K180,000 inclusive of sales tax has been correctly recorded in the receivables control account and sales account, with no other entry being made.

(iv) Discounts received from Chaikatisha's suppliers of K12,500 have only been recorded in the discounts received account.

(v) A cash sale of K6,000 has been debited to sales account and credited to cash account.

(vi) Rent received in cash, K3,600; has been credited in error to the rent receivable account as K4,200 and a casting error on the purchases account has resulted in purchases account being overstated by K600.

(v) A cash purchase of K17,800 has been recorded in the purchases account as K18,700.

Required:

(a) Prepare journal entries required to correct the above errors. Note that suspense

account is not required.

(14 marks)

(b) Explain to the trainee accounts assistant the meaning of each of the following errors and how they may be corrected:

(i) Single entry error. (7 marks)

(ii) Overcast in one account. (5 marks)

(iii) Part omission error. (2 marks)

[Total: 20 Marks]

END OF PAPER

CA 1.1: FINANCIAL ACCOUNTING SUGGESTED SOLUTIONS

SOLUTION ONE

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

SOLUTION TWO

(a) **Muzuli Plc Statement of cash flows for the year ended 31 March 2023**

Cash flows from operating activities:	**K'000**	**K'000**
Profit before tax		9,900
Adjust for: depreciation expense		4,995
Finance cost		2,700
Profit on disposal (W2)		(112)
Cash generated from operations before working capital		17,483
Increase in inventory (7,875-6,750)		(1,125)
Increase in receivables (4,725-4,050)		(675)
Decrease in payables (3,285-3,600) W3		(315)
Cash generated from operations		15,368
Interest paid (W4)		(3,915)
Taxation paid (W6)		(3,781)
Net cash in flow from operating activities		7,672
Cash flows from investing activities		
Cash paid to acquire PPE (W5)	(4,928)	
Proceeds on disposal of PPE	270	
Net cash outflow on investing activities		(4,658)
Cash flows from financing activities		
Proceeds from the issue of shares (W1)	20,250	
Dividends paid	(2,249)	
Loans repaid (33,525-13,230)	(20,295)	
Net cash outflow on financing activities		(2,294)

Net increase in cash and cash equivalents	720
Add cash and cash equivalents at start	675
Equals cash and cash equivalents at the end	1,395

(b) **Cash and cash equivalents**

Cash is cash on hand and demand deposits. Cash equivalents are short term, highly liquid investments that are readily convertible to cash and which are subject to an insignificant risk of changes in their value.

WORKINGS

1. Issue of shares:

	31/3/2023	**31/3/2022**
	K'000	K'000
Share capital	27,000	13,500
Share premium	11,250	4,500
	38,250	18,000

Proceeds from issue of shares 20,250 (38,250-18,000)

2. **Profit or loss on disposal:**

	K'000
Proceed	270
Carrying amount	(158)
Profit on disposal	112

This profit to be subtracted from profit before tax

3. Interest paid:

	K'000
Interest payable b/f	2,700
Add interest expense for the year(P/L)	2,700
Less interest payable c/f	(1,485)
Interest paid	3,915

4. Property, plant and equipment @ carrying amount account

	K'000
Balance c/f	67,500
Depreciation expense for the year	4,995
CA of disposed asset	158
Less balance c/f	(67,725)
Equals additions to PPE	4,928

or

PPE at CA account	Dr		Cr
	K'000		K'000
		Disposal	158
Bank (bal fig)	4,928	Dep'n expense	4,995
		Balance c/f	67,500
	72,653		72,653

5. Tax paid:

	K'000
Current tax b/f	3,375
Plus Income tax charge	4,496
Less deferred tax c/f	(4,090)
Tax paid	3,781

or

Income tax payable account

	Dr		Cr
	K'000		K'000

Bank (bal fig)	3,781	Current tax b/f	
	3,375	Income tax expense	4,496
Current tax c/f	4,090		
	7,871		7,871

SOLUTION THREE

(a) Statement of Profit or Loss for the year ended 31 December, 2023

	K	K	K
Sales (804,500+1,600)			806,100
Sales Returns			(8,300)
Net Sales			797,800
Cost of sales:			
Opening inventory		49,620	
Purchases (390,200-1,600)	388,600		
Purchases returns	(7,500)	381,100	
Less: Closing Inventory		430,720	
		(42,390)	388,330
Gross Profit			409,470
Discount Received			6,240
Decrease in all. for receivable (11,250-5,120)-(5% x 119,080)			176
			415,886
Less Expenses:			
Business Rent (30,000+10,000)		40,000	
Depreciation of equipment (15% x (202,220-62,830)		20,908	
Business insurance (22,500-3,000)		19,500	
Distribution and advertising		8,900	
Power		4,200	
Communication		1,540	
Wages and salaries		164,380	
Employers NAPSA contribution		16,560	
Discount allowed		4,300	
Irrecoverable debt		2,240	
Interest (4% x 182,500)		7,300	289,828
Operating profit			**126,058**

(b) Statement of Financial Position as at 31 December 2023

	K	K	K
Non-current Assets			
Land	251,200	-	251,200
Equipment	202,220	(83,738)	118,482
			369,682
Current Assets			
Inventory		42,390	

Receivable (124,200-5,120)	119,080		
Closing Allowance (5% x 119,080)	(5,954)	113,126	
Insurance prepaid		3,000	
VAT refund		10,320	
Deposit		17,900	
Cash and Bank		15,640	202,376
Total Assets			**572,058**
Capital and Liabilities			
Capital			
Opening Capital		148,530	
Operating profit for 2023		126,058	
Drawings		(10,580)	264,008
Non-current liabilities			182,500
4% Long term bank loan			
Current Liabilities			
Payables		104,350	
Accruals (rent, 1,000 plus interest (7,300-3,500))		13,780	
Tax Liability		7,420	125,550
Total Equity and Liabilities			**572,058**

SOLUTION FOUR

(a) **Objectives of preparing a trial balance (any four)**

(i) To check the **arithmetical accuracy**. The trial balance may confirm the correctness of postings in ledger accounts as well as the accuracy of the ledger accounts balances among others.

(ii) To help in the **preparation of financial statements**. The trial balance provides ledger account balances for various items that go in the preparation of statement of profit or loss and statement of financial position.

(iii) Helping in **locating errors**. The trial balance must always balance because of the double entry concept. If it does not balance, that may be an indication of errors in posting transactions to respective ledger accounts and/or in extracting balances from ledger accounts among others. However, it is worth noting that not all errors affect the agreement of the trial balance.

(iv) Helps in **comparative analysis**. It helps management to make informed decisions by comparing ledger account balances from one period to the other.

(v) Helps in **making adjustments**. The trial balance may help the preparer of financial statements to identify items that require adjusting.

(b) **The following are the reasons why bank reconciliation statements are prepared (any four):**

(i) To know the **exact bank balance** so as to avoid issuing cheques on insufficiently funded accounts; which is a criminal offence.

(ii) To correct **any errors** at an early stage.

(iii) **Cash is king** in the operation of the business so an updated reconciliation will lead **to smooth running of the business** to success and brighten going concern.

(iv) To **prevent or detect fraud.**

(v) When a supplier is issued with a cheque and it bounces due to non-reconciliation of the bank and cash balances, the business will **lose goodwill** because the affected supplier may no longer do business with such a company.

(vi) In today's business, there are a lot of **electronic payments and receipting** (e-commerce) it's important to reconcile the bank and cash balance in order to know if customers have paid or the bank has carried out instructions such as a standing order or direct debit.

(vii) To ensure the **correct balance** of cash at bank is reflected in the statement of financial position.

(viii) **Bank's maintenance fee** such as bank charge will only be known when you compare the bank statement and the cash book.

(c) **Any three of the following key reasons why control accounts are prepared:**

(i) To provide checks on **the accuracy** of individual personal ledger balances; payables and receivables.

(ii) To complete the **double entry** for sales and purchases.

(iii) Assist in the **faster location of errors** as there are fewer entries to check against in the control accounts.

(iv) Provides an **internal check where** there is separation (segregation) of book-keeping duties

(v) It's **faster and time efficient** to draw control accounts which are the totals accounts to arrive at the accounts payable and receivable than add each individual personal balances.

(vi) To provide total receivables and total payables balances **more quickly** for producing a trial balance or statement of financial position.

(d) **Explain the purpose of financial accounting (any four)**

(i) To provide information regarding the financial **performance and financial position**.
(ii) To provide information that is **useful to users**.
(iii) To answer the question: how much **profit or loss** has the business made?
(iv) To answer the question: how much **money does the business owe**?
(v) To see if there are **sufficient funds to meet** current and future commitments.
(vi) To see what **assets the business owns.**

(e) **The elements of financial statements**

(i) An **asset** is a resource controlled by the enterprise as a result of past events and from which future economic benefits are expected to flow to the enterprise.

(ii) **A Liability** is a present obligation of the enterprise arising from past events, the settlement of which is expected to result in an outflow from the enterprise of resources embodying economic benefits.

(iii) **Equity interest** is the residual amount found by deducting all liabilities of the entity from all of the entity's assets.

(iv) **Income** is increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases in liabilities that result in increases in equity, other than those relating to contributions from equity participants.

(v) **Expenses** are decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or incurrences of liabilities that result in decreases in equity, other than those relating to distributions to equity participants.

SOLUTION FIVE

(a) **Comparing a partnership to a sole trading business:**

Benefits:

- There is potential for continuation of business in an event one partner dies as the remaining partner(s) continue to spearhead business operations.
- More capital can be raised as partners will be two or more.
- In bad years, when business incurs losses, they are shared among the partners hence effect made lighter.
- Different partners have different skills and expertise; hence the business is better managed.
- Unnecessary disruptions to conducting business are minimized as absence of one partner leaves the other(s) in charge of operations.

Setbacks:

- While more capital can be raised in partnerships, compared with sole trading, there is dilution of control over the business by bringing more people as partners.
- Having more business owners may increase chances of disputes among partners unlike when one operates alone.
- Notwithstanding the fact that risks are spread over a larger number of investors, so are profits.
- There is loss of personalized service to customers as is typical of a sole trading business.

(b) (i) **Muunga and kuunga**

Partnership appropriation account for the year ended 31 March 2023

Net profit for the year		750,000
Add: Interest on drawings:		
Muunga (4% x 337,500)		13,500
Kuunga (4% x 162,500) x 6/12		3,250
		766,750
Less interest on capital:		
Muunga (9% x 175,000)		(15,750)
Kuunga (9% x 125,000)		(11,250)
Salary-Muunga		(40,000)
Residual profit		**699,750**
Share of residual profit:		
Share of residual profit;		
Muunga (3/5 x 699,750)	(419,850)	
Kuunga (2/5 x 699,750)	(279,900)	**(699,750)**

(ii) **PARTNERS CURRENT A/CS**

	Muunga	Kuunga		Muunga	Kuunga
	K	K		K	K
Drawings	337,500	162,500	Balances b/f	90,000	60,000
Interest on drawings	13,500	3,250	Interest on Capital	15,750	11,250
Balances c/d	214,600	185,400	Salary	40,000	
			Share of profits	419,850	279,900
	565,600	351,150		565,600	351,150
			balances b/d	214,600	185,400

SOLUTION SIX

(a) Journal entries to correct the errors.

		Dr	Cr
(i)	Drawings	38,900	
	Purchases		38,900
(ii)	Suspense	25,000	
	Accumulated depreciation		25,000
(iii)	Suspense	30,000	
	Sales tax account		30,000
(iv)	Payables control account	12,500	
	Suspense		12,500
(v)	Cash (K6000 x 2)	12,000	
	Sales (K6000 x 2)		12,000
(vi)	Rent receivable	600	
	Purchases		600
(vii)	Suspense	900	
	Purchases		900

(b)

(i) Single entry error involves recording a transaction on the same side of the two accounts involved. This means one side will be a correct entry and another one a wrong entry. To correct, the account with wrong entry should be recorded twice the amount involved on the opposite side. The first amount eliminates the wrong entry and the second remains as correct entry.

(ii) Overcast involving one account is an error that occurs when balancing a particular account and the total is overstated hence overcast. To correct such an error, the amount of overstatement to be put on the opposite side of the account involved double entry goes to suspense account.

(iii) The part omission error occurs when only one part of the double entry required for the transaction is recorded. To correct this, if the missing entry is credit, it needs to be made as well as the suspense account to complete double entry for the correction.

END OF SUGGESTED SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA CERTIFICATE IN ACCOUNTANCY

CA 1.2 BUSINESS STATISTICS

WEDNESDAY 20 MARCH 2024

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

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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 would be classified as qualitative data.

A. The names of top 20 countries with highest tons of copper production per year.
B. The list of tonnes of copper produced by 20 highest producing countries per year.
C. The level of concentration of heavy metals in cubic centimeters in water pumped out of the mine.
D. The classification of mine employees by age groups

(2 marks)

1.2 Which of the measures given here are based on every item of the series or uses all observations?

A. Range.
B. Standard deviation.
C. Quartile deviation.
D. All of them.

(2 marks)

1.3 The standard deviation of a set of 85 observations is 25. If the value of each observation is decreased by 3, then the new standard deviation of the observations would be:

A. 88
B. 22
C. 82
D. 25

(2 marks)

1.4 The number of floods in a rainy months is expected to affect the average yield of corn in a sub-Sahara country. If the number of floods that would occur is expressed as the probability distribution shown below, find the average number of floods in a month.

X	1	2	3	4	5
$P(X)$	0.13	0.24	0.45	0.08	0.1

A. 3
B. 0.45
C. 2.78
D. 0.2

(2 marks)

1.5 The following numbers are the hours spent on a particular task by employees of a firm in a randomly selected week: 52, 20, 24, 31, 35, and 42. Calculate the standard deviation of this data.

A. 10.8
B. 11.8
C. 12.8
D. 13.8

(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 A financial analyst's sample of six (6) companies' book value were:

K25, K7, K22, K33, K18, K15.

The sample mean and sample standard deviation are (approximately):

A. 20 and 79.2 respectively
B. 20 and 8.9 respectively.
C. 120 and 79.2 respectively.
D. 20 and 8.2 respectively.

(2 marks)

1.8 In regression analysis, the variable that is being predicted is the:

A. Response, or dependent variable
B. Independent variable
C. Intervening variable
D. Is usually x

(2 marks)

1.9 The following data give the numbers of computer keyboards assembled at the Twentieth Century Electronics Company for a sample of 10 days:

28, 37, 59, 24, 51, 33, 47, 33, 27, 39

The median of the data is?

A. 42
B. 84
C. 35
D. 70

(2 marks)

1.10 Company X produces 12% defectives, company Y produces 24% and company Z produces 6% defective products. If choosing a company is an equally likely event, then find the probability that the product chosen is defective.

A. 0.18

B. 0.12

C. 0.14

D. 0.42

(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).

QUESTION TWO - (COMPULSORY)

(a) Define the following terms as used in statistics.

(i) Range. (1 mark)

(ii) Standard deviation. (2 marks)

(b) The monthly demand for cars is known to have the following probability distribution:

Demand	1	2	3	4	5	6
Probability	0.10	0.15	0.20	0.25	0.18	0.12

(i) Determine the expected demand for cars. (3 mark)

(ii) Determine the standard deviation of the demand for the cars. (4 marks)

(c) Events A and B are mutually exclusive and $P(A) = 0.2$ and $P(B) = 0.4$. Find

(i) $P(A \cup B)$ (1 mark)

(ii) $P(A \cap B')$ (2 marks)

(iii) $P(A' \cap B')$ (2 marks)

(d) From the following data, calculate the mode:

Marks	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60
Number of students	10	20	30	50	40	30

(4 marks)

[Total: 20 Marks]

QUESTION THREE

(a) A company needs to appoint three (3) representatives, one (1) to be based in Lusaka, one (1) in Kitwe and one (1) in Livingstone. There are eight (8) sales officers available for selection to the post of representative.

Required:

(i) Calculate the number of possible allocations of officers to representative posts.

(3 marks)

(ii) Calculate the number of different sets of three (3) officers who could be appointed to represent the company.

(3 marks)

(iii) Two (2) of the eight (8) officers are members of the Moonga family. Assuming that the three representative are chosen at random from the eight (8) officers, find the probability that both members of the Moonga family will be chosen.

(4 marks)

(b) The marks of eight (8) ZiCA candidates in Quantitative Analysis and Business Statistics are:

Candidate	1	2	3	4	5	6	7	8
Quantitative Analysis (X)	50	58	35	86	76	43	40	60
Business Statistics (Y)	65	72	54	82	32	74	40	53

Required:

(i) Rank the results and hence find spearman's rank correlation coefficient between the two (2) sets of marks.

(8 marks)

(ii) Comment on the value obtained.

(2 marks)

[Total: 20 Marks]

QUESTION FOUR

(a) Given in the table below is the distribution of the monthly family budget of one company employee. The total earnings of person X are K8,400 per month basic plus 10% as transport and meal allowance on the monthly salary. His/her expenditure (in percentage) is as follows:

Statutory deductions towards Napsa	12
Medical & Miscellaneous	13
Education & Child care	23
Entertainment	9
House rent	18
Food	25

Required:

(i) Draw a pie chart. (8 marks)

(ii) Calculate the amount of expenditure on Education and Maintenance per month if company employee pays 23% of its total earnings as Education and maintenance of children? (3 marks)

(iii) What is the medical and miscellaneous expenditure per annum (kwachas)? (3 marks)

(b) The number of hours of overtime worked by a sample of nine (9) employees are 3, 5, 6, 8, 4, 0, 3, 5, and 9. Find the quartile deviation and interpret this value.

(6 marks)

[Total: 20 Marks]

QUESTION FIVE

(a) A company estimates its sales for a particular year to be K4,200,000. The seasonal indices for sales are as follows:

Month	**Index**
January	106
February	105
March	101
April	104
May	98
June	96
July	93

August	89
September	92
October	102
November	106
December	108

Estimate the sales for the individual month. (12marks)

(b) The standard deviation of the racing horses at the Olympics was 2.5 km/h with an average speed of the horses being 40 km/h,

(i) What is the probability that the horse speed would be less than 42km/h? (3 marks)

(ii) What is the probability that the horse speed would be between 35km/h and 42 km/h. (5 marks)

[Total: 20 Marks]

QUESTION SIX

(a) A mail order company pays for postage of its goods partly by destination and partly by total weight sent out on a particular day. The number of items sent out and the total weights were recorded over a seven day period. The data are shown in the table below:

Number of items (x)	10	13	22	15	24	16	19
Weight in Kg (y)	2800	3600	6000	3600	5200	4400	5200

Required:

(i) Find the equation of the regression line. (11 marks)

(ii) Find the weight when the number of items is 31. (2 marks)

(iii) Calculate the coefficient of correlation and interpret its value. (5 marks)

(b) Define the following terms as used in forecasting:

(i) Economic forecasts. (1 mark)

(ii) Demand forecasts. (1 mark)

[Total: 20 Marks]

END OF PAPER

CA 1.2: BUSINESS STATISTICS SUGGESTED SOLUTIONS

SOLUTION ONE

1.1 A

1.2 B

1.3 D

1.4 C

1.5 B

1.6 B

1.7 B

1.8 A

1.9 B

1.10 C

SOLUTION TWO

(a) (i) The range is the difference between the highest score and the lowest score in a distribution.

(ii) A standard deviation is a measure of how dispersed the data is in relation to the mean.

(b) (i) $\mathrm{E}(\mathrm{X}) = \sum_x x\mathrm{P}(\mathrm{X} = x)$

$= 1(0.10) + 2(0.15) + 3(0.20) + 4(0.25) + 5(0.18) + 6(0.12)$

$= 0.10 + 0.30 + 0.60 + 1.00 + 0.90 + 0.72$

$= 3.62$

(ii) $Var(\mathrm{X}) = \mathrm{E}(\mathrm{X}^2) - [\mathrm{E}(\mathrm{X})]^2$

$\mathrm{E}(\mathrm{X}^2) = \sum_x x^2\mathrm{P}(\mathrm{X} = x)$

$= 1^2(0.10) + 2^2(0.15) + 3^2(0.20) + 4^2(0.25) + 5^2(0.18) + 6^2(0.12)$

$= 0.10 + 0.60 + 1.80 + 4.00 + 4.50 + 4.32$

$= 15.32$

Therefore,

$Var(\mathrm{X}) = \mathrm{E}(\mathrm{X}^2) - [\mathrm{E}(\mathrm{X})]^2$

$= 15.32 - 3.62^2$

$= 2.2156$

Standard Deviation $= \sqrt{Var(\mathrm{X})}$

$= \sqrt{2.2156}$

$= 1.49$

(c) (i) Events A and B are said to be mutually exclusive if $\mathrm{P}(\mathrm{A} \cap \mathrm{B}) = 0$.

$\mathrm{P}(\mathrm{A} \cup \mathrm{B}) = \mathrm{P}(\mathrm{A}) + \mathrm{P}(\mathrm{B}) - \mathrm{P}(\mathrm{A} \cap \mathrm{B})$

$= 0.2 + 0.4 - 0$

$= 0.6$

(ii) $\mathrm{P}(\mathrm{A} \cap \mathrm{B}') = \mathrm{P}(\mathrm{A}) - \mathrm{P}(\mathrm{A} \cap \mathrm{B})$

$= 0.2 - 0$

$= 0.2$

(iii) $\mathrm{P}(\mathrm{A}' \cap \mathrm{B}') = 1 - \mathrm{P}(\mathrm{A} \cup \mathrm{B})$

$= 1 - 0.6$

$= 0.4$

(d) Here frequency of class interval 30 – 40 is maximum. So, it is the modal class.

$\ell =$ Lower limit of the modal class $=30$

$f_1 =$ Frequency of the modal class $=50$

$f_0 =$ Frequency of the pre-modal class $=30$

$f_2 =$ Frequency of the post-modal class $=40$

$h =$ Class interval of the modal class $=10$

Therefore,

Mode $= \ell + \left(\dfrac{f_1 - f_0}{2f_1 - f_0 - f_2} \right) \times h$

$$= 30 + \left(\frac{50-30}{2(50)-30-40_2} \right) \times 10$$

$$= 36.667$$

SOLUTION THREE

(a) (i) The first post can be allocated in 8 possible ways.
The second post can be allocated in 7 possible ways.
The third post can be allocated in 6 possible ways.

Therefore using the multiplication principle, we have;

$$8 \times 7 \times 6 = 336 \quad Number\ of\ ways$$

(ii) The number of different sets of three will be C (8, 3), since no ORDER is required.

$$C(n,r) = \frac{n!}{r!\,(n-r)!} = \frac{8!}{3!\,(8-3)!} = 56$$

(iii) The number of different sets of three = 56 is the sample space S.
If both the Moonga's are chosen, the number of way of choosing a third representative is 6.

Therefore;

$$P(both\ Moongas\ are\ chosen) = \frac{6}{56} = \frac{3}{28} = 0.1071$$

(b) (i) There are 8 pairs of data, so $n = 8$. ranking the lowest mark 1 and the highest rank 8 gives the ranks as shown below:

Quantitative Analysis (X)	50	58	35	86	76	43	40	60	
Business Statistics (Y)	65	72	54	82	32	74	40	53	
Rank X	4	5	1	8	7	3	2	6	
Rank Y	5	6	4	8	1	7	2	3	
$\|d\|$	1	1	3	0	6	4	0	3	
d^2	1	1	9	0	36	16	0	9	$\sum d^2 = 72$

$$r_s = 1 - \frac{6\sum d^2}{n(n^2-1)}$$

$$= 1 - \frac{6(72)}{8(8^2-1)} = 0.14$$

Spearman's coefficient of correlation is 0.14.

(ii) This appears to show a very weak positive correlation between the Quantitative analysis and Business statistics subjects.

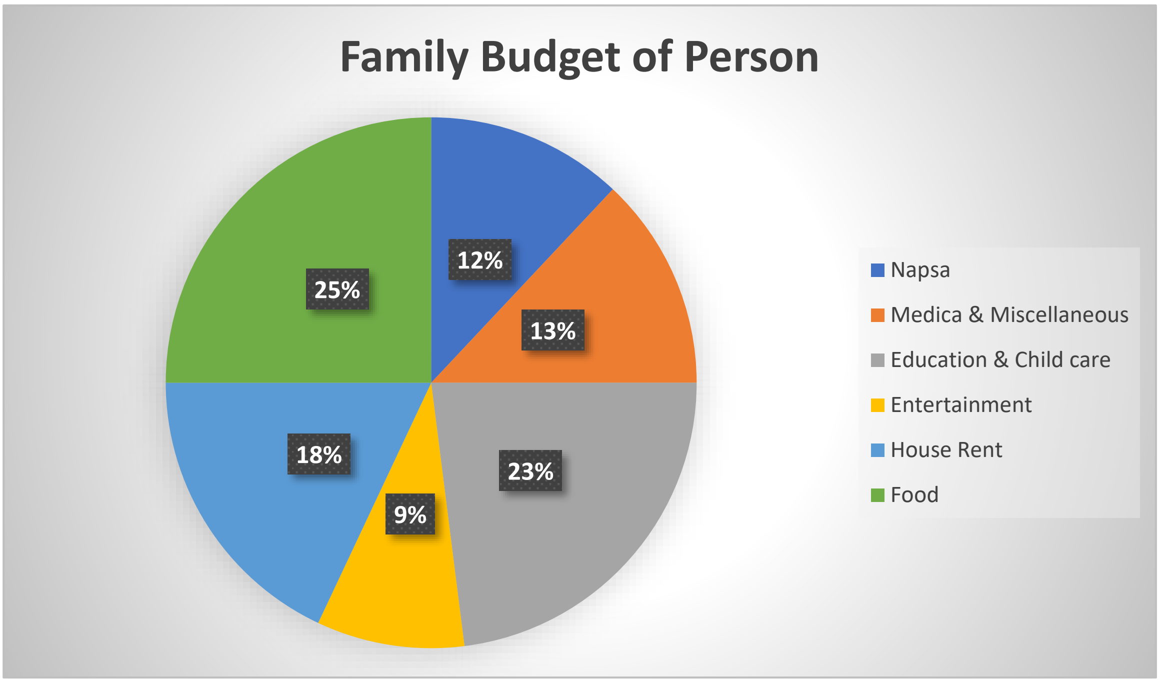
SOLUTION FOUR

(a) Construct a table showing the calculations of the slice of a pie

(i) Distribution of the monthly family budget of person X

Category	Slice of a pie
Napsa	$.12(360) = 43.2°$
Medical and miscellaneous	$.13(360) = 46.8°$
Education and child care	$.23(360) = 82.8°$
Entertainment	$.09(360) = 32.4°$
House rent	$.18(360) = 64.8°$
Food	$.25(360) = 90°$

.



(ii) Total earnings $= \ 8\,400 \ + 10\%\ of\ 8\,400 = K9\,240$

There the required amount is $= 9\,240 \times .23 = K2\,125.20$

(iii) $13\ of\ 9240 \ = \ K1\,201.20$ per month. Therefore, per annum is $= 1201.2 \times 12 = K14\,414.40$

(b) Given the following data 3, 5, 6, 8, 4, 0, 3, 5, 9.

Rearranging the data, we have: 0, 3, 3, 4, 5, 5, 6, 8, 9.

Since n is odd, the position of Q_1 is $\frac{1}{4}(9+1) = 2.5\ or\ 3rd$ observation; $Q_1 = 3$ and position of Q_3 is $\frac{3}{4}(9+1) = 7.5\ or\ 8th$ orbservation; $Q_8 = 8$.

Quartile Deviation (QD) is $= \frac{Q_3 - Q_1}{2} = \frac{8-3}{2} = 2.5$

i.e., the interquartile deviation is 2.5. That’s 50% of the observation lie within 2.5 hours.

SOLUTION FIVE

(a) Annual sales $= \text{K}4,200,000$

The table below shows Budget Estimates of Monthly Sales

Months	Seasonal Indices	Estimated Sales (K)
January	106	$\frac{106}{1200}\times 4,200,000 = 371,000$
February	105	$\frac{105}{1200}\times 4,200,000 = 367,500$
March	101	$\frac{101}{1200}\times 4,200,000 = 353,500$
April	104	$\frac{104}{1200}\times 4,200,000 = 364,000$
May	98	$\frac{98}{1200}\times 4,200,000 = 343,000$
June	96	$\frac{96}{1200}\times 4,200,000 = 336,000$
July	93	$\frac{93}{1200}\times 4,200,000 = 325,500$
August	89	$\frac{89}{1200}\times 4,200,000 = 311,500$
September	92	$\frac{92}{1200}\times 4,200,000 = 322,000$
October	102	$\frac{102}{1200}\times 4,200,000 = 357,000$
November	106	$\frac{106}{1200}\times 4,200,000 = 371,000$
December	108	$\frac{108}{1200}\times 4,200,000 = 378,000$
	Total $=1,200$	**Total Sales** $=4,200,000$

(b) NORMAL DISTRIBUTION

i) $\boldsymbol{P}(X < 42) = P\left(Z < \frac{X-\mu}{\sigma}\right)$

$$= P\left(Z < \frac{42 - 40}{2.5}\right)$$

$$= P(Z < 0.8)$$

$$= 1 - 0.2119$$

$$= 0.7881$$

ii) $\boldsymbol{P}(35 < X < 42) = P\left(Z > \frac{X-\mu}{\sigma}\right)$

$$= P\left(\frac{35 - 40}{2.5} < Z < \frac{42 - 40}{2.5}\right)$$

$$= P(-2 < Z < 0.8)$$

$$= 1 - (0.0228 + 0.2119)$$

$$= 0.7653$$

SOLUTION SIX

(a) (i)

x	y	x^2	y^2	xy
10	2800	100	7,840,000	28,000
13	3600	169	12,960,000	46,800
22	6000	484	36,000,000	132,000
15	3600	225	12,960,000	54,000
24	5200	576	27,040,000	124,800
16	4400	256	19,360,000	70,400
19	5200	361	27,040,000	98,800
$\sum x = 119$	$\sum y = 30,800$	$\sum x^2 = 2,171$	$\sum y^2 = 143,200,000$	$\sum xy = 554,800$

$$\hat{y} = \hat{\beta}_0 + \hat{\beta}_1 x$$

$$\hat{\beta}_1 = \frac{SS_{xy}}{SS_{xx}} = \frac{31,200}{148} = 210.8$$

$$\hat{\beta}_0 = \bar{y} - \hat{\beta}_1 \bar{x} = 4,400 - (210.8)(17) = 816.4$$

Therefore, the equation of the regression line

$$y = 816.4 + 210.8x$$

(ii) $y = 816.4 + 210.8x$

$$y = 816.4 + 210.8(31)$$

$$y = 816.4 + 6,534.8$$

$$y = 7,351.2 \text{ Kg}$$

(iii) $\bar{x} = \frac{\sum x}{n} = \frac{119}{7} = 17;$ $\bar{y} = \frac{\sum y}{n} = \frac{30,800}{7} = 4,400$

$$SS_{xx} = \sum x^2 - \frac{\left(\sum x\right)^2}{n} = 2,171 - \frac{119^2}{7} = 148$$

$$SS_{xy} = \sum xy - \frac{\left(\sum x\right)\left(\sum y\right)}{n} = 554,800 - \frac{(119)(30,800)}{7} = 31,200$$

$$SS_{yy} = \sum y^2 - \frac{\left(\sum y\right)^2}{n} = 143,200,000 - \frac{30,800^2}{7} = 7,600,000$$

Therefore, the coefficient of determination is

$$r = \frac{SS_{xy}}{\sqrt{SS_{xx}SS_{yy}}} = \frac{31,200}{\sqrt{(148)(7,680,000)}} = 0.93$$

$$r^2 = 0.93^2 = 0.8649 \times 100\% = 86.49\%$$

$r^2 = 86.49$ Reveals that 86.49% of the data fit the regression model.

Note: r^2 is the coefficient of determination

(b) (i) The economic forecast gives the prediction of estimates on the general business environment.

(ii) The demand forecast gives the expected level of demand for goods or services.

CA ZAMBIA PROGRAMME EXAMINATIONS

CA CERTIFICATE IN ACCOUNTANCY

CA1.3: BUSINESS ECONOMICS

TUESDAY 19 MARCH 2024

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: 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.

<u>QUESTION ONE</u>

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 statements about the production possibility frontier is accurate?

A. The production possibility frontier can be a straight line when there is a decrease in the production of both goods.
B. The production possibility frontier can be a straight line when more amount of both the goods can be produced.
C. The production possibility frontier can be a straight line when all the resources are perfect substitutes in the production of both the goods.
D. None of the above.

(2 marks)

1.2 Which of the following scenarios will not shift the demand curve for a particular product?

A. A reduction in the price of the raw material for that product.
B. A change in the income of the consumers of that product.
C. Effective advertising campaign by producers of a substitute good.
D. A widely publicised study that says the product is harmful to the health of Consumers.

(2 marks)

1.3 In May 2019, a firm was providing 5000 kg of sugar at a market price of K30 per kg. But in June 2019, the supply of sugar decreased to 4500 kg at a market price of K20 per kg. This change shows that the supply of sugar is _____.

A. Less elastic.
B. More elastic.
C. Perfectly inelastic.
D. Perfectly elastic.

(2 marks)

1.4 The law of diminishing returns only applies in cases where:

A. There is increasing scarcity of factors of production.

B. The price of extra units of a factor is increasing.
C. There is at least one fixed factor of production.
D. Capital is a variable input.

(2 marks)

1.5 When firms have an incentive to exit a competitive market, their exit will

A. Necessarily raise the costs of firms that remain in the market.
B. Lower market price.
C. Reduce demand for the product.
D. Raise profits for firms that remain in the market.

(2 marks)

1.6 Commercial banks hold a fraction of their deposits in cash in their vaults or as deposits with the central bank. This fraction is known as

A. The excess reserve ratio.
B. The reserve ratio.
C. The fractional reserve.
D. The required reserve.

(2 marks)

1.7 If you hear a person saying "I lost my job because I was replaced by a machine," you should conclude that this person is ________ unemployed.

A. Structurally.
B. Cyclically.
C. Frictionally.
D. Seasonally.

(2 marks)

1.8 Which one of the following is a leakage from the circular flow model of income?

A. An increase in consumption spending.
B. Transfer payments made by the Government.
C. An increase in imports.
D. An increase in investment spending.

(2 marks)

1.9 The imposition of a tariff would cause which one of the following?

A. A decrease in the price of imports and a rise in the demand for imports.
B. An increase in the price of imports and a rise in the demand for imports.
C. A decrease in the price of imports and a rise in the demand for import-competing domestic goods.

D. An increase in the price of imports and a rise in the demand for import-competing domestic goods.

(2 marks)

1.10 Under flexible-exchange-rate regime, the response of an economy to a temporary fall in foreign demand for its exports is:

A. The currency appreciates, and output falls.
B. The currency depreciates, and output falls.
C. The currency depreciates, and output increases
D. The currency depreciates, and output remains constant.

(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)

The demand for some goods is often described as being highly cyclical and very sensitive to changes in own prices as well as changes in the prices of related goods. Whether a particular change in the price of a related good will increase or decrease the demand for and supply of a product will depend on whether the good is a substitute for it or a complement to it. Similarly, changes in other factors affecting demand and supply will shift the demand curve and/or supply either to the left or to the right. The shift in a curve changes the initial equilibrium quantity and price. The responsiveness of quantity demanded to changes in either own price or the prices of related goods or income is critical to a business person's decision-making aimed at maximising total revenue.

Required:

(a) Explain why the cross elasticity of demand between two (2) substitute goods is positive while that of complements is negative.

(5 marks)

(b) Use supply and demand curves to illustrate how each of the following events would affect the price of butter and the quantity of butter bought and sold:

(i) An increase in the price of margarine. (5 marks)

(ii) An increase in the price of milk. (5 marks)

(iii) An increase in average income levels. (5 marks)

[Total: 20 Marks]

<u>QUESTION THREE</u>

Monetary and fiscal policies are two of the most important functions of modern central banks and governments respectively. Monetary policy focuses on increasing or decreasing the money supply to influence the economy, and fiscal policy uses government spending and the tax code to influence the economy. Thanks to the development of good economic theory, governments can use monetary and fiscal policy to mitigate the duration and severity of recessions. This theory is hugely important because it gives governments the chance to make a positive difference in the lives of billions of people. Good economic policy can make a nation prosperous, but bad economic policy can ruin it.

Required:

(a) Define the term 'recession'. (2 marks)

(b) Explain how the governments and central banks can use the following economic policies to resuscitate the economy (close the recessionary gap):

(i) Fiscal policy. (5 marks)

(ii) Monetary policy. (5 marks)

(c) Outline any four (4) economic objectives that can be achieved using economic policies.

(8 marks)

[Total: 20 Marks]

QUESTION FOUR

The global chocolate market continued to thrive in 2020 as the largest chocolate companies in the world were experiencing substantial growth in their chocolate sales. Despite the increasing health concerns over the sugar confectionary products, the global demand for chocolate sweets has maintained a steady growth rate over the recent years. This growth has attracted a number of players to the industry. The constant introduction and launch of new premium chocolate and organic chocolate products with a focus on price, packaging, and ingredients by the world's major chocolate manufacturers are believed to be the main reason that drives the global chocolate market to grow further in the near future.

Required:

(a) Describe any three (3) assumptions on which monopolistic competition is based.

(6 marks)

(b) Show diagrammatically and explain the equilibrium position of a monopolistic competitive firm making abnormal profits.

(8 marks)

(c) Explain what happens to the demand curve for the firm as more and more players are attracted to the industry in the long run.

(3 marks)

(d) What happens to the chocolate industry if there is an emergence of new firms offering substitute goods, addressing the health concerns of chocolate?

(3 marks)

[Total: 20 Marks]

QUESTION FIVE

The Production Possibilities Curve (PPC) is a model used to show the tradeoffs associated with the allocating resources between the production of two goods. The

PPC can be used to illustrate the concepts of scarcity, opportunity cost, efficiency, inefficiency, economic growth, and contractions.

The following table shows the combinations of maize and wheat that can be produced by an hypothetical economy per year assuming that the necessary assumptions required for the production possibility frontier to hold are met.

Table 1: Production Possibilities

Point on the PPF	Maize output	Wheat output
A	850	0
B	700	100
C	650	200
D	510	380
E	400	500
F	300	550
G	0	600

Required:

(a) Explain the questions that every society tries to answer regarding resource allocation.

(4 marks)

(b) Explain how the production possibility frontier illustrates the concept of scarcity?

(2 marks)

(c) Draw the production possibility frontier for this society with maize output on the vertical axis and wheat output on the horizontal axis

(6 marks)

(d) What does the production possibility frontier drawn in (c) indicate regarding the opportunity cost?

(4 marks)

(e) Will economic growth necessarily involve a parallel outward shift of the production possibility curve? Explain what other scenarios would occur.

(4 marks)

[Total: 20 Marks]

QUESTION SIX

(a) Zambia and Democratic Republic of the Congo (DRC) are strategic neighbours. In 2020, Zambia exported $952 million to Congo Dr. The main products exported from Zambia to the Democratic republic of Congo were Sulphuric Acid ($96.9 million), Copper Ore ($87 million), and Quicklime ($66.7 million). During the last 25 years the exports of Zambia to Democratic Republic of the Congo have increased at an annualized rate of 15.4%, from $26.6 million in 1995 to $952 million in 2020.

Similarly, Democratic Republic of the Congo exported $372 million to Zambia. The main export products were refined copper ($290 million), copper ore ($65.9 million), and cobalt oxides and hydroxides ($8.13 million). **(Source. www.oec.world)**
The foregoing statistics show how important the two countries are as trade partners. Both countries stand a huge chance to benefit from trade. No wonder, the Kasumbalesa and Sakanya Borders are well-known for huge truck traffic. The basis for gains from trade can be determined through the opportunity cost theory and specialization respectively.
Using the table below, answer the following questions:

Country	**Labor cost of Production in hours [Man-hours]**	
	1 unit of maize	**1 unit of wine**
Zambia	80	90
Congo DRC	120	100

Required:

(i) Which country has absolute advantage in the production of both maize and wine and why?

(2 marks)

(ii) Showing all necessary calculations, use the opportunity cost approach to determine the basis for trade for the above simple trade model?

(6 marks)

(iii) Explain how the gains from engaging in voluntary trade between Zambia and Congo DRC arise?

(4 marks)

(b) The International Monetary Fund (IMF) Executive Board on 31 September ,2022 approved 38-month Extended Credit Facility (ECF) Arrangement for Zambia, the Special Drawing Rights 978.2 million (about US$1.3 billion) to restore macroeconomic stability and foster high, more resilient, and more inclusive growth.

Required:

(i) Briefly explain any three (3) roles that IMF plays in developing economies such as Zambia.

(4 marks)

(ii) The World Bank has recently assumed roles that have reduced prominence of public sector by increasing private sector role. State any original objectives of the World Bank

(4 marks)

[Total: 20 Marks]

END OF PAPER

CA1.3: BUSINESS ECONOMICS SUGGESTED SOLUTIONS

SOLUTION ONE

1.1 C

1.2 A

1.3 A

1.4 C

1.5 D

1.6 B

1.7 A

1.8 C

1.9 D

1.10 B

SOLUTION TWO

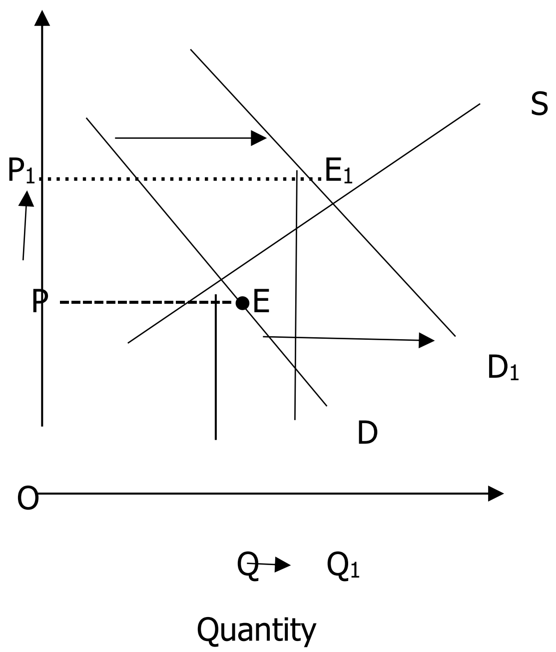
(a) For two commodities which are substitutes, a change in the price of one, ceteris paribus, causes a change in the same direction in the quantity purchased of the other. For example, an increase in the price of coffee increases tea consumption and a decrease in the price of coffee decreases tea consumption. Thus the cross elasticity between them is positive.

On the other hand, ceteris paribus, a change in the price of a commodity causes the quantity purchased of its complement to move in the opposite direction. Thus the cross elasticity between them will be negative.

(b) Effects:

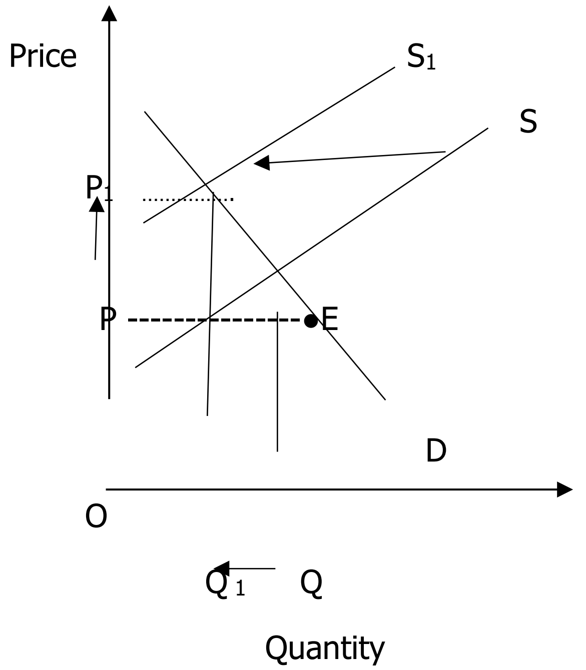
(i) An increase in the price of margarine.

Market equilibrium occurs at the point where the market demands curve intersects the market supply curve at point E(Q,P). Butter and margarine are substitutes for most people. Therefore, an increase in the price of margarine will cause people to increase their consumption of butter, thereby shifting the demand curve for butter rightwards from D to D1. The new equilibrium is $E_1(Q_1,P_e)$. At this point the equilibrium price has increased from P to P_1 while the equilibrium quantity has increased from Q to Q_1 as shown below:



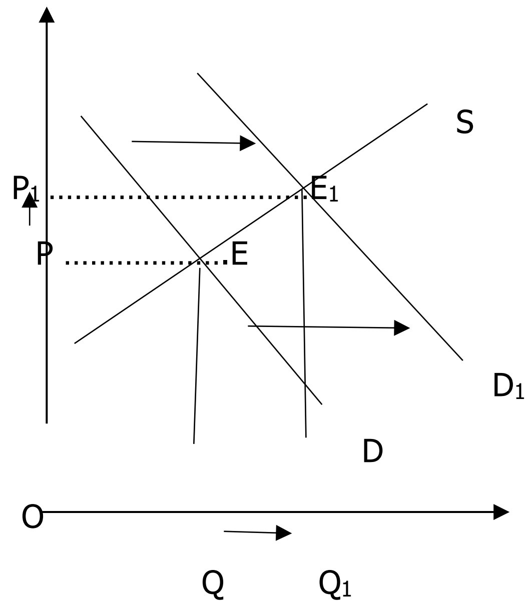
(ii) An increase in the price of milk.

Market equilibrium occurs at the point where the market demands curve intersects the market supply curve at point E(Q,P). Milk is the main ingredient in butter. An increase in the price of milk increases the cost of producing butter, which reduces the supply of butter. An increase in the price of milk shifts the supply curve to the left. The new equilibrium is $E_1(Q_1,P_e)$. At this point the equilibrium price has increased from P to P_1 while the equilibrium quantity has decreased from Q to Q_1 as shown below:



(iii) A decrease in average income levels.

Market equilibrium occurs at the point where the market demands curve intersects the market supply curve at point E(Q,P). Butter is assumed to be a normal good hence an increase in average income will result in people buying more of it thereby shifting the demand curve for butter rightwards from D to D1. The new equilibrium is $E_1(Q_1,P_e)$. At this point the equilibrium price has increased from P to P_1 while the equilibrium quantity has increased from Q to Q_1 as shown below:



Quantity

SOLUTION THREE

(a) A recession is defined as a decline in total output (real GNP) for two or more consecutive quarters

(b) Expansionary macroeconomic policies are designed to increase the level and rate of growth of national income.

- Fiscal policy: Expansionary fiscal policy operates via taxes and government expenditure and would include a reduction in taxes and an increase in government spending. Post-crisis fiscal policy comes in the form of massive increases in government spending that are intended to stimulate aggregate demand by having the government purchase lots of goods and services. The hope is that by increasing people's incomes, those initial purchases will spur further economic activity that will snowball into robust economic growth as consumers return to spending confidently. But in the aftermath of a debt-driven bubble, fiscal policy's stimulatory effects may be limited because people often use increases in income to pay down debt (instead of using the money to purchase additional goods and services).

- Monetary policy: Expansionary monetary policy operates through the money supply and credits creation process and would include open market operations and reduction in the reserves that commercial banks need to hold with the central bank. The government attempts to use monetary policy to stimulate demand by lowering interest rates to encourage both consumers and firms to borrow and spend more

(c) Any four(4) of the following main objectives of economic policies, though debate continues about their relative priority:

- To achieve economic growth, and growth in national income per head of the population. Growth implies an increase in national income in real terms. Increases caused by price inflation are not real increases at all.

- To control price inflation (to achieve stable prices). This has become a central objective of European economic policy in recent years.

- To achieve full employment. Full employment does not mean that everyone who wants a job has one all the time, but it does mean that unemployment levels are low, and involuntary unemployment is short-term.

- To achieve a balance between exports and imports (on the country's balance of payments accounts) over a period of years. The wealth of a country relative to others, a country's creditworthiness as a borrower, and the goodwill between countries in international relations might all depend on the achievement of an external balance over time.

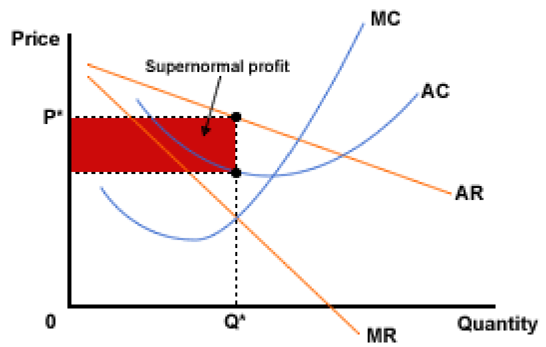
- To achieve equality in income distribution. This aims to ensure that the national cake is shared equally among the citizens.

SOLUTION FOUR

(a) **Assumptions of Monopolistic Competition**

- **Large number of firms** - each firm has an insignificantly small share of the market.
- **Independence** - as a result of a large number of firms in the market, each firm is unlikely to affect its rivals to any great extent. In making decisions it does not have to think about how its rivals will react.
- **Freedom of entry** - any firm can set up business in this market.
- **Product differentiation** - each firm produces a different product or service from its rivals. Therefore each firm faces a downward sloping demand curve. Product differentiation involves creating differences between products, either real or imagined, in consumers minds and is likely to involve various forms of non-price competition such as branding and advertising.

(b) **Abnormal Profits**: In the short run firms may be able to make supernormal profits. This situation is shown in the diagram below.



At the point where MC=MR, the firm's average cost is less than its average revenue. The firm will maximize profits at Q*. These abnormal profits only in the short run.

(c) In the **long run**, more firms will enter the industry attracted by the supernormal profits. This will mean that demand for the product of each firm will fall and the AR (demand curve) will shift to the left. Long run equilibrium occurs where only normal profits are being made as new firms will keep entering as long as there are supernormal profits to be made. In equilibrium, the demand curve (AR) will be tangential to the firm's long run average cost curve.

(d) In the long run, as substitute products emerge, consumers may switch to the consumption of healthier products. This will lead to the reduction in the demand for chocolates. The demand curve for the individual firm to be slightly steeper due to the reduction in demand.

SOLUTION FIVE

(a) The questions that every society tries to answer regarding resource allocation are:

- What to produce? Society must know the goods and services that they have to produce.
- How to produce? There is need to know how the factors of production will be combined.
- When to produce? The timing of production must be known.
- For whom to produce? The target buyers of the goods or services to be produced must be identified.

(b) How does the production possibility frontier illustrate the concept of scarcity? Producing more of one good, say maize will require giving up on the production of some of the wheat since some resources which were being utilised in maize production will have to be diverted towards maize production as a result of limited available resources.

(c) Production possibility frontier

(d) Since the PPF is bell shaped, then it exhibits increasing opportunity costs.

(e) Economic growth does not necessarily involve a parallel outward shift of the production possibility curve because an economy can grow as a result of increased production of one of the two commodities as long as there is no fall in the production of the other commodity. This causes an outward tilt on either axis.

SOLUTION SIX

(a) BOP

(i) Zambia has absolute advantage for both maize and wine
Reason: Zambia produces units of maize and wine using lesser time units of 80 and 90 respectively.

(ii) Calculations:

Country	Labour cost of Production in hours	
	1 unit of maize	1 unit of wine
Zambia	$O.C = \frac{80}{90} = 0.9$	$O.C = \frac{90}{80} = 1.125$
Congo DRC	$O.C = \frac{120}{100} = 1.2$	$O.C = \frac{100}{120} = 0.83$

- A nation will has comparative advantage in and specialize in the production of a good which has the lowest opportunity cost
- Zambia has comparative advantage in maize
- Congo DRC has comparative advantage in wine production

(iii) Zambia will produce maize and zero wine, this will relieve extra resources that will produce an extra unit of maize hence Zambia will produce 2 units of maize.

Congo will produce wine and zero maize, this will relieve extra resources that will produce an extra unit wine hence Congo DRC will produce 2 units of wine.

Gains from trade is 2 Units

(b) International financial institutions:

(i) The Roles of the IMF:
- Balance of Payment support to member nations
- IMF works to foster global growth and economic stability
- Provides policy advice and financing to member countries facing difficulties
- IMF negotiates conditions on lending and loans under its policy of conditionalities.

(ii) Objectives of the World Bank:
- Assist development of member countries by facilitating investment of capital for productive purposes
- Promote private foreign investment guarantees and loan provisions
- Promote mutually beneficial international trade
- Maintenance of equilibrium in the Balance of Payment

ENDO OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA CERTIFICATE IN ACCOUNTANCY

CA 1.4: COMMERCIAL AND CORPORATE LAW

FRIDAY 22 MARCH 2024

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 statements is true?

A. The benefit of being a sole trader is that you have no personal liabilityfor the debts of your business.
B. For organisations that have limited company status, ownership and control are legally separate.
C. Ordinary partnerships offer the same benefits as limited companies, but are usually formed by professionals such as doctors and solicitors.
D. Limited company status means that a company is only allowed to trade up to a predetermined turnover level in any one year.

(2 marks)

1.2 Which one of the following is an unincorporated organisation?

A. Ellis and Company Legal Practitioners.
B. Limited liability company by shares.
C. Public limited company by shares.
D. Private limited company by guarantee.

(2 marks)

1.3 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. 50

(2 marks)

1.4 Which of the following best defines common law?

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)

1.5 In general, under the *Sale of Goods Act*, property in the goods refers to:

A. The purchaser makes the contract with the vendor, even if the vendor still has something to do to put the goods into a deliverable state.
B. The purchaser notifies the vendor he is ready to receive delivery.
C. The purchaser receives delivery.
D. Title.

(2 marks)

1.6 A professional's duty of care may arise from:

A. Contractual duty.
B. Fiduciary duty.
C. Duty in tort.
D. All of the above.

(2 marks)

1.7 When an agency relationship is ratified, which of these is not true?

A. Acceptance by the principal may be implied by the principal's behaviour.
B. Ratification must occur within a reasonable time after creation of the contract.
C. The principal may accept only part of the agreement.
D. All of the above are true.

(2 marks)

1.8 Which of these is not a partnership rule implied by statute in case it is not expressly covered in the agreement?

A. A partner is entitled to be paid a salary for engaging in a partnership basis.
B. A partner is not entitled to interest on capital contributions to the partnership but is entitled to interest on loans to it.
C. Unanimous consent is required to admit a new partner.
D. All of the above are implied terms.

(2 marks)

1.9 Identify one (1) of the following which properly distinguishes criminal law from civil law.

A. Criminal law concerns itself with punishment while civil law aims at compensation.

B. Liability for both is determined by the penal code.
C. Civil law aims to punish Criminals.
D. Civil law is protected in court while criminal is protected in the statute.

(2 marks)

1.10 An employer is the one that tells the employee…except..

A. What to do.
B. How to do it.
C. When to do it.
D. How to choose your partner.

(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)

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

(a) Explain what the constitution is and, making reference to decided cases, why it is said to contain the supreme law of the land.

(7 marks)

(b) Identify at least three (3) rules of statutory interpretation and explain how they operate.

(6 marks)

(c) Give the hierarchy of the Zambian court structure from the highest to the lowest and explain what the jurisdiction of each court is.

(5 marks)

(d) Explain as to whether oral evidence of a written contract is admissible in a court of law.

(2 marks)

[Total: 20 Marks]

<u>QUESTION THREE</u>

(a) The passage of laws from a bill to an Act of Parliament goes through a number of stages in the National Assembly to the assent on the bill for it to become an Act of Parliament. The process is referred to as the legislative process.

Making reference to the Zambian constitution, explain how this process of transforming a bill into an Act of Parliament is done.

(10 marks)

(b) A has been in the business of selling good second hand vehicles for some time. B imports second hand vehicles into the country for sell. A and B know each other and sometimes do business together. B has intimated to A that he has a vehicle he would like A to see which recently came in and is selling. When the two met, B hands the vehicle to A without any specific instructions. C has been looking for a vehicle to buy and meets with A who was driving the vehicle given to him by B. C who knows A to be in the business of selling vehicles, asks if A would have any vehicle like the one he was driving that is selling. A informs C that the vehicle was in fact on sell. Without wasting time, C engages A to but the same vehicle which A sells to C.

Required:

Identify what type of agency relationship this is and making reference to decided cases, explain how it comes about.

(6 marks)

(c) The Directors' Report usually has some thematic points that guide the report. Identify at least four (4) such thematic points in the Directors' report.

(4 marks)

[Total: 20 Marks]

QUESTION FOUR

(a) The law as regards negligence has been long settled. For one to successfully bring an action in negligence, three (3) elements must exist and the plaintiff must be able to establish them in court.

Required:

Making reference to decided cases, **identify and explain** the elements that have to be made out for a claim of negligence to succeed.

(5 marks)

(b) The cases of *Wagon Mound* (1961) and *Re Polemis* (1921) can be said to be two (2) different sides of the same coin in the law of torts. Each one established an important principle of law that operated as precedents for some time.

Required:

Identify and briefly explain the principles of law established in each case.

(10 marks)

(c) In a relationship of agency, for a contract to be valid, the principal ought to agree to the contract with the third party. What are the requirements for such agreement to be valid? List and briefly explain these requirements.

(5 marks)

[Total: 20 Marks]

QUESTION FIVE

(a) (i) Define the term 'employment'. (2 marks)

(ii) What is the difference between an employee and a private contractor? (4 marks)

(b) (i) Explain the liability that arise on one for the torts of another. (2 marks)

(ii) Explain the circumstances that give rise to the liability identified in (i) above. (3 marks)

(c) Define Agency. (2 marks)

(d) Explain three (3) ways in which agency relationship is created. (4 marks)

(e) How does agency relationship terminate? (3 marks)

[Total: 20 Marks]

QUESTION SIX

A company's operations is mainly determined by the ability of the company to meet its statutory obligations and obligations to its employees. However, when a company fails to meet those obligations, the most probable thing for a company to do is wind up its operations and use the proceeds of the winding up to pay creditors. Winding up in such instances can come about voluntarily or by court order.

Required:

Making reference to the relevant provisions of the law, explain how the two (2) work.

[Total: 20 Marks]

END OF PAPER

CA 1.4: COMMERCIAL AND CORPORATE LAW SUGGESTED SOLUTIONS

SOLUTION ONE

1.1 B

1.2 A

1.3 B

1.4 A

1.5 D

1.6 D

1.7 C

1.8 A

1.9 D

1.10 D

SOLUTION TWO

(a) The constitution is a document that contains a country's most important laws also referred to as the supreme or fundamental laws of the land. The constitution therefore is a document and what is contained in it is what is referred to as constitutional law. The constitution is said to contain the supreme law of the land first, because the constitution itself does make that declaration. In Zambia, the constitution has made a declaration of its supremacy under article 1(1) of the constitution where it states that all laws that would be inconsistent with its provisions, such laws would be void to the extent of the inconsistency. The courts of law have further reinforced this supremacy of the constitution through the Supreme Court decision in *Christine Mulundika and 7 other v The People* in which the court held the provisions of the Public Order Act to have been inconsistent with provisions of the constitution and were declared null and void to that extent.

(b) **Golden rule** – this rule allows judges to depart from the meaning of a word contained in a statute so as to avoid an absurdity that would arise from the use of the meaning contained in the statute. The rule was first used in 1857 in *Grey v Pearson*. This rule is a deviation from the literal rule which requires judges to apply the meaning to a word that the statute has provided. *Lee v Knapp* (1967) the court applied the golden rule in interpreting the word 'stop' which was contained in the Road Traffic Act which required a person causing an accident to stop at the scene of the accident. The defendant in the matter stopped for a moment after causing an accident then drove off. The court ruled that he did not stop long enough to allow interested persons to interview him and find out what had happened.

Literal rule – this is the opposite of the golden rule. This rule requires judges to adhere to the meaning of a word contained in statute. It does not therefore allow for deviation from the ordinary meaning a word has been given in a statute. In *Duport Steel Ltd v Sirs* (1980) Lord Diplock stated the following in emphasising the literal rule of interpretation: 'where the meaning of the statutory words is plain and unambiguous it is not then for the judges to invent fancied ambiguities as an excuse to failing to give effect to its plain meaning because they consider the consequences for doing so would be inexpedient, or even unjust or immoral'.

Mischief rule – this rule has given judges the power to use discretion to address an issue that statute might have intended to address but did not expressly do so. *Smith v Hughes* (1960), the defendants were charged under the Street Offences Act (1959) with soliciting in a public place. The prostitutes were soliciting from a window which technically was not a public place. The mischief rule was applied to interpret that the prostitutes were doing what the statute was trying to abolish and hence were convicted.

(c) **Give the hierarchy of the Zambian court structure from the highest to the lowest and explain what the jurisdiction of each court is.**

Supreme Court – this court is the highest appellate court in the country. The court is established under article 124 and its jurisdiction is conferred under article 125 to hear all appeals from the Court of Appeal and as the law may allow. This court stands at par with the Constitutional Court in terms of hierarchy.

Constitutional Court - this court is established under article 127 of the constitution. The Constitutional Court has original and final jurisdiction to hear all matters patterning to the constitution. The Constitutional Court stands at par with the Supreme Court.

Court of Appeal - this is an appellate court established under article 130 of the Constitution. The Court of Appeal's jurisdiction is to hear appeals from the High Court and other courts except those falling exclusively under the jurisdiction of the Constitutional Court.

High Court – The High Court is both an appellate court and a court of first instance in both Civil and Criminal matters. Appeals to the High Court arise from the subordinate courts. The High Court further has supervisory jurisdiction over the subordinate courts. The High Court equally has the jurisdiction to review administrative decisions to establish their legally or otherwise.

Subordinate Courts – Subordinate Courts are the lowest on the hierarchy of common law courts. Subordinate Courts have original jurisdiction to hear mainly criminal matters as prescribed. Any matter commencing in the Subordinate Courts whose jurisdiction ought to be in the higher courts, would be referred to the appropriate courts as prescribed.

Small Claims Courts:- Hears claims of smaller amounts up to K20, 000.

Local Courts: Hears matters that are customary in nature involving culture and traditions of a certain ethnicity or area.

(d) Oral Evidence of written contract may be admissible to show that a written contract to show that the written contract should not be effected until a condition precedent or what the parties agreed to is satisfied as held in *Pym v Campbell (1856)*

SOLUTION THREE

(a) The following are the stages through which the proposed law, known as the 'bill' will go through before it becomes law:

First reading-A Bill will appear on the Order Paper of the relevant day. It is presented in 'dummy form' and deemed to be read a 'first time'. Alternatively, a Bill may be presented on order of the House. Following the purely formal introduction into Parliament, a date will be set for second reading and the Bill is supposed to be printed and published.

Second Reading-It is at the second reading that a Bill will receive the first in depth scrutiny. The scrutiny occurs in the form of a debate, generally on the floor of the House, and is confined to matters of principle rather than detail. It is at second reading stage that the Minister in charge of the Bill must explain and defend the contents of the Bill. The Opposition's task is to probe and question and set out reasons for opposing the Bill.

Once the Bill has successfully completed the second reading stage, it 'stands committed' to a standing committee, unless, exceptionally, the House orders otherwise.

Committee Stage-Standing committees are designed to scrutinise Bills in detail. in fact, they are not. The committee will be established for the purpose of examining a particular Bill and will then stand down. The function of the standing committee is to examine the Bill clause by clause. The Minister in charge of the Bill has the task of steering it successfully through committee stage. Members of standing committee may propose amendments. Once the clauses of the Bill have been considered, the committee moves to consider any proposed new clauses.

Report Stage-Once the Bill has been considered in standing committee, the Bill is reported back to the House as a whole. If amendments have been in the committee, the Bill will be reprinted. Further amendments may be introduced at this stage, but the speaker will be careful to void repetition of the debate in standing committee, so any proposed amendments previously considered will be rejected.

Third Reading-The third reading represents the last chance for Parliament to examine a Bill before it received the presidential assent or, in the case of the United Kingdom, before it passes to the House of Lords. At this stage, the Bill cannot be amended other than to correct small mistakes such as grammatical or printing errors.

(b) An agency relationship can be created by express appointment or by implication. The agent may be appointed verbally or in writing, unless he is authorized to execute a deed, in which case the appointment must be by deed. By **Implication-**

- Agency will arise when, although there is no specific agreement, a contract can be implied from the conduct or relationship of the parties.
- The test is objective and agency may therefore be implied even if the principal and agent did not recognize the relationship between themselves (Gernac Grain Co. v H.M. Failure 1967).
- If an alleged agent is a partner in a firm, he will be held to be acting as the agent of his co-partners if the contract that he made is within the usual agent of the partnership business.
- Cohabitation (rather than marriage) raises a presumption that the woman has authority to pledge the man's credit for necessaries. In defining necessaries regard has to be to the man's style of living rather than to his actual means. The presumption can be rebutted by evidence that, for example, the trader had been told not to supply goods to the woman on credit, or that the woman sufficient funds to purchase necessaries.
- An implied agency may arise by estoppel. Thus if a person by his words or conduct represents another as having authority to make contracts on his behalf, he will be bound by such contracts as if he had expressly authorized them. i.e. is estopped by his conduct from denying the existence of an agency.

(c) The main contents of the Director's Report are:

- Changes in the business
- Information of the Directors of the company
- Assets
- Share and Debenture issues
- Other disclosures

SOLUTION FOUR

(a) A duty of care has to be owed to the plaintiff. There has to be a breach of the duty by the defendant and there has to be a resultant damage as a result of the breach of the duty of care. *Donoghue v Stevenson* (1932) 1 AC is authority on negligence and the elements that must be established.

The position was also considered in **Continental Restaurant** and **Casino Limited v Arida Mercy Chulu (2000),** Mrs. Chulu was awarded damages amounting to K85 million after she found a cockroach in the mushroom soup which she was served at the restaurant. The company that owned the restaurant appealed and the appeal was allowed.

Therefore, for a claim of negligence to succeed, the plaintiff must be able to establish that a duty was owed to them, that there was a breach of the duty and the plaintiff suffered damage consequent to the breach of the duty.

(b) The case of *Re Polemis* happened in 1921 and established a test for establishing liability in negligence under the principle of causation and remoteness of damage. In the case, the court ruled that the defendant was to be held liable for all the damage suffered by the plaintiff which is the direct consequence of his negligent act. The case therefore established what is known as the 'directness test'.

Wagon Mound (1961). This case has the effect of overruling the decision in Re Polemis and established the reasonably foreseeability test which is the opposite of the 'directness test'. In this test, the court ruled that a defendant can only be held liable for the damage that is the reasonably foreseeable consequence of the defendant's negligent act and not for all damage arising directly from the defendant's negligent act.

The issue in this case is based on negligence. Negligence is not taking care in particular circumstances as required by the law. Negligence has three main elements, duty of care; breach of duty and resultant damage. For an action in negligence to be successful, all three elements must be present.

(c) The Principal can ratify a contract under the following conditions:

(i) He should within a reasonable time after the agent has made a contract for him ratify it.

(ii) He ratifies the whole contract and not merely part of it.

(iii) He is either fully informed of the terms of the contract or he is prepared to ratify whatever the agent may have agreed to on his behalf.

(iv) He communicates a sufficiently clear intention of ratifying.

SOLUTION FIVE

(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) **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 include the integration of the employee in the organisation of the undertaking.

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

(i) this liability is referred to as vicarious liability. Vicarious liability usually arises 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) **The circumstances that give rise to the liability identified in (i) above** – for vicarious liability to arise, the following must exist:

- There must be a master servant relationship.
- 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) **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.

(e) **Termination of agency relationship**? Agency relationship can terminate in any of the following ways:

(i) **Withdrawal by either Principal or Agent** - A principal or agent may withdraw from the relationship at any time. This legal authority is separate from the contractual right to withdraw.

(ii) **Termination -** Either party may terminate the agency relationship, even if it violates a contractual agreement between the parties.

(iii) **Renunciation by the Agent -** The agent can renounce the business of the principal and terminate her agency status and authority. This may, however, violate a contractual relationship between the parties.

(iv) **Death or Incapacity** - The agency relationship terminates upon the death or incapacity of either party.

(v) **Bankruptcy of the parties** - The agency relationship terminates upon the liquidation or bankruptcy of either party.

SOLUTION SIX

(i) **Voluntary Winding Up**

As we speak about winding up, it is vital to note that it can occur at the instance of the either the members or creditors. Winding up is also classified according to whether the company is solvent or insolvent.

A voluntary liquidation may also by commenced by the board of directors if an event specified in the company's constitution has occurred. Voluntary liquidation may be in one of two forms, depending on whether or not the company is solvent. If the company is solvent the shareholders can supervise the liquidation. However, if the company is insolvent, the creditors may take control of the liquidation process by applying to the court. The court will require proof of solvency or insolvency to determine this matter. Therefore, a creditor's voluntary winding up occurs where the shareholders resolve to put the company into liquidation but cannot make a declaration of solvency. While a members 'voluntary winding up occurs where the shareholders of the company pass a resolution to wind up the company and appoint a liquidator. In order for it to be a members' voluntary winding up, the directors have to make the declaration of solvency confirming that the company will be able to pay all its debts.

Therefore, voluntary winding up can succeed from the given facts.

(ii) **Compulsory Winding Up by the Court**

The creditors proposal is also welcome especially that the company has been trading with one director for more than one year without rectifying the issue. The creditors can compulsorily wind up the Company by using Compulsory liquidation of a company requires obtaining a court order. The application may be brought by the company or a majority of its directors, or by the Registrar of Companies, or by a creditor. Applications by creditors are by far the most important and common. This process starts with an application to the court alleging that one or more of the required grounds exist. It must be noted that the law provides that the Court may order the winding-up of a company on the petition of a person other than the Official Receiver if –

(a) The company has by special resolution resolved that it be wound-up by the Court;

(b) The company is unable to pay its debts;

(c) The period, if any, fixed for the duration of the company by the articles expires, or an event occurs in respect of which the articles provide that the company is to be dissolved;

(d) The number of members is reduced below two;

(e) The company was formed for an unlawful purpose;

(f) The incorporation of the company was obtained fraudulently; or

(g) In the opinion of the Court, it is just and equitable that the company should be wound-up

From the given facts, the Creditors have mentioned that the number of members has reduced below 2 for one year and that it was just and equitable to for the company to wind up. This being the case, the provisions of the law above provide for the situation in which a company can be wound up through these 2 elements being winding up by the Court.

CA ZAMBIA PROGRAMME EXAMINATIONS

CA CERTIFICATE IN ACCOUNTANCY

CA 1.5: MANAGEMENT THEORY AND PRACTICE

MONDAY 18 MARCH 2024

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 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 The element that aims at integrating group efforts to achieve group objectives is called ___.

A. Cooperation.
B. Coordination.
C. Management.
D. Directing.

(2 marks)

1.2 Managing Director is the position of ___ level of management in a large company.

A. Top.
B. Middle.
C. Lower.
D. Middle and Lower.

(2 marks)

1.3 From your studies of this course and other literatures recall the name(s) of the Japanese professor(s) from Tokyo University, who added the notion of small groups formed to address the problems in their work areas, is:

A. Kaoru Ishikawa.
B. Matoshi Suzuki.
C. Both 'A' and 'B'.
D. None of the above.

(2 marks)

1.4 In Management, the organizational diagnosis means:

A. To identify strengths, weaknesses problem areas.
B. To find out discrepancies, between vision and desired future and current situations.
C. Both 'A' and 'B'.
D. None of the above.

(2 marks)

1.5 From your own readings and understanding of this course, which of the following characterize a manager as being effective?

A. They interview firstly, select, and train people who are most suitable to fill open jobs.
B. They devote a large amount of time to planning.
C. They achieve their goals.
D. None of the above.

(2 marks)

1.6 **The approaches to the study of leadership which emphasize the personality of the leader are called ___**

A. Inspirational theories.
B. Trait theories.
C. Group theories.
D. Contingency theories.

(2 marks)

1.7 **Which types of leadership remains underexplored through research?**

A. Leadership at executive level.
B. Leadership of organizations.
C. Leadership in organizations.
D. Leadership of teams

(2 marks)

1.8 The techniques like questionnaires, interviews, etc., are used in which of these stages are related to change management?

A. Recruitment
B. Training
C. Diagnosis
D. All of the above.

(2 marks)

1.9 Which of these types of persons would have an ideology and a cause to fight and achieve their set goal?

A. Self-disciplined.
B. Self-driven.
C. Self-confident.
D. Self-actualized.

(2 marks)

1.10 **The following is NOT a method of Job Design.**

A. Job rotation.
B. Job enlargement.
C. Job enrichment.
D. Job analysis.

(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)

Management is essential for an organized life and necessary to run all types of management. Good management is the backbone of successful organizations. Managing life means getting things done to achieve life's objectives and managing an organization means getting things done with and through other people to achieve its objective. One scholar stated that 'Management is a distinct social process consisting of planning, organizing, and controlling, designed to accomplish the objective by the use of people and resources.' As a student of this course answer the following questions.

Required:

(a) State any four (4) of the six (6) resources of Management. (4 marks)

(b) What is a Principle? (2 marks)

(c) Layout the fourteen (14) principles of Management. (14 marks)

[Total: 20 Marks]

QUESTION THREE

Discovery of gold in many parts of Zambia has seen an influx of companies and they are providing jobs for many people in some rural towns where employment is not easy to find. The Ulubwe mineral explore company limited (UMEC) has stayed in the rural town even though it could find cheaper workers elsewhere, because workers are loyal to the company due to the jobs it provides. Over the years, the company has developed a reputation in the town for taking care of its employees and being a responsible corporate citizen. Workers have always boasted on how prudent the company has been in terms of salaries and other administrative matters.

Required:

(a) Define Corporate Social Responsibility (CSR).

(5 marks)

(b) Identify the five (5) fundamental principles of ethics as established in the revised Code of ethics for professional accountants.

(15 marks)

[Total: 20 Marks]

QUESTION FOUR

Your family has decided to start a family business in the hospitality industry and have constructed a beautiful lodge in the good and upscale part of your town. The customer traffic is very good for business. The family has requested you to spearhead the business development. A good number of well qualified workers have been employed. Your organization is therefore a formal organization although it is family business.

Required:

(a) Discuss any four (4) formal relationships that are found in a good formal organisation.

(8 marks)

(b) Side by side with formal relationships, informal relationship mechanisms will also develop over time; describe any three (3) of such relationship mechanisms.

(6 marks)

(c) Explain any three (3) benefits derived from informal organizations by Managers.

(6 marks)

[Total: 20 Marks]

<u>QUESTION FIVE</u>

Theories of motivation try to bring to light a modified need hierarchy model presented by Alderfer. This model condenses Maslow's five levels of need into only three levels based on the core needs of existence, relatedness and growth (ERG theory). Like Maslow, Alderfer suggests that individual's progress through the hierarchy from existence needs, to relatedness needs, to growth needs, as the lower-level needs become satisfied. However, Alderfer suggests these needs are more a continuum than hierarchical levels. More than one need may be activated at the same time. Individuals may also progress down the hierarchy. There is a frustration–regression process. For example, if an individual is continually frustrated in attempting to satisfy growth needs, relatedness needs may reassume most importance. The lower-level needs become the main focus of the individual's efforts. Given this information, answer the following questions.

Required:

(a) Demonstrate a high degree of proficiency of your understanding of the practical value of Maslow's hierarchy of needs model to improving the motivation of people at work.

(6 marks)

(b) Give examples of the extent to which Maslow's hierarchy of needs could meaningfully be applied to staff in an Organisation.

(8 marks)

(c) Concisely, Analyze ERG theory.

(6 marks)

[Total: 20 Marks]

QUESTION SIX

Individuals have varying expectations of the benefits from Organisations. Organisations should be seen as potential source of motivation and of job satisfaction, and also a major determinant of effective organisational performance. In recent years, attention to job satisfaction has become more closely associated with broader approaches to improved job design and work organisation, and the quality of working life movement, and with stress and the work/life balance.

Required:

(a) From your own understanding of the sentence above and readings on motivation, performance and of job satisfaction. Discuss the three (3) major methods that can be used to make the job attractive to an individual.

(15 marks)

(b) State five (5) benefits of a Job Rotation policy in an organisation.

(5 marks)

[Total: 20 Marks]

END OF PAPER

CA 1.5: MANAGEMENT THEORY AND PRACTICE SUGGESTED SOLUTIONS

SOLUTION ONE

1.1 B

1.2 A

1.3 A

1.4 C

1.5 C

1.6 B

1.7 C

1.8 C

1.9 D

1.10 D

SOLUTION TWO

(a) 2. Men
3. Materials
4. Machines
5. Money
6. Market
7. Method

(b) Principles are general guidelines that have been proven true through lots of practice in performing a task.

(c) **14 Management Principles?**

1. Principle of the division of work
2. Principle of balancing authority and responsibility
3. Principle of centralization and decentralization
4. Principle of unity of command
5. Principle of unity of direction
6. Principle of subordination of individual interest to general interest
7. Principle of scalar chain
8. Principle of discipline
9. Principle of order
10. Principle of remuneration
11. Principle of equity
12. Principle of stabilization of service
13. Principle of initiative
14. Principle of unity is strength

SOLUTION THREE

(a) Define Corporate Social Responsibility (CSR)

Corporate Social Responsibility (CSR) is the idea that a company should play a positive role in the community and consider the environmental and social impact of business decisions. CSR includes bringing value to the community and generating a positive impact.

(b) What the five (5) fundamental principles of ethics are as established in the revised Code of ethics for professional accountants.

- Integrity.
- Objectivity.
- Professional Competence and Due Care.
- Confidentiality.
- Professional Behaviour.

SOLUTION FOUR

(a) The formal relationships found in a formal organization include:

(i) **Line relationship** - that exist when there is a direct line of authority in the chain of command between a manager and a subordinate.

(ii) **Functional relationship** – which is the relationship between a function or person within the organization and another function or person who provides specialist advice or assistance.

(iii) **Staff relationship** – which is the relationship between a senior person in the organization and individual who is appointed to provide assistance to the senior person.

(iv) **Lateral relationship** – is the relationship between individuals in different department or sections and usually at the same level in the organization hierarchy.

(v) **Project relationships** which are a combination of line, functional and lateral relationship about activities relating to a common project.

(b) The informal relationship mechanisms will also develop over time include the following:

(i) Social relationships and groupings (e.g. cliques) within-or across. Formal structures.

(ii) The "grapevine", "bush telegraph" or informal communication which by-passes the formal reporting channels and routes.

(iii) Behaviour norms and ways of doing things, both social and work related, which may circumvent formal procedures and systems.

(iv) Power/influence structures, irrespective of organisation authority; informal leaders are those who are trusted and looked to for advice.

(c) The benefits derived from informal organisations for managers include:

(i) **Employee Commitment** – The meeting of employees' social needs may contribute to morale and job satisfaction, with benefits in reduced absenteeism and labour turnover.

(ii) **Knowledge sharing**. The availability of information through informal networks can give employees a wider perspective on their role in the task and the organisation, potentially stimulating problem solving, cross boundary co-operation and innovation.

(iii) **Speed**. Informal networks and methods may sometimes be more efficient in achieving organisational goal, where the formal organisation has rigid procedures or lengthy communication channels.

(iv) **Responsiveness.** The directness, information richness and flexibility of the informal organisation may be particularly helpful in conditions of rapid environmental change, facilitating both the mechanisms and culture of anti-bureaucratic responsiveness.

(v) **Co-operation**. The formation and strengthening of interpersonal networks can facilitate team working and co-ordination across organisation boundaries.

SOLUTION FIVE

(a) **Evaluation of Maslow's theory**

- Based on Maslow's theory, once lower-level needs have been satisfied (say at the physiological and safety levels) giving more of the same does not provide motivation.
- Individuals advance up the hierarchy as each lower-level need becomes satisfied.
- Therefore, to provide motivation for a change in behavior, the manager must direct attention to the next higher level of needs (in this case, love or social needs) that seek satisfaction.

(b) **Applications to the work situation**

However, there are a number of problems in relating Maslow's theory to the work situation.

These include the following:

- People do not necessarily satisfy their needs, especially higher-level needs, just through the work situation. They satisfy them through other areas of their life as well. Therefore the manager would need to have a complete understanding of people's private and social life, not just their behavior at work.
- There is doubt about the time which elapses between the satisfaction of a lower-level need and the emergence of a higher-level need.
- Individual differences mean that people place different values on the same need. For example, some people prefer what they might see as the comparative safety of working in a bureaucratic Organisation to a more highly paid and higher status position, but with less job security, in a different Organisation.
- Some rewards or outcomes at work satisfy more than one need. Higher salary or promotion, for example, can be applied to all levels of the hierarchy.
- Even for people within the same level of the hierarchy, the motivating factors will not be the same. There are many different ways in which people may seek satisfaction of, for example, their esteem needs.
- Maslow viewed satisfaction as the main motivational outcome of behavior. But job satisfaction does not necessarily lead to improved work performance

(c) Concisely, Analyze ERG theory.

- **Existence needs** are concerned with sustaining human existence and survival, and cover physiological and safety needs of a material nature.

- **Relatedness needs** are concerned with relationships to the social environment, and cover love or belonging, affiliation, and meaningful interpersonal relationships of a safety or esteem nature.
- **Growth needs** are concerned with the development of potential, and cover self-esteem and self-actualization.

SOLUTION SIX

(a) The **THREE** Methods include; Job rotation, Job Enrichment and Job enlargement.

JOB ROTATION

(i) **Job rotation** is movement of employees on different job role which enriches their skills, ability to work on different roles and experience. It is a useful HR strategy to create awareness among employees about all types of job performed in their vertical.

(ii) **Job rotation** is defined as a management technique which is used to shift employee from one job to another in order to make them familiar with all the verticals of an organization. The objective of job rotation is to enhance the work experience of the employees, to cross-train them and improve their job satisfaction.

(iii) **Job rotation** is the most common form of individual job redesign. It involves the moving of a person from one job or task to another aimed at adding some variety and help remove boredom at least in the short term. This is more pronounced where the jobs are similar and routine. Employees within the medium term would find the new job boring again.

JOB ENRICHMENT

(i) **Job Enrichment** is a job design strategy, applied to motivate the employees by delegating them extra responsibilities to make it more rewarding. In other words, job enrichment means to upgrade the quality of a job and to make it more exciting, challenging and creative. The job holder is given responsibilities and power to plan, control and make important decisions. The requirement of supervision will now be less or it can also be said that the worker himself will perform the tasks of a supervisor.

(ii) **Job Enrichment** is an extension of the more basic job rotation and job enlargement methods of job design. This method attempts to enrich the job by incorporating motivating or growth factors such as increased responsibility and involvement, opportunities for advancement and the sense of achievement. Job enrichment involves vertical job enlargement. It aims to give the person greater autonomy and authority over the planning, execution and control of their own work. This is sometimes referred to as empowerment.

JOB ENLARGEMENT

(i) **Job enlargement** is a job design technique wherein there is an increase in the number of tasks associated with a certain job. In other words, it means increasing the scope of one’s duties and responsibilities. The increase in scope is quantitative in nature and not qualitative and at the same level.

(ii) **Job enlargement** focuses on enlarging jobs by increasing tasks and responsibilities. It involves expansion of the Scope and width of the job by means of a horizontal loading of certain closely related operations

(iii) **Job enlargement** is the combining of job tasks across the same level within a company. Implementing job enlargement widens the scope of individual team members to include more tasks and responsibilities. By combining tasks, managers increase the interest and engagement in work among their teams. Effective job enlargement practices result in benefits for both managers and their staff, such as higher levels of productivity and morale. Using a job enlargement model increases the number of duties assigned to an individual, and this method gradually redefines the job by also increasing team member responsibilities and expectations.

(b) Benefits of Job Rotation Policy

(i) It reduces the exposure to fulfilling the demands of only one job role.
(ii) It minimizes the strain, physiological stress and fatigue associated to one particular job role.
(iii) It reduces the fear of employee to be stuck on high risk job.
(iv) It improves the work efficiency and productivity of employees.
(v) It increases work flexibility among employees and improve the skill base.
(vi) Helps Managers Explore the Hidden Talent.
(vii) It provides relief from boredom and complacency.
(viii) Identifies Knowledge, Skills and Attitudes.
(ix) Increases Satisfaction and Decreases Attrition Rate:
(x) Helps Align Competencies with Requirements
(xi) Job rotation is a management method that brings diversity to the working culture.

END OF SUGGESTED SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA CERTIFICATE IN ACCOUNTANCY

CA 1.6: BUSINESS COMMUNICATION

WEDNESDAY 20 MARCH 2024

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 Which of the following is a correct set of the three (3) types of accounting information systems?

A. Manual, Legacy and Modern/Integrated systems
B. Automated, Legacy and Modern/Integrated systems
C. Manual, Cloud and Modern/Integrated systems
D. Automated, Cloud and Modern/Integrated systems

(2 marks)

1.2 What short cut keys are used to switch between open windows applications?

A. Ctrl + Tab
B. Alt + Tab
C. Alt + Space bar
D. Ctrl + Space bar

(2 marks)

1.3 An organization has four levels, strategic, middle, knowledge and operational level. Knowledge and knowledge systems like office automation and KWS will generally be developed to.

A. Bill clients
B. Decentralize peripherals such as printers
C. Help employees understand what and how things are and enhance communication
D. Repair routers

(2 marks)

1.4 Which of the following presents a correct combination of examples of information Technology (IT) application controls in a business?

A. Authorization and redundancy.
B. Identification and redundancy.
C. Authentication and completeness.
D. Input controls and printing.

(2 marks)

Data reliability assessment is an important process that can reveal problem areas about your data that you didn't even know existed. The assessment typically measures three (3) different aspects of data reliability which include?

A. Validity, completeness, uniqueness.
B. Validity, correctness, uniqueness.
C. Validity, completeness, authenticity.
D. Validity, correctness, authenticity.

(2 marks)

1.6 Which of the following is **NOT** part of the seven (7) Cs of communication?

A. Conciseness.
B. Concreteness.
C. Complicity.
D. Courtesy.

(2 marks)

1.7 Which of the following can be presented as the main heading in a Curriculum Vitae?

A. Religion.
B. Personal details.
C. Duties and responsibilities held.
D. Previous work positions held.

(2 marks)

1.8 Why should supervisors be mindful of grapevine communication?

A. It is not true.
B. It spreads like wild fire.
C. It is harmful.
D. It may not be accurate.

(2 marks)

1.9 At which stage in a meeting are matters which were not concluded in the previous meeting discussed?

A. Any Other Business.
B. Adoption of minutes.
C. Matters arising.
D. Minutes of the previous meeting.

(2 marks)

1.10 Which of the following best describes the role of a bar chart?

A. It shows the relationship between two variables.
B. It shows or compares magnitudes or sizes of items..
C. It shows relative sizes of component elements of a total value or amount.
D. It forecasts progress on projects and predicts the time of completion.

(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).

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

(a) Identifying types of risks will help you complete your business continuity plan.

Explain five (5) ways an organization that prioritizes high reliability of data and information can control and manage a set of information technology risks such as human error, natural disasters, system failure, viruses and malicious attacks.

(10 marks)

(b) A Computer-Based Information System (CBIS) is an information system that is implemented using Information and Communications Technologies. An organization such as ZICA has different types of systems in use in the different functional areas of their operations such as procurement, accounting, operations, examinations, student registration and management.

Mention four (4) main hardware components of a CBIS.

(4 marks)

(c) Utilization of spreadsheet software such as Microsoft Excel requires you to have a thorough understanding of the concept of cell referencing.

(i) State the three (3) types of cell referencing you can work with in Microsoft Excel.

(3 marks)

(ii) Using the cell D4 as an example, indicate how it would be written using each of the three types of references in Microsoft Excel.

(3 marks)

[Total: 20 Marks]

<u>QUESTION THREE</u>

(a) When a website has been created, it has its own unique address called its Uniform Resource Locator (URL). The following is an example of a URL:

http://www.zicazambia.org.zm

Briefly explain what each of the following items that makes up the structure of the URL represent:

(i) http:// (1 mark)

(ii) www. (1 mark)

(iii) zicazambia. (1 mark)
(iv) org. (1 mark)

(b) Give two (2) examples of general controls. (2 marks)

(c) Relate the memory cache to processing power of the computer. (4 marks)

(d) Outline the five (5) components of an information system. (10 marks)

[Total: 20 Marks]

QUESTION FOUR

(a) Information and Communication Technology (ICT) is essential to the smooth running of operations for the modern organization.
Explain four (4) improvements ICT have brought to business processes. (8 marks)

(b) Several risks are associated with information systems. Most risks can be minimized through a variety of controls that provide network and communication security.
Briefly explain each of the following security controls stating the way they are used to control risks.
(i) Encryption. (3 marks)
(ii) Electronic signatures. (3 marks)

(c) Information systems are designed to help the organization to carry out its operations as well as to facilitate informed decision making and planning. Different information system across the organization use, generate and manipulate information, data and knowledge.
Using a scenario of a traffic lights made up of three lights red, yellow and green and whose function is the normal function of traffic lights in Zambia:
(i) State two (2) data points or examples of data in this scenario. (2 marks)
(ii) Given one (1) example of information that can be created from this scenario. (2 marks)
(iii) Give an example of knowledge that can be created from this scenario. (2 marks)

[Total: 20 Marks]

QUESTION FIVE

You are a Sole trader, owner of JM limited company that deals in electronics. By nature of the type of business activity, you handle almost all matters relating to customer care, accounting and human resources. You have been receiving a lot of complaints from your clients over poor quality of goods and services. Mapalo and Sons Limited recently wrote you a letter of complaint about your products and services which you need to respond to clear or explain your position as a company.

Required:

(a) State two (2) types of letter formats you are likely to use as you communicate with your customers.

(2 marks)

(b) State any four (4) features of a fully blocked letter.

(4 marks)

(c) Write a letter of apology to Mapalo & Sons Limited to explain your position as a company.

(14 marks)

[Total: 20 Marks]

QUESTION SIX

There is a new member of staff in the Accounts Department of your organisation. One of the policies in your organization is to ensure that new staff undergo a proper induction process.

As part of the induction process, you wish to explain to the new staff about the types of reports that you prepare in your daily activities. You also wish to explain the use of graphic communication as an important component in presenting statistical data for reports.

Required:

(a) Explain any five (5) types of reports that are commonly used in organizations.

(10 marks)

(b) Explain five (5) key principles of effective graphic communication.

(10 marks)

[Total 20 Marks]

END OF PAPER

CA 1.6: BUSINESS COMMUNICATION SUGGESTED SOLUTIONS

SOLUTION ONE

1.1 A

1.2 B

1.3 C

1.4 C

1.5 A

1.6 C

1.7 B

1.8 D

1.9 C

1.10 B

SOLUTION TWO

(a) There are several measures that can be put to improve IT security within the organization including:
- securing computers, servers, and wireless networks
- using anti-virus and anti-spyware protection, and firewalls
- updating software to the latest versions
- using data back
- ups that include off-site or remote storage
- securing your passwords
- implementing two-factor authentication
- training staff in IT policies and procedures
- using Secure Socket Layer (SSL) on websites

(b) (i) Any operating system such as Windows, Linux, MacOS, Ubuntu

(ii) The five main hardware components in a computer system: Input, Processing, Storage, Output and Communication devices.

(c) (i) Relative referencing

Absolute referencing

Mixed referencing

(ii) Relative referencing example D4

Absolute referencing example D4

Mixed referencing example $D4 or D$4

SOLUTION THREE

(a)
- http:// - Stands for Hypertext Transfer Protocol, the protocol used on the World-Wide Web for exchange of documents.
- . www - These stands for World Wide Web.
- . zicazambia - The domain name of the organization or individual whose site (a website is also commonly referred to as a site) is located at this URL. In this case this is the site for the organization
- .org - The type of the organization concerned, .com or .co for commercial organization, .ac or .edu would indicate an education institution such as a university.
- .uk This indicates the organization's country of location

(b) This includes the various safeguards within the system that apply to computer operations, administration, data security, software, hardware and more.

(c) Cache memory is a small but extremely fast memory that store a second copy of the data requested by the processor from RAM. The purpose is to speed up processing

(d) (i) Computer hardware - the physical technology that works with information

(ii) Computer Software - this is what makes the hardware work, which is system software and application

(iii) Telecommunication - this component connects to the hardware together to form a network

(iv) Databases and Data warehouses - Data is stored, can be retrieved by queries and analyzed

(v) Human resources and Procedures - People that are needed to run the system and the procedures followed to run the system

SOLUTION FOUR

(a) **Better business communication.** When no physical objects need to be transferred from one place to another, telecommunications technology can make geographical distance irrelevant.

Greater efficiency. Telecommunications has made business processes more efficient. Any information that is recorded electronically can become immediately available to anyone involved in a business process, even when the business units are located far apart.

Better distribution of data. Organizations that can transmit vital data quickly from one computer to another can choose not to have centralized databases.

Instant transactions. The availability of the Internet to millions of businesses and consumers has shifted a significant volume of business transactions to the Web.

Flexible and mobile workforce. Employees do not have to come to the office to carry out their work as long as their jobs only involve the use and creation of information.

Alternative channels. Services that used to be conducted through specialized dedicated channels can be conducted through alternative channels. For example, voice communication used to be conducted only through proprietary telephone networks but is now also conducted through the Internet, which decreased its cost.

(b) (i) *Encryption*
Encryption is the scrambling of data from an intelligent form to a form that is unintelligent and such that it seizes to make sense. Data that is in transition over a network can be intercepted or read during the transmission; hence if it encrypted the risk of exposure is reduced.

(ii) *Electronic signatures*
Electronic signatures are the electronic equivalent of personal signatures. This is built using public key cryptography which is a form of encryption which uses two keys namely private and public key. Electronic signatures are used to achieve non-repudiation.

(c) (i) Two data points easily collect from traffic lights are the facts that they have three lights and their different colors: red, yellow and green.

This amounts to two separate data points: **numerical data (the number three)** and **data about color (red, yellow, green).** By themselves these two data points mean very little.

(ii) Information from a traffic light would consist of collecting the two data points mentioned above, about the number three and the colors red, yellow and green and combining it in some way.

It would put that together to say that "a traffic light has three lights which are red, yellow and green."

(iii) Knowledge moves us from information, which helps us understand what things are, and allows us to now understand how things are and is built after some experience.

Our experience with traffic lights tells us we can have the following as examples of acquired knowledge:

- that red means stop
- yellow means that a red light is coming
- green means go.

SOLUTION FIVE

(a) Full blocked and semi blocked formats

(b) Feature of a full blocked format

- Addresses are not punctuated
- Text lines are aligned to the left
- The date is not punctuated
- Salutation is not punctuated
- The text is not indented for paragraphs
- Complimentary close aligned to the left
- Complimentary close not punctuated

(c) JM Limited

Po box 301735

Livingstone

Date: Any date during examination time

Mapalo & sons Limited

Po. Box 31892

Livingstone.

Dear esteemed customer,

Re: Apology for offering poor products and services

We acknowledge receipt of the complaint about poor products and services offered to you a couple of weeks ago. We wish to apologise for the inconvenience caused.

We wish to inform you that our company is doing everything possible to resolve these challenges. A new consignment of products has been ordered of which replacement would be made on the faulty ones and a group of specialised staff has been place in strategic positions in order to offer best services to our esteemed customers. A free mobile toll number is also now in use to quickly address challenges that customers might still experience.

We are also encouraging our customers to bring the faulty products to our maintenance workshop at our premises for electronic devices that have serious problems.
Let me assure you that we highly value your time and business relationship. We will strive to ensure that these problems are not repeated in future.

If you have any additional questions or wish to discuss the matter further, do not hesitate to contact us on 0977899543 or email us on jmlimited @gmail.zm. You are also welcome to visit us in person.

Thank you very much for your patience and understanding. We hope to have an opportunity soon to serve you again.

Yours sincerely

Sender's signature

Mr. J. Motomola

Managing Director

SOLUTION SIX

(a) **Types of reports**

- Formal report – official massive, complex and highly structured documents, presenting and analyzing information and often ending with conclusion and recommendations
- Informal reports generally used for less complex reporting tasks.
- Standard report – Reports that have standard headings to ensure that all aspects have been covered
- One off or regular reports- Reports that are produced at regular interval.
- Forward and backward looking reports – A forward – looking report could contain information about a takeover target and recommendation as to whether a bid should be made.
- Project report - A report that provides details on the project's overall status or specific aspects of its performance

(b) **Key principals of effective graphic communication**

- Citing the source of information (data) where relevant
- Clearly label all elements
- Keep textual elements very brief
- The diagrams should be large enough so that they can be easily read
- Each diagram should have a concise and meaningful title.
- Do not overcrowd the diagram.

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA APPLICATION ADVANCED DIPLOMA IN ACCOUNTANCY

CA 2.1 FINANCIAL REPORTING

MONDAY 18 MARCH 2024

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

Mark specializes in oil production and holds investments in Luke and John. Draft financial statements of Mark Group for the year ended 31 March 2023 are as follows:

	Mark	**Luke**	**John**
	K'000	**K'000**	**K'000**
Assets			
Non-current Assets			
Property, Plant and Equipment	227,200	200,000	152,000
Investment property	200,000	200,000	200,000
Other investments	100,000		
Investments	423,358	Nil	Nil
Total Non-current Assets	950,558	400,000	352,000
Current Assets			
Inventories	136,000	80,000	64,000
Trade Receivables	120,000	72,000	57,600
Cash and Cash Equivalents	22,000	16,000	12,800
Total Assets	**1, 228,558**	**568,000**	**486,400**
Equity and Liabilities			
Equity Shares of K1 each	312,000	160,000	128,000
Retained Earnings	449,868	248,000	160,000
Total Equity	761,868	408,000	288,000
Non-current Liabilities			
Loan Notes	152,000	72,000	80,000
Deferred Consideration	99,172	Nil	Nil
	1,013,040	480,000	368,000
Current Liabilities			
Trade and Other Payables	89,918	72,000	86,400
Short-term Borrowings	125,600	16,000	32,000
Total Equity and Liabilities	**1, 228, 558**	**568,000**	**486,400**

Additional information:

1. Mark acquired 40% of equity shares of John at its date of incorporation and paid a consideration of K51.2 million in cash. This investment is recognised in Mark's draft financial statements at cost and no goodwill was computed.

2. On 1 April 2022, Mark acquired 75% of Luke's equity shares when Luke's retained earnings were K128 million, on the following terms:

   (a) On 31 March 2024, Mark was to make a deferred cash payment of K1 per Luke share acquired. Luke's required rate of return at the date of acquisition was estimated at 10% per annum.

   (b) Mark issued 2 shares for every 3 shares acquired in Luke. On the date of this acquisition, the market value of Mark's single share was K3.50; while that of Luke was K2.

   (c) Agreed to pay a further amount on 1 April 2030 contingent upon the post-acquisition performance of Luke. At the date of acquisition the fair value of this contingent consideration was assessed at K5 million but by 31 March 2023 it had become clear that the amount due would be K6 million (Ignore discounting).

   (d) Mark incurred K2 million directly attributable (due diligence) costs on acquisition of Luke. This amount was included in the carrying amount of the investment in Luke in Mark's own statement of financial position.

   (e) Mark has **recorded only** the share exchange consideration, directly attributable costs and provided for the deferred consideration.

3. The directors of Mark carried out a fair value exercise to measure identifiable assets and liabilities of Luke at 1 April 2022. The following matters emerged:

   (a) An item of inventory's carrying value was K4.8 million less than its estimated market value. At 31 March 2023, this inventory had all been sold.

   (b) An item of plant and equipment with a carrying amount of K160 million had an estimated fair value of K176 million. At the time, the estimated future economic life of the plant was five (5) years and this estimate remains valid. Luke disposed of 20% of this plant and equipment since 1 April 2022.

4. Inventories of the subsidiary and associate companies at 31 March 2023 include components (i) purchased from Mark during the year end at a cost of K24 million

to Luke, and (ii) from Mark at a cost of K20 million to John. Mark had applied a mark-up of 25% on this sale. Ignore deferred tax implications.

5. It is group policy to value non-controlling interests in subsidiaries at the date of acquisition at fair value.

6. An impairment test at 31 March 2023 on the consolidated goodwill concluded that it should be written down by K5 million.

7. During March 2023 Mark sold goods to external customers with a warranty covering customers for the cost of repairs of any defects that are discovered within the first 2 months after purchase. Past experience suggests that 70% of the goods sold will have no defects, 20% will have minor defects and 10% will have major defects. If minor defects were detected in all products sold, the cost of repairs would be K50 million; If major defects were detected in all products sold, the cost would be K20 million. Mark has not made any provision.

8. The other investments are included in Mark's statement of financial position above at their fair value on 31 March 2023.

9. Trade receivables of Mark include K12.8 million and K20.5 million due from Luke and John respectively; while Trade payables of Luke and John include equivalent amounts payable to Mark.

10. In addition to note 4 above, since 1 April 2023, Mark Plc had supplied some special products to Luke Plc. Mark Plc applies a markup of 25% to its cost of supplying these special products. Sales of the product by Mark Plc to Luke Plc in the period from 1 April 2023 to 31 March 2023 totaled K30 million. One-third of the products which Mark Plc had supplied to Luke Plc since 1 April 2023 were still unsold by Luke Plc at 31 March 2023.

    Any adjustment necessary in the consolidated financial statements as a result of these sales will be regarded as a temporary difference for purposes of computing deferred tax. The rate of deferred tax to apply to temporary differences is 20%. No amounts were owing to Mark Plc by Luke Plc in respect of these sales at 31 March 2023.

Required:

(a) Prepare Mark's consolidated statement of financial position as at 31 March 2023.
(33 marks)

(b) Explain 'control' as commonly used in IFRS 10 consolidated financial statements and briefly outline how it is determined.

(3 marks)

(c) Describe four (4) circumstances in which a parent entity may not be required to present consolidated financial statements under International Financial Reporting Stand.

(4 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this Section.

Attempt any THREE (3) questions.

QUESTION TWO

The balances below related to Kwanza Limited for the year ended 30 September 2023:

	K 000	K 000
Ordinary shares of K1.00 each		50,000
Retained earnings on 1 October 2022		48,800
Income Tax		2,200
Land and buildings -at valuation	150,000	
Plant and machinery at cost	96,800	
Accumulated depreciation buildings-1 October 2022		10,000
Accumulated depreciation plant & -1 October 2022		25,200
Investment income -from properties		1,500
Trade Receivables	32,500	
Purchases	160,520	
Inventories 1 October 2022	25,606	
Distribution expenses	24,600	
Interim preference dividend paid	800	
Sales		320,000
Revaluation reserve		16,500
Trade Payables		34,800
Investment properties -Valuation 1 October 2022	12,000	
Administration expenses	22,800	
Ordinary dividends paid	2,500	
8 % Redeemable Preference shares		32,000
Financial Assets -Fair value 30 September 2023	8,000	
Bank	4,874	----
	541,000	541,000

Additional information:

1. Inventory on 30 September 2023 was valued at cost of K30.2 million. This includes slow moving inventory with a cost of K5.2 million which Kwanza would like to sell because it is becoming obsolete at a fast rate. The probable offers obtained so far are not more than K3 million before taking into account marketing expenses of K0.7 million.

2. Land and buildings were last revalued a few years ago to a fair value of K150 million. This amount includes K60 million being the value of land. The buildings' remaining life at that date was 50 years. The depreciation charged based on the original cost of the building would be K1.5 million. Kwanza has a policy of transferring excess depreciation from revaluation account every year.

3. The company applies *IAS 40 Investment Properties* to accounting for investment properties and the fair values recorded so far are: K12 million as at 30 September 2022, and K10.2 million as at 30 September 2023.

4. The directors have estimated that K8.8 million would have to be paid as tax on current year's profits. The balance on the current tax account in the trial balance represents and under/over estimation of tax in the year to 30 September 2022.

5. Kwanza sold an item of plant for K45 million on 1 May 2023. The plant had a carrying amount of K30 million. On the same day, Kwanza entered into an agreement to lease the same item of plant for its remaining life of five years at an annual instalment of K10 million. Kwanza's average cost of capital is deemed to be 10%. No depreciation has been charged on this item of plant in the current year. This sale does not satisfy the requirements of IFRS 15 *Revenue from Contracts with Customers* for a sale. All amounts relating to this sale have been included in the sales revenue and cost of sales respectively.

6. Depreciation on plant other than the one referred to in note (5) above is charged at the rate of 20% per annum on a reducing balance basis.

7. During the year to 30 September 2023, Kwanza sold 80,000 units of a product with a one (1) year warranty. It is probable that 5% of these will submit claims within one (1) year. The directors estimate that they will have to spend K700 per unit to repair major faults, and K150 per unit to repair minor faults. It has been estimated that 25% of the total warranty claims will require major repairs, whilst the balance will require minor repairs.

Required:

Prepare for Kwanza limited;

(a) The statement of profit or loss and other comprehensive income for the year ended 30 September 2023.

(8 marks)

(b) The statement of changes in equity for the year ended 30 September 2023.

(4 marks)

(c) The statement of financial position as at 30 September 2023. (8 marks)

[Total: 20 Marks]

QUESTION THREE

IAS 33 Earnings Per Share (EPS) aims to improve the comparison of different entities' performance in the same period and of the same entity in different periods. The standard therefore prescribe the principles for determining and presenting Earnings Per Share amounts to improve performance comparison.

Required:

(a) Explain the accounting treatment applicable in calculating basic EPS with regard to the following issues in an accounting period:

(i) No change has taken place to the capital structure, that is, no new issue of shares.
(ii) A new issue of shares at a full market price has taken place.
(iii) A bonus issue of shares has taken place.
(iv) A rights issue of shares has taken place.

(12 marks)

(b) The following extracts show profit and applicable appropriations for Maboshe Co. for the year ended 31 March 2023:

Profit and loss extract for year ended 31 March 2023

	K'000
Profit before tax	12,650
Income tax	(4,508)
Profit for the year	8,142

Statement of changes in equity extract for the year ended 31 March 2023

	K1 Ordinary share capital K'000	6% preference share capital K'000	Retained earnings K'000	General reserve K'000
Balances b/f@ 1 April 2023	20,600	23,000	114,500	6,500
Profit for the year			8,142	
Preference dividends paid			(1,380)	
Ordinary dividends paid				

			(2,070)	
Transfer to general reserve			(1,900)	1,900
Balances c/f @ 31 March 2023	?	23,000	117,292	8,400

Required:

Calculate basic EPS in respect of the year ended 31 March 2023 for each of the following circumstances:

(i) On the basis that there was no issue of any form of shares during the year to 31 March 2023 hence no change in the equity structure;

(3 marks)

(ii) On the basis that the Maboshe Co. made a rights issue of ordinary shares on 1 January 2023 in the proportion of 1 for 5 existing shares held, at a price of K6.00 per share. The market price for the shares just before the issue was K8.90.

(5 marks)

[Total: 20 Marks]

QUESTION FOUR

(a) IAS 10 *Events after the Reporting Period*, provides the guidance for accounting for transactions that occur after the reporting date but before financial statements are authorized for issue to the shareholders.

Required:

(i) Define adjusting and non-adjusting events, giving two (2) examples for each.

(4 marks)

(ii) Distinguish between accounting treatment for adjusting events from that of non-adjusting events.

(4 marks)

(b) IAS 23 *Borrowing Costs*, deals with the treatment of borrowing costs, often associated with the borrowing of funds for construction of qualifying assets.

Required:

(i) Define 'borrowing costs' and 'qualifying asset' in accordance with IAS 23 *Borrowing Costs*.

(3 marks)

(ii) Konge Ltd commenced construction of a manufacturing plant on 1 October 2023 that was expected to take four years to complete. It is being financed entirely by a four-year term loan of K12.5 million. The loan was taken out on 1 October 2023. It carries a fixed interest rate at 14% per annum.

During the year to 31 March 2023, funds surplus to immediate requirements were invested, and K0.18 million had accrued as interest for part of the period to the year end from the temporary investment of borrowed funds. The investment was made on 1 October 2023 and would mature on 30 September 2024.

(5 marks)

(iii) Konge Ltd equally made progress with the construction of another investment property, whose construction had stalled for many years due to slump in demand.

The finance for the construction was drawn as follows: A K125 million was drawn on 1 October 2023 and another K60 million on 1 January 2023, all from a pool of funds build from existing borrowings of 10% loan amounting to K350 million and 8% loan amounting to K500 million.

Required:
Calculate, with explanations, the amount of borrowing costs that should be capitalized in respect of each qualifying asset in (ii) and (iii).

(4 marks)

[Total: 20 Marks]

<u>QUESTION FIVE</u>

(a) On 1 January 2023 Bro-Gel acquired a wheel alignment machine on 4 year lease from Tahota Equipment. When bought for cash the equipment would cost K350,000. Bro-Gel will have to mount the equipment on some special platform before using it. The cost of constructing the platform was K50,000.

The annual lease repayments are K95,000 per annum payable in arrears. The rate of interest implicit in the lease is 10%. The equipment has an economic useful life of 5 years.

Required:

Explain and show by way of extracts how the lease will be accounted for in the financial statements for the year ended 31 December 2023.

(10 marks)

(b) Bro-Gel sold some old equipment to ZeroAuto Shop for K15,000 even though the fair value of the equipment was K20,000. Bro-Gel, however, has continued to use the old equipment under an arrangement that he pays annual rentals of K6,500 per annum in arrears for the next three (3) years. Bro-Gel depreciates equipment on a reducing balance basis at the rate of 25% per annum. After three (3) years Bro-Gel will continue using the asset without any additional payments.

Bro-Gel incremental borrowing cost is 10% and the relevant discount factors are as follows:

	1	2	3	Three Year Cumulative
At the rate of 10%	0.909	0.826	0.751	2.487

Required:

(i) Explain the principle of 'substance of transaction' as discussed in the IASBs Conceptual Framework for the preparation of Financial Statements, and IFRS 15 *Revenue from Contracts with Customers*.

(4 marks)

(ii) Discuss how the Bro-Gel should account for the transaction above in his financial statements for the year ended 31 December 2023, giving your reasons for your choice of treatment.

(6 marks)

[Total: 20 Marks]

END OF PAPER

CA 2.1: FINANCIAL REPORTING SUGGESTED SOLUTIONS

SOLUTION ONE

(a) **Mark Group**

Consolidated Statement of Financial Position as at 31st March 2023

Assets	**K'000**
Non-current Assets	
PPE [227,200 + 200,000 + 7,680 FVA (w1)]	434,880
Investment property (200, 000 + 200,000)	400,000
Deferred tax (W7)	400
Goodwill (w2)	141,358
Other investments	100,000
Investment in Associate [51,200 + 64,000 (w4) – 1, 600urp]	113,600
	1, 190,238
Current Assets	
Inventories [136,000 + 80,000 - 4,800 URP-2000 (w7)]	209,200
Trade Receivables [120,000 + 72,000 - 12,800 intra-group]	179,200
Cash and Cash Equivalents [22,000 + 16,000]	38,000
Total Assets	**1, 616,638**
Equity and Liabilities	
Equity	
Equity shares of K1 each	312,000
Group retained earnings (w4)	557,360
Total Equity	869,360
NCI (w3)	105,470
Non-current Liabilities	
Deferred Consideration (w5)	109,090
Contingent consideration (5000 + 1000)	6,000
Loan notes [152,000 + 72,000]	224,000
Current Liabilities	
Trade & Other Payables [89,918 + 72,000 - 12,800 intra-group +12,000 provisions w8]	161,118
Short-term Borrowings [125,600 + 16,000]	141,600
Total Equity and Liabilities	**1, 616, 638,**

(b) **Control**

According to IFRS 10 consolidated financial statements, 'control is the power to govern the financial and operating policies of an entity so as to obtain benefit from its activities'. Control is presumed to exist where the investor owns more than half of the voting power of the other entity.

Other circumstances set out by IFRS 10 that signify existence of control (even if there is less than half of the equity share ownership) include: -

i) Where the investor has power to govern the financial and operating policies of the investee under a statute or agreement.
ii) Where the investor has power to appoint or remove the majority of the board of directors or equivalent governing board of the investee company.
iii) Where the investor has power to cast the majority of votes at meetings of the board of directors or equivalent body. iv) Where the investor has power over more than half the voting rights by virtue of an agreement with other investors.

(c) **Exemptions to preparing Group Accounts**

IFRS 10 Consolidated financial Statements outlines the following exemptions when the parent entity need not present consolidated financial statements:

(i) The parent itself is a wholly owned subsidiary or a partially owned subsidiary and its owners have been informed about it and do not object to the parent not preparing the consolidated financial statements.
(ii) The parent's debt or equity instruments are not traded in a public market.
(iii) The financial statements of the parent are not filed with any regulatory organisation for the purpose of issuing debt or equity instruments on any stock exchange.
(iv) The ultimate or immediate parent of the entity produces publicly available financial statements that comply with IFRSs.

Workings for Solution 1: all workings are in K'000

Group structure: **Luke** (120/160) = 75%, therefore a subsidaiary; & NCI = 25%. John is an associate (40%)

(1)

Luke's Net Assets Table	**At Acq**	**At Reporting**
	K'000	***K'000***
Equity Shares Capital	160,000	160,000

Retained Earnings	128,000	248,000
Property, Plant and Equipment*	16,000	7,680
Inventory	4,800	Nil
	308,800	415,680

*NBV of PPE at reporting date is **K7.68 million** (i.e. K16m x 3/5 x 80%). Post-acquisition (**Two years from 1st April 2021 to 31st March 2023**) increase in Net Assets=**K106.88 million** (K415.68 – K308.80).

(2) **Goodwill at acquisition of Luke**

Cost of Investment:	
Share Exchange [75% x 160,000 x $^2/_3$ x K3.50]	280,000
Contingent consideration	5,000
Deferred Consideration [(75% x 160,000 x K1) ÷ 1.1^3]	90,158
Fair Value of NCI [25% x 160,000 x K2.00]	80,000
	455,158
Net assets at acquisition (w1)	(308,800)
	146,358
Less impairment loss	(5, 000)
	141,358 -CA

(3) **NCI**

Fair Value at Acquisition (w2)	80,000
Impairment loss (K5,000 x 25%)	(1,250)
25% Share of increase in Net Assets of K106.880 million (w1)	26,720
	105,470

(4) **Group Retained Earnings**

Mark's per question	449,868
Unwinding of Discount of Deferred Consideration (109090-99172)	(9,918)
Mark's Share in increase in Net assets [(415,680-308,800) x 75%]	80,160
Mark's Share in John's Post Acquisition Profits [40% x 160,000]	64,000
Unrealised Profit on Sales to Luke [24,000 x $^{25}/_{125}$]	(4,800)

Unrealised Profit on Sales to John [(20,000 x $^{25}/_{125}$) x	(1,600)
40%]	(1,600)
Unrealised profit on a sale of a special product (w7)	
	(1,000)
Increase in contingent consideration (6,000 -5,000)	(2,000)
Due diligence costs	(12,000)
Provisions (w8)	(3,750)
Impairment loss (5, 000 x75%)	
	557,360

(5) **Deferred Consideration**

At 1 April 2022	99,172
Unwinding of Discount	9,918
	109,090

(6) **Contingent Consideration**

Post change in contingent consideration should be K1, 000.00 (K 6000-5000) should be debited to retained earnings.

(7) **Due diligence costs**

K2 million should be expensed as per revised IFRS 3, business combinations.

(8) **Unrealised profit on special products**

30, 000, 000 x 1/3 x 25/125 = K2,000, 000

Double entry:

Debit Deferred tax K2, 000, 000 x.2 = K400,000

Debit Retained earnings K1,600, 000 (K2, 000, 000 – K400, 000)

Credit Inventory K2,000, 000.

(9) **Provisions** K50,000, 000 x20% + K20, 000, 000 x 10%= K12,000,000.

SOLUTION TWO

KWANZA:

(a) **Statement of profit or loss and other comprehensive income for the year ended 30 September 2023.**

		K 000	K 000
Sales	320 000-45 000		275,000
Cost of sales	(W1)		(142,096)
Gross Profit			132,904
Distribution costs			(24,600)
Administration expenses			(22,800)
Operating profit			85,504

Investment Income 1 500 - 1 800
(300) Finance costs 4 500+2 560
(7,060)

Profit before tax			78,144
Income Tax expense 8 800-2 200			(6,600)
Profit for the year			**71,544**

(b) **Statement of Changes in Equity for the year ended 30 September 2023.**

	Ordina Shares K'000	Revaluat Reserve K'000	Retain Earnings K'000
Per Trial Balance	50 000	16 500	48 800
Profit for the year			71 544
Dividend paid			(2 500)
Transfer from revaluation reserv		(300)	300
Closing balances	**50 000**	**16 200**	**118 144**

(c) **Statement of financial position as at 31 September 2023:**

		K'000	**K'000**
Non Current Assets:			
Property, Plant and Equipment (W6)		219,480	
Investment property	12,000-1,800	10,200	
Financial Assets		8,000	
			237 680
Current Assets:			
Inventories		27,300	
Trade Receivables		32,500	
Bank		4,874	
			64 674
			302 354
Equity:			
Ordinary shares of K1		50,000	
Revaluation reserve		16,200	
Retained Earnings		118,144	
			184 344
Non Current Liabilities:			
8% Redeemable Pref Shares		32,000	
Loan Finance (w7)		33,450	
			65 450
Current Liabilities:			
Trade Payables		34,800	
Pref share dividend (2 560 – 800)		1,760	
Income Tax liability		8,800	
Provision for Warranties		1,150	
Loan Finance (39,500 - 33, 450)		6,050	
			52 560
			302 354

SOLUTION THREE

(a)

(i) Where there has been no new shares issued during an accounting period, basic EPS is calculated using the formula:

Profit after tax attributable to ordinary shareholders/weighted average number of ordinary shares outstanding during the period

In which the numerator stands for profit after tax and preference dividends but before ordinary dividends. The denominator would be the number of shares that existed during the period. For this scenario, there will be no need for weighting shares as no new shares would have been issued during the accounting period.

(ii) Where an issue of new shares at full market price takes place, new capital would have been introduced and therefore earnings would be expected to increase from date of issue of new shares.

This effectively brings the need for the shares to be weighted in order to take account of increasing profit. However, no adjustment is made to profit after tax and preference dividends as this is self adjusting amount.

There is no retrospective accounting for an issue at full market price.

(iii) Where a bonus issue of shares has taken place during the year, no cash is raised and hence the profit figure is unaffected (profit is not expected to increase as a result of bonus issue). This is the reason why there is no weighting of shares. In calculating the number of shares, the bonus shares though issued part way through the year are treated as though they were in issue throughout the year.

There is retrospective application where EPS for the previous year is reduced by the reciprocal of the bonus fraction.

(iv) A rights issue of shares involves an issue of shares to existing shareholders at a price that is less than the market price. Basically, a rights issue is treated as a combination of a bonus issue and an issue of shares at full market price.

Firstly, no adjustment is required to be made to the profit attributable to ordinary shares, but to the number of ordinary shares. The shares for the period are to be weighted and modified by the retrospective effect of the bonus element and the weighting arising from an issue at full market price.

(b)

(i) **Basic EPS** = profit after tax and preference dividends/weighted average number of shares

K(8,142,000-K1,380,000)/K20,600,000

K6,762,000/K20,600,000

K0.328 or 32.8 ngwee

As there was no new issue of shares, the weighted average number of shares is the same number of shares that existed at 1 April, 2022 of 20.6 million shares (K20,600,000/K1).

Further, the profit attributable to ordinary shareholders is the profit after tax and preference dividends of K6.762 million (K8.142 million – K1.380 million).

(ii) To calculate EPS where there was a rights issue, first an average share price called theoretical ex rights price (TERP) has to be calculated as follows:

TERP =	5 shares @ K8.90	=	44.50
	1 share @ K6	=	6.00
	6		50.50

TERP = K8.42 (50.5/6)

The EPS when there is rights issue is calculated using weighted average number of shares. The weighting for the year ended 31 March 2023 will be as follows:

No. of shares before rights issue:

20,600,000 shares x 9/12 x K8.90/K8.42 = **16,330,760 shares**

No of shares after rights issue:

[(20,600,000 x 1/5) + 20,600,000] x 3/12 = **6,180,000 shares**

Total weighted average number of shares =22,510,760 shares

To calculate EPS for the current year, earnings attributable to ordinary shares are then divided by the weighted average number of shares of 22,510,760 as follows:

Basic EPS = K8,142,000-K1,380,000/22,510,760 shares = K0.30 or 30 ngwee.

SOLUTION FOUR

(a)

(i) Adjusting events – those that provide further evidence of conditions that existed at the reporting date or which call into question the going concern status of an organization.

Examples include:

- Irrecoverable debts arising after the reporting date
- Evidence of impairment of assets, e.g sale of inventory at less than the cost, ie allowances for inventories due to evidence of net realizable value having fallen after the reporting date.
- Discovery of fraud and error
- Amounts received or receivable in respect of insurance claims which were being negotiated with the insurance company at the reporting date.
- Completion of a court case entered into before the reporting date
- Determination of sale or purchase price of assets sold or purchased before the year end.

Non adjusting events –those that are indicative of conditions that arose subsequent to the reporting date.

Examples include:

- A major business combination after the reporting date.
- Announcement of discontinuance of operation
- Major purchase or disposal or revaluations of non current assets
- Destruction of a major production plant by fire
- Announcement of major restructuring
- Abnormally large changes after the reporting date in foreign exchange rates
- Issue of shares or loan notes
- Announcement of changes in tax rates
- Dividends declared after the reporting date but before financial statements are authorized.
- Acquisition or disposal of subsidiary after the year end.

(ii) Accounting treatment for adjusting events is that adjustment for amounts involved in the financial statements to be effected before financial statements are authorized.

Accounting treatment for non adjusting events is that the transactions should be disclosed by note if they are of such importance that non disclosure would affect the ability of the users of financial statements to make proper evaluation of their decisions.

The note to disclose the nature of the event and its financial effect on the company should be included. Disclosure is made if events are material.

(b)

(i) *Borrowing costs* are Interest and other costs incurred by an entity in connection with the borrowing of funds. Examples of borrowing costs may include:

- Interest on bank overdrafts or loans
- Amortization of discounts or premiums
- Finance charges on finance leases
- Ancillary costs, such as.
- Exchange differences arising from foreign currency borrowings

Qualifying asset. An asset that necessarily takes a substantial period of time to get ready for its intended use or sale.

(ii) The loan note was taken out on 1 October 2023 and construction began the same date. This entails capitalization criteria was met the same date of 1 October 2023. At the reporting date of 31 March 2024, construction was ongoing as it was expected to be completed in four years from commencement of construction. This gives a qualifying period of six (6) months

On investment income, the investment was made on the same date of taking out the loan and would mature on 30 september 2024 but by the reporting date, K0.18 million investment income was earned. The K0.18 million would have to be deducted from the borrowing cost eligible for capitalization.

The borrowing costs eligible for capitalization are K0.875 million (14% x K12.5 million) x 6/12. The investment income of K0.18 million to be subtracted from the borrowing costs eligible for capitalization of K0.875 million, giving the net borrowing costs of k0.695 million to be added to the constructed asset.

(iii) As the construction was financed by the general loans, the weighted average capitalization rate (WACR) ought to be calculated. The rate would then be applied to the actual amounts drawn proportional to applicable period.

Therefore, the WACR would be calculated as 8.82 % [10(350/350+500) + 8(500/350+500)]

The first amount was drawn on 1 October 2023 and so utilized for six months. Applicable interest amounts to K5.512 (8.82% x K125 million) x 6/12.

The second amount was drawn on 1 January 2024 and so was utilized for three months. Applicable interest amounts to K1.323 million (8.82% x K60 million) x 3/12.

The total borrowing cost to be added to the cost of the investment property would be K6.836 million (K5.512 million + K1.323 million).

SOLUTION FIVE

(a) **Explanation**

Bro-gel as lessee to recognize a lease liability initially at K301,150 at date of entry into the lease on 1 January 2023 and subsequently to recognize a liability split into non current (of K164,892 and current liability of K71,373 at 31 December 2023. Bro-gel initial liability would have been increased by the finance cost for the year amounting to K30,115 (10%*K301,150) and would have been reduced by the lease rental of K95,000 to give the total liability above.

Furthermore, Bro-gel will recognize a ROUA at its initial measure of K351,150 (K301,150+K50,000 platform cost). This would be depreciated over 4 years, the she shorter of the lease term and useful life of the asset giving per annum depreciation of K87,788 (K351,150/4 years) to be charged to profit or loss. This will bring the initial cost of ROUA down to K263,362 (K351,150-K87,788) in the statement of financial position at 31 December 2021.

(i) **Lease Amortisation**

	Initial Amount	Effectiv Interest	Sub-Total	Annual Repayment	Closing Amount
	K	K	K	K	K
2023	301 150	30 115	331 265	(95 000)	236 265
2024	236 265	23 627	259 892	(95 000)	164 892

(ii) **Amounts to be reported in the Statement of Profit & Loss for the year to 31 December 2021**

Depreciation K 87 788

Interest expense K 30 115

(iii) **Amounts to be reported in the Statement of Financial Position at 31 December 2021.**

Non-current Assets:

Carrying Amount = K 351 150 - K 87 788 = K 263 362

Non-current Liabilities:

Lease liability K164,892

Current Liabilities:

Lease liability	K71,373

Other Calculations:

Initial cost of the leased asset is:	K
PV of Minimum lease payment	301,150
Plus Cost of the platform constructed	50,000
Full cost	351,150

Depreciation over the shorter period of 4 years

$$\frac{K\ 351\ 150}{4\ \text{Years}} = K\ 87\ 788 \text{ p. a.}$$

(b)

(i) The principle of Substance of transaction is that accounting should be done for the commercial economic realities of the transaction and not the legal format of it. The financial statements should report to reflect who has the asset and is deriving economic benefits, and who has the liability because he has incurred the obligation to settle in future.

(ii) Applying the principle of substance of the transaction to the sale, Bro-Gel will continue to recognize the asset and depreciate it at the rate of 25% on the reducing balance basis, because he still has the asset and has continued to use it.

On the other hand, the cash received for the purported 'sale' will be treated as loan finance obtained and to be settled at some effective rate of interest in future.

The total to be settled is K6,500 X 3 years = K 19,500

Whereas the amount borrowed is K15,000, giving the extra K4,500 as the interest on borrowed fund.

Factors that would indicate that control has been passed on to the buyer:

- Actual delivery of the physical asset
- Responsibility of insuring the equipment becomes the buyer's
- Time to re-possess it under a sub-lease is such that the asset will no loner be in operational use.
- Any other valid factor

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA APPLICATION ADVANCED DIPLOMA IN ACCOUNTANCY

CA 2.2: MANAGEMENT ACCOUNTING

TUESDAY 19 MARCH 2024

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>

Tambabashila plc (T plc) owns a number of transport businesses. One of them is a subsidiary called Chombo Ferries Ltd (CF Ltd). CF Ltd operates a number of ferries and pontoon boats in the Luapula Province ferrying or carrying passengers and motor vehicles across the Luapula River. The company uses standard costing to develop budgets for the following year. The budgeted and actual operating results are as follows:

CF Ltd

Actual and Operating results for the Year Ended 31 March, 2023

Operating Data	Budget	Actual
Number of ferry crossings	3,240	2,880
Operating hours	3,888	3,744
Cost Data		
• Fuel	622,080 litres	616,400 litres
	K248,832	K283,544
• Labour	46,656 hours	44,928 hours
	K233,280	K235,872
• Fixed Overheads	K233,280	
		K236,220
Cost of operations	K715,392	K755,636

The following accounting data is also relevant.

- Fuel and labour are variable costs.
- Fixed overheads are absorbed on the basis of budgeted operating hours.

You are the Management Accountant at the head office of T plc and one of your duties is to prepare costing information and a standard costing reconciliation statement for the chief executive of T plc, Tapiwa Lerato.

Required:

(a) Using the data provided in the operating results and your answers to part (a), calculate the following variances.

   (i) Material price and material usage variances for the fuel. (4 marks)

   (ii) Labour rate and labour efficiency variances. (4 marks)

(iii) Fixed overhead expenditure and the fixed overhead volume variances. (4 marks)

(iv) Fixed overhead capacity and fixed overhead efficiency variances. (4 marks)

Marks available on workings. (2 marks)

(b) Prepare a statement reconciling the actual cost of operations to the standard cost of operations for the year ended 31 March, 2023.

(6 marks)

(c) On receiving your reconciliation statement, in April 2023, Tapiwa is concerned about the large number of adverse variances. She is particularly concerned about the excessive cost on fuel used during the year. A colleague gives you the following information.

- The actual market price of fuel per litre during the year was 20 percent higher than the standard price
- Fuel used directly varies with the number of operating hours.
- The difference between the standard and actual operating hours for the 2,880 ferry crossings arose entirely because of weather conditions.

Required:

Write a memo to the Chief Executive. Your memo should contain the following:

(i) Sub divide the material price variance into two parts
- That part arising from the standard price being different from the actual market price of fuel
- The part due to other reasons

N.B.: You need to perform calculations to answer this part.

(4 marks)

(ii) Identify one (1) variance which is **not controllable** and give one (1) reason why the variance is not controllable.

(2 marks)

(iii) Identify two (2) variances which are **controllable** and which should be investigated. For each variance, state ONE reason why it is controllable.

(4 marks)

(d) A manufacturing division of T Plc will be launching a new product to be marketed in the year 2024 and divisional management is considering its pricing strategy for this new product. It is unique and not like any of the current existing products in its portfolio.

Required:

Explain the following terms:

(i) Market skimming. (3 marks)

(ii) Penetration pricing. (3 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section. Attempt any THREE (3) questions.

QUESTION TWO

Kalinga Metal Fabricators (KMB) manufactures soya beans shellers. The company still uses outdated technology. KMB recently received an enquiry on supplying 80 Shellers to Lusaka Agro Association (LAA). LAA 's approved budget for the year 2024 has set a competitive purchase price of K9,500 per sheller.

As a trainee accountant, you were provided with the following information relating to the costs involved in the manufacturing of the shellers.

1. Each sheller requires 40 rolls of steel. KMB has 1,700 rolls of steel in inventory and if they are not used in the shellers, they will be disposed of immediately. The original purchase price for the steel in inventory was K400 per roll. The replacement cost of steel is K500 per roll. The disposable price of steel in inventory is K200 per roll.

2. Each sheller will also require a motor. The motors are sold in pairs of two. The purchase price of a pair is K2,200. The supplier of the motors has agreed to offer a discount of 15% on the purchase price of motors over 30 pairs.

3. The sheller also requires special flat sheets. Each Sheller uses approximately 2 flat sheets which currently costs K300 per sheet. These flat sheets are frequently used by KMB and it currently holds 100 sheets in inventory which were bought at K250 per sheet.

4. The manufacturing of shellers requires both skilled and unskilled labour. Each Sheller will require 7 skilled labour hours and 3 unskilled labour hours. The skilled labourers are paid K140 per hour and the unskilled labourers are paid K85 per hour. If this contract does not go ahead, there will be 100 skilled idle hours.

5. This job order will require a supervisor, Bwalya Musonda, so as to deliver within the prescribed time. He has always been overseeing such jobs. He is paid K20,000 per month, however for the LAA's order, he will be paid an extra K5,500. Alternatively, KMB may need to recruit a new supervisor who will earn K15,000 per month.

6. Variable overheads are absorbed at a rate of K70 per skilled labour hour.

7. Incremental fixed overheads are absorbed at a rate of K100 per skilled labour hour.

8. KMB adds 25% mark-up profit to its products.

Required:

(a) Calculate the minimum price that KMB would accept for each sheller using relevant costing principles. Your answer must include an explanation for the inclusion of each of the above points.

(10 marks)

(b) Advise KMB whether to accept the price offered by LAA or not based on your findings in (a) above.

(2 marks)

The Managing Director of KMB has suggested that the company explores the possibility of using target costing to price the shellers. He says more effort should be applied on ensuring that the cost gap is closed.

Required:

Advise KMB on the options available to close the target cost gap for the sheller.

(8 marks)

[Total 20 Marks]

QUESTION THREE

You are the Management Accountant of Mwaziona Plc (M Plc) and you report to Joseph Syanjani, the Managing Director. One of your responsibilities is the production of budgets. M Plc only has one customer, Twapenga Ltd (T Ltd), for whom it makes product A, a specialized product. T Ltd demands that M Plc keeps minimum closing inventory of product A in case there is an error in the forecast requirements. There is no work-in-progress at any time.

Both companies divide the month into four week periods. Each week consists of five days and each day comprises eight hours.

T Ltd has recently informed M Plc of its requirements for product A for the five periods ending 30 June 2023. The details are reproduced below.

Estimated Demand and Closing Inventories for Product A

4 weeks ending	28 February	31 March	30 April	31 May	30 June
	Period 1	Period 2	Period 3	Period 4	Period 5
Quantities Required	2,850	2,850	3,420	3,230	3,040

Closing Inventories: these are equal to 3 days of the next period's demand for Product A

The Production Director gives you the following information:

(i) The actual opening inventory for period 1, the four (4) weeks ending 28 February, will be 665 units.

(ii) Each unit requires 6 litres of material.

(iii) The material is currently supplied under a long-term contract at a cost of K4 per litre and is made exclusively for M Plc by Amex Technologies (AT).

(iv) AT only has sufficient production capacity to make a maximum of 17,000 litres in any four-week period. M Plc normally purchases the material in the same four-week period it is used.

(v) Should M Plc require more than 17,000 litres in a four-week period, AT would be willing to supply additional material in the preceding period, provided it had spare capacity.

(vi) There is a readily available alternative for the material but the cost is K6 per litre.

(vii) Before buying from the alternative source, any shortage of material in a period should be overcome, where possible, by first purchasing extra material from AT in the immediately preceding period.

(viii) There are 39 production employees that are paid a guaranteed basic wage of K80 per 40-hour week.

(ix) Each unit of product A should take two labour hours to make but, due to temporary technical difficulties, the workforce is only able to operate at 95 percent efficiency in the periods 1 to 4.

(x) Any overtime incurred is payable at a rate of K3 per hour.

Required:

Joseph Syanjani asks you to prepare the following budgets for each of the periods 1 to 4.

(a) Production budget in units, using the inventory levels given in the data. (4 marks)

(b) Material purchases budget in litres. (5 marks)

(c) Material purchases cost budget. (3 marks)

(d) Labour budget in hours, including any overtime hours. (5 marks)

(e) Labour cost budget, including the cost of any overtime. (3 marks)

[Total: 20 Marks]

QUESTION FOUR

Black Gate Ltd (BG Ltd) manufactures modern gates which it sells to the general public. Due to high demand of gates, Black Gate Ltd employed a warehouse keeper who records all the requisitions and receipts of raw materials which the company orders. In the month of February, the warehouse keeper produced the following information:

Demand per day	800 units
Cost of placing an order	K21,000
Annual holding cost per unit	K50
Minimum usage per day	220 Units
Maximum usage per day	460 Units
Lead time for replenishment	2-6 days

Required:

(a) Calculate the following:

(i) Re order Level. (2 marks)

(ii) Re order quantity. (3 marks)

(iii) Maximum level of inventory. (3 marks)

(iv) Minimum level inventory. (3 marks)

(v) Average inventory. (3 marks)

(b) (i) Define a **Non-quantifiable factor**. (1 mark)

(ii) State FIVE (5) examples of a non-quantifiable factor. (5 mark)

[Total: 20 Marks]

QUESTION FIVE

Monze Ltd (M Ltd) is a company that produces a fertilizer called 'plant food'**.** The fertilizer is used by farmers on all kinds of crops. The director of M Ltd attended a workshop where a facilitator emphasized the need for more farmers to diversify their operations to ensure that they minimize losses in an event of a poor harvest. The facilitator used a hotel business to demonstrate how such a business could be done profitably. The following figures were used during the demonstration by the facilitator.

1. Sale of rooms per day at K100 at 90% occupancy rate.
2. Purchase of a building at K1,000,000 with the capacity of 12 rooms with expected life of 5 years with no residual value.
3. Depreciation is charged using a straight line method.

4. Insurance cost per annum is K480,000.
5. Insurance of equipment per annum is K24,000.
6. Cleaning cost per annum is K6,000.
7. Service room charge per annum is K3,000.
8. Electricity and water cost per annum is K2,160.
9. House keeper's salary per annum is K288,000.
10. Assume the year has 365 days.

Required:

(a) Calculate the total operating cost of a room per day. (10 marks)

(b) Calculate the expected profit per day from the sale of one room. (2 marks)

(c) Explain four (4) ways in which service costing differs from product costing. (8 marks)

[Total: 20 Marks]

END OF PAPER

CA 2.2: MANAGEMENT ACCOUNTING SUGGESTED SOLUTIONS

SOLUTION ONE

(a)

(i) Material price variance and Usage Variance

Material price variance	K
Standard cost 616,400 litres x K0.40	246,560
Actual cost	283,544
	36,984

Material usage variance	litres
Standard usage 2,880 x 192	552,960
Actual usage	616,400
usage variance(litres)	63,440
	xK0.40
Usage variance in K	25,376

(ii) Labour rate and Efficiency Variances

Labour rate variance	K
Standard cost 44,928 x K5	224,640
Actual cost	235,872
Rate variance	11,232

Labour efficiency variance	Hours
Standard hrs 2,880 x 14.4	41,472
Actual labour hours taken	44,928
Efficiency variance(hours)	3,456
	xK5
Efficiency variance in K	17,280

(iii) Fixed Overhead Expenditure and Fixed Overhead Volume Variances

	K
Budgeted Fixed Overhead expenditure	233,280
Actual fixed overhead cost	236,220
	2,940

	Crossings
Budgeted crossings	3,240
Actual crossings	2,880
Volume variance	360
	xK72

Volume variance in K	25,920

(iv) Fixed Overhead Capacity and Fixed Overhead Efficiency Variances

	K
Budgeted operating hours	3,888
Actual operating hours	3,744
FOH volume capacity variance in hours	144
	xK60
FOH Volume capacity variance in K	8,640

	Hours
Standard hrs (2,880x1.2)	3,456
Actual hrs taken	3,744
Volume variance	288
	xK60
FOH Efficiency variance in K	17,280

(b) **Reconciliation Statement of Actual Costs to Standard costs for Year to 31st March, 2023**

	K	K
Actual operating costs		755,636
	Adverse	
Cost Variances		
– Material price	36,984	
– Material Usage	25,376	
– Labour rate	11,232	
– Labour Efficiency	17,280	
– FOH Expenditure	2,940	
– FOH Capacity	8,640	
– FOH Efficiency	17,280	
		119,732(A)
Standard Operating Costs		635,904

N.B. – Proof of standard operating costs:

2,880/3,240 x K715 ,392 = K635,904.

(c) **Explanatory Memo to the Chief Executive**

MEMO

To: Chief Executive, Ms T Lerato

From: Management Accountant

Date: 31st March 2023

Subject: **Variances for the year ended 31 March 2023**

This memo addresses some of your concerns about the large number of adverse variances arising during the year.

(i) **Subdivision of the material price variance for fuel**

Standard price for fuel per litre ((a)(i)) =K0.40

Actual market price of fuel per litre=K0.40 x 120% = K0.48

	K	K
616,400 litres at standard price would cost (xK0.40 (a)(i))	246,560	
616,400 litres at actual market price would have cost x K0.48	295,872	
Price variance due to difference between standard price and market price		**49,312**
616,400 litres at actual market price should have cost(x K0.48)	295,872	
But did cost	283,544	
Price variance due to other reasons		12,328
Total material price variance		**36,984**

(ii) The **fixed overhead efficiency variance is not controllable.** This variance is caused by the difference between the standard and actual operating hours for the 2,880 crossings. Since this difference arose entirely because of **weather conditions,** the corresponding variance is not controllable**.**

N.B. Candidates could have given the labour efficiency as a non-controllable variance, but the discussion would be slightly more complicated. The labour efficiency variance was also entirely due to adverse weather conditions.

(iii) The part of the **material price variance due to reasons** other than difference between the standard price and the market price for fuel is **controllable.** This amount was calculated in (i) as K12, 328 favourable. The adverse variance of K49, 312 calculated in (i) is non-controllable, but the remainder of the price variance has arisen to controllable factors, since the price paid was different to the prevailing market price.

The **labour rate variance** is also **controllable.** It is not affected by uncontrollable factors of the change in the market price for fuel and the adverse weather conditions.

N.B. *Candidates could have also mentioned the fixed overhead capacity and expenditure variance*.

(d)

(i) Market skimming

Market skimming is high pricing strategy. Division X management will initially charge a high price for its new product so as to quickly recover its design, research and development costs. This strategy is directed at early adopters of the product because of its novelty appeal and is appropriate for launching high technology products.

In order to deter competitors in the early stages, there should be significant barriers to entry such high costs or differentiation.

This high price can gradually be reduced as the market gets saturated to attract the market which has not been exploited.

(ii) Penetration pricing

This is low price setting strategy. The aim is to penetrate the market quickly and achieve a market share and/or market presence.

To achieve a high market share, there is need to have significant economies of scale which lead to reduced product costs and ultimately a lower price.

This strategy is appropriate for launching new products in already saturated markets.

SOLUTION TWO

(a) **Minimum price**

	Notes	K
Material::		
Steel	1	1,090,000
Motors	2	84,700
Flat sheets	3	48,000
Skilled labour	4	64,400
Unskilled labour	4	20,400
Existing Supervisor	5	5,500
Variable overheads	6	39,200
Fixed production overheads	7	56,000
Profit mark-up	8	0
Total relevant cost		**1,408,200**

The minimum price should K1,408,200/80 shellers = **K17,602.5 per shearer.**

Notes:

1. The order requires (80 X 40) = 3,200 rolls of steel. There are 1,700 rolls of steel in inventory. If these rolls are not used by the company, then they would be sold. Therefore, if they are used on this project, KMB will lose out on selling them. So, lost proceeds are 1,700 X K200 = K340,000. KMB will purchase the balance required and this will cost 1,500 X K500 = K750,000. So the total relevant cost is K1,090,000.

2. The order requires (80 X 1) = 80 motors. So this equates to 80/2 = 40 pairs.
   30 pairs X K2,200 = K66,000
   10 pairs X K1,870 = K18,700
   Total cost **K84,700**

3. The steel is used regularly by KMB so if used on this job it will have to be replaced immediately. The relevant cost is 80X2X K300 = K48,000.
4. Skilled labour hours required are (80 X 7) = 560 hours. Because there are 100 hours idle time, the relevant cost is (460 X K140) = K64,400.
   Unskilled labour hours required are (80 X 3) = 240 hours. So the cost is 240 X K85 = K20,400.
5. The relevant cost for the existing supervisor is K5,500 as he will receive an additional payment over what he currently earns. A new supervisor will be recruited specifically as a result of this project at K15,000 per month.

6. Variable overheads are relevant costs as they will only be incurred if the job is undertaken. The cost is 80 x 7 labour hours X K70 = K39,200.
7. Fixed overheads are relevant costs as they are incremental. The cost is 80 x 7 labour hours X K100 = K56,000.
8. Profit mark-up is not relevant in computing the minimum price.

(b) Comment

KMB should not accept the price offered by LAA of K9,500 because it is less than the relevant minimum price of K14,602.5.

(c) Options available to close the cost gap

- Training staff in more efficient techniques.
- Using cheaper staff in the case of KMB, the unskilled labour could be ideal.
- Acquiring new, more efficient technology which may help to reduce overheads.
- Cutting out non value added activities.
- Reducing the quantities of material used (in this case steel).
- Using different materials that are cheaper but without compromising on quality.

SOLUTION THREE

(a) Production Budget in units

	Period 1 Units	Period 2 Units	Period 3 Units	Period 4 Units	Period 5 Units
Number of units required	2,850	2,850	3,420	3,230	3,040
Add: closing inventory*	427.5	513	484.5	456	
	3,277.5	3,363	3,904.5	3,686	
Less: opening inventory	(665)	(427.5)	(513)	(484.5)	
Required production	2,612.5	2,935.5	3,391.5	3,201.5	

- *Number of days per period = 4 weeks x 5 days = 20 days
- Closing inventory each period = 3/20 x demand for next period.

(b) Materials purchases budget in litres

	Period 1	Period 2	Period 3	Period 4
Production (units)	2,612.5	2,935.5	3,391.5	3,201.5
Materials required (production x 6 litres)	15,675	17,613	20,349	19,209
Maximum material available from AT	17,000	17,000	17,000	17,000
Initial shortage/(excess) of material	(1,325)	613	3,349	2,209
Rescheduled purchases	613	(613)	0	0
Final shortage/ (excess) of matrerial	(712)	0	3,349	2,209
Material purchases from **AT**	**16,288**	**1,7000**	**17,000**	**17,000**
Material purchases from **outside supplier**	0	0	**3,349**	**2,209**
Total material purchases	16,288	17,000	20,349	19,209

(c) Material Purchases Budget in K

	Period 1 K	Period 2 K	Period 3 K	Period 4 K
Material purchases from AT((ii) x K4	65,152	68,000	68,000	68,000
Materials purchases from outside supplier ((ii) x K6	0	0	20,094	13,254
Total cost of material purchases	65,152	68,000	88,094	81,254

(d) The Labour budget in hours

	Period 1	Period 2	Period 3	Period 4
Production (units)	2,612.5	2,935.5	3,391.5	3,201.5
	Hours	Hours	Hours	Hours
Standard hours required (production units x2)	5,225	5,871	6,783	6,403
Adjust for 95% efficiency (5/95x standard hours)	275	309	357	337
Total labour hours required	5,500	6,180	7,140	6,740
Basic hours available (39 employees x 4 weeks x 40)	6,240	6,240	6,240	6,240
Overtime hours required	Nil	Nil	900	500

(e) Labour Cost Budget in K

	Period 1	Period 2	Period 3	Period 4
	K	K	K	K
Basic wage (K80 x 39 employees x 4 weeks	12,480	12,480	12,480	12,480
Overtime payments (overtime hours x K3 per hour			2,700	1,500
Total cost of labour	12,480	12,480	15,180	13,980

SOLUTION FOUR

(a)

(i) Re order Level = (maximum Usage X Maximum Lead time)
= 460 x 6
=2,760 units

(ii) Re-order quantity = Average daily units x Average lead time

= 800 X 4
= 3,200 units

(iii) Maximum Level **=** Re order Level + Re order Quantity – (Min Usage x Min Lead time)

=2,760 + 3,200- (220 x 2)
= 2,760 + 3,200 – 440
= 5,520 units

(iv) Minimum Level **=**Re order Level – (Average Usage X Average Lead Time)
=2,760 – (340 x 4)
=1,400 units

(v) Average Inventory **=** Safety Inventory + 1/2 Re- order Quantity
=1,400 + (½ x3,200)
= 1,400 +1,600
= 3,000 units

(b) (i) A non-quantifiable factor is a factor in decision making which might influence the eventual decisions but which has not been quantified in terms of relevant costs or benefits.

(ii) Any of these**:**

The availability of funds
Inflation
Employees
Customers
Competitors
Time factors
Suppliers
Feasibility
Flexibility and internal control
Unquantified opportunity costs
Political pressure
Legal restrictions
Long term effects, etc

SOLUTION FIVE

(a)

Depreciation per annum	200,000
Insurance of Equipment per room	40,000
Insurance of Equipment per room	2,000
Cleaning cost per room per annum	500
Room service per room per annum	250
Electricity and water per room per annum	180
House keepers salary per annum	24,000
Total Operating Cost per annum	**266,930.00**
	3,942 Days

Cost per Day = 266,930/3,942 = K67.71

Workings:

Depreciation $\frac{1,000,000.00}{5}$ = **K200,000.00**

(b) Profit per Room per day

Sales	K100
Cost	(K67.71)
Profit	K32.29

(c) Service costing is a costing method of accounting for services provided to customers both internal or external. E.g. canteen, stores, hospitals, schools, etc.

1. Service organizations, like hospitals, do not produce tangible goods and services while production organizations produce tangible goods.
2. With service costing, the cost of direct materials will be small compared to production organizations.
3. Indirect costs (overheads) will be higher in most cases than production costing.
4. The output of service costing is intangible and a measuring unit cost is quit difficulty to determine.
5. Services cannot be stored as a result there are no finished goods, inventory or work in progress.

CA ZAMBIA PROGRAMME EXAMINATIONS

CA APPLICATION ADVANCED DIPLOMA IN ACCOUNTANCY

CA 2.3: AUDITING PRINCIPLES AND PRACTICE

THURSDAY 21 MARCH 2024

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

Prince invested in a dairy farming business upon his retirement five (5) years ago. He bought a ten (10) acres farm in the outskirts of Lusaka and ten (10) dairy animals that were in-calf and they all delivered calves in the first year. The workforce comprised a Supervisor, one (1) Herdsman and three (3) milkmen. Prince stays at his residence in town and he only visits the farm once in a week.

Milking is done twice in a day by the milkmen who take note of the quantity produced by each of the cows. Each of the milkmen informs the Supervisor of the quantity of milk per animal. The Supervisor in turn records the quantities in a daily production book maintained for each of the animals.

The main customers of milk are people living in the neighborhood. There is a co-operative in the area which Prince could join when production reaches a minimum of 1 000 liters per day. Prince is concerned that from inception the daily production and sales have not gone beyond 450 liters of milk per day.

The Supervisor is responsible for sales. All along sales were on cash basis and the Supervisor records the total daily sales on a daily cash sales report. Sales proceeds are kept by the supervisor until Friday when Prince collects the previous week's sales. Receipts are raised and issued only if the customer demands for one (1). In the current year, Prince made a decision for the Supervisor to allow customers to pay using any of the available mobile network payment platforms. The Supervisor uses his mobile numbers to receive payments by mobile payment methods which he later withdraws and gives to Prince with the rest of the cash sales for the week.

Wages are paid by cash and are paid from cash sales for the last week of each month. The Supervisor negotiates the wages with his subordinates on engagement. The only record of the wages paid is an entry in the daily sales summary indicating the net amount paid to all workers. Prince buys all the necessary veterinary drugs and because of infrequent visits he hands all drugs to the supervisor who is responsible for administering to the cows when required.

This is the sixth (6) year of the dairy farming business by Prince and he is worried that he has not attained the revenue and profitability he anticipated when he started the business. The cash flow projections on commencement showed that the business would grow significantly within three (3) years of commencement. He is worried that he could lose all his retirement benefits if the business failed. He decided to get into partnership with two (2) other people who are in fulltime employment and it was agreed to change the business name to Prince & Partners. The two (2) new partners agreed to recapitalize the business on the understanding that control systems would be put in place to manage the business more efficiently.

You work for a firm of chartered accountants. Prince & Partners approached your firm requesting that it evaluates the current operations and suggest suitable improvements. Prince & Partners intend to grow the business into a major supplier of milk in two (2) years and they intend to get a long-term loan from a local bank to increase the number of dairy animals. The sleeping partners of the business suggested that financial records should be maintained and that these should be audited by independent auditors. Prince is against the audit of the financial statements because there is no legal requirement for financial statements of partnerships to be audited. He, instead, suggested that the best and cheapest alternative is for the partnership to put in place an internal audit section within its establishment. He argued that the internal auditors would be full time and will have all the time to review the operations and also review the financial statements rather than have independent auditors who only do work in a very limited timeframe. The partners agreed to set up an internal audit unit and also to have the financial statements audited by external auditors. The partners observed that the cost of the external audit services will be reduced in view of the fact that the external auditors may rely on some of the work performed by the internal audit unit and where appropriate they may seek direct assistance of the internal audit unit.

Required:

(a) Explain the principle of accountability in the dairy farming business of Prince & Partners.

(2 marks)

(b) State four (4) benefits to the partnership of having its financial statements audited by independent auditors.

(4 marks)

(c) (i) Explain the difference between relying on the work of internal audit and seeking direct assistance of internal audit. (4 marks)

(ii) Explain three (3) areas in which external auditors are prohibited from seeking direct assistance of internal auditors. (6 marks)

(d) Identify seven (7) internal control weaknesses in the operation of the dairy business and for each weakness suggest a suitable improvement.

(14 marks)

(e) Explain the five (5) elements of the assurance engagement using the partnership business.

(10 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any THREE (3) questions.

<u>QUESTION TWO</u>

(a) You are the Partner in Charge of client acceptance in your firm of Chartered Accountants. Below are two (2) prospective clients for your final review.

Reed Ltd:

This is a fast growing company in the trading industry and deals in hardware. Your firm has been nominated to be the auditor of Reed Ltd and formal communication has been received by your firm.

Your firm of chartered accountants has significant shares in the largest distributor of hardware in the country.

Fast Communications (Fast Co):

Fast Co advertised for audit services and your firm submitted a bid in response to the advertisement and was nominated as auditors.

Your firm has audit experience in this industry because it is the current auditor of Link Ltd a company in the same industry. The year-end of Fast Co. is different from that of Link Ltd and so the same engagement team will audit both Companies.

Required:

Describe the response that you will give in view of the nominations for your firm to be auditor of the two (2) companies above.

(4 marks)

(b) You are planning the audit of the financial statements of Fig Ltd. for the year ended 31 December 2022. Fig Ltd imports its raw materials through a port in a country where there is civil strife. During the current year the company experienced serious delays in the arrival of raw materials due to delays arising from the civil strife. This is the first time you will be auditing a company in the chemical industry.

You are leading a team of newly recruited Audit Assistants, who completed their studies recently, on the audit of the financial statements of Fig Ltd.

Fig Ltd. manufactures fertilizers and company was awarded a contract by the Ministry of Agriculture to supply fertilizer to the Western Province of Zambia. In the last two (2) years, Fig Ltd. could not meet the demand for its products due to the company failing to meet its production targets. This was attributed to old equipment which constantly breaks down. As a result of this, the Technical Manager of Fig Ltd. resigned this year citing frustrations in failing to meet production levels. It is not easy to find technical staff in this industry. In view of the award of the contract to supply fertilizers for the next farming season, the company undertook extensive repairs of its ageing equipment during the year and in some cases, complete refurbishment of the equipment. The Managing Director is concerned that if the company fails to meet its contractual obligations the contract would be cancelled and the company would face difficulties repaying the bank loan which it secured for the repairs and refurbishment of the equipment. The loan is secured on the equipment purchased using the facility.

You establish that a farmer based in Mongu sued Fig Ltd in the year under review claiming that the company supplied him with expired fertilizer resulting in his losing K1.5m.The farmer is claiming damages and interest as the courts may determine.

There has been increased monitoring of the disposal of hazardous substances by the Zambia Environmental Management Agency (ZEMA).

Required:

(i) State four (4) matters that should be documented in the working papers with regards to materiality in the audit of the financial statements of Fig Ltd.

(4 marks)

(ii) Identify and explain four (4) audit risks in the audit of the financial statements of Fig Ltd and suggest suitable responses for each risk.

(8 marks)

(iii) Identify and explain four (4) business risks in Fig Ltd.

(4 marks)

[Total: 20 Marks]

QUESTION THREE

(a) Fraud is generally considered a significant risk in the audit of financial statements of client companies. Guidance on the responsibilities of the auditor with regards fraud is given in ISA 240 *The auditor's responsibilities relating to fraud in an audit of financial statements.* The standard requires auditors to perform audit procedures on fraud including obtaining specific written representations from management and those charged with governance.

Required:

(i) Explain why auditors are concerned with fraud in a client company when it is management's responsibility to detect and prevent fraud.

(1 mark)

(ii) Explain four (4) written representations that auditors will require from management and those charged with governance with regards fraud in accordance with auditing standards.

(4 marks)

(b) Clive & Associates are auditors of Chiparamba Plc. and the audit of the financial statements of Chiparamba Plc. for the year ended 30 September 2022 is nearing completion.

The company has not paid out any dividends for the last five (5) years on account of re-investing most of the profits in order to improve the liquidity of the company. In the year under review, the company failed to satisfy customer requirements resulting in some customers switching suppliers. In an effort to retain customers the company offered 30 days extended credit to some of its customers who were on cash basis. This significantly affected the liquidity of the company. Major suppliers withdrew credit to Chiparamba Plc. on account of delayed payments.

Because of poor liquidity, the company experienced a number of labor disputes during the year resulting in workers withdrawing labor. The Audit Manager performed analytical procedures of the financial statements and the result show a net current liability position. The directors of Chiparamba Plc. evaluated the ability of the company as a going concern and concluded that it was a going concern and that it would be recapitalized and the liquidity position would improve in the next twelve (12) months.

You are the Engagement Partner for the audit of the financial statements of Chiparamba Plc. and four (4) other clients of your firm.

You are reviewing the working papers of the four (4) other audit clients and the following information has been extracted from the working papers:

Client one

The audit team on this audit obtained sufficient appropriate evidence on which to base the opinion. There is a matter that you are concerned about and you would like to include it in the audit report. This relates to a provision for a pending legal case involving a spillage of hazardous substances by the company. You are concerned that environmentalists may express concern if this matter is not mentioned in the audit report. The penalty for the spillage according to the act is small and is considered immaterial to this client.

You are pleased that management correctly accounted for this and adequately disclosed it in note 2 of the financial statements.

Client two

An evaluation of the schedule of uncorrected material misstatements in the audit of the financial statements shows that the uncorrected misstatements are above the materiality figure set at the planning stage. The request to management to pass an adjustment in the financial statements was declined.

The total amount of uncorrected misstatements is material but not pervasive to the financial statements.

Client three

A few days before the inventory count at the year end, fire gutted part of the warehouse destroying the entire inventory. The book value of the inventory was used to determine the inventory value. It was not possible to obtain sufficient appropriate evidence of the value of inventory at the year end and you concluded that inventory is material figure in the financial statements and considered pervasive to the financial statements.

Client four

The client uses a manual accounting system and the audit team observed that the filing of documents is very poor. The audit team was not able to obtain the necessary evidence regarding 70% of the samples on sales revenue. It was not possible to obtain the required evidence through other means and this was brought to the attention of management.

A misstatement of the revenue figure in the audit of this client will result in a misstatement of the profit for the year.

Required:

(i) Explain the reasons why auditors are concerned with the ability of client companies operating as going concerns.

(1 mark)

(ii) Identify and explain four (4) conditions that suggest that Chiparamba Plc. has going concern problems.

(4 marks)

(iii) Suggest, giving reasons, a suitable opinion for each of your firm's audit clients one (1) to four (4) above.

(10 marks)

[Total: 20 Marks]

QUESTION FOUR

Your firm of chartered accountants is auditor of Kudu Plc (Manufacturer of soft drinks). At a meeting of your firm's senior staff, it was agreed that the audit teams should by all means use statistical sampling methods of extracting samples as these offer a better method of concluding on the whole population based on the results of the sample tests. It is important that sufficient and appropriate evidence should be obtained in order to reduce sampling risk to acceptable levels.

You are planning the audit of the financial statements of Kudu Plc. for the year ended 31 March 2023. Particularly you are concerned about controls in the purchases and stores systems and the sales systems which are the main sources of figures contained in the financial statements.

The following figures were extracted from the draft financial statements of Kudu Plc.

		K000
Provisions/estimates	Note 1	279,000

Note 1:

Provision for obsolete inventory	89,000
Provision for legal case	100,000
General provision	90,000
	279,000

The provision for obsolete inventory relates to all inventories of soft drinks that are either expired or expiring in one (1) months' time. The provision for the legal case relates to a legal case where a member of the public fell ill after consuming a drink manufactured by Kudu Plc. and subsequently sued the company. Initial medical test results indicate that poisoning was responsible for the illness. The general provision of K90,000 is an estimation of errors in provisions in case the amounts provided for are not adequate.

The audit team will use statistical sampling in extracting samples for testing. It is expected the samples obtained should reveal any errors and omissions that may have occurred. For this reason, the direction of obtaining samples to be tested should be considered so that both errors and omissions are detected.

Required:

(a) (i) Explain the meaning of sampling risk and the impact of audit risk on the Sample sizes in an audit of financial statements. (4 marks)

(ii) Explain, giving examples, the direction for the extraction of samples to test for errors and omissions in an audit of financial statements. (4 marks)

(b) (i) Explain the audit risk regarding accounting estimates contained in the financial statements of Kudu Ltd. (3 marks)

(ii) Describe three (3) audit procedures for each of the three (3) amounts making up the total of the provision of K279,000 in the financial statements of Kudu Ltd. (9 marks)

[Total: 20 Marks]

QUESTION FIVE

Your firm Probity Chartered Accountants was appointed as auditor for Marino Ltd a company in the chemical manufacturing industry. Marino Ltd expanded greatly due to favourable incentives that were given to the manufacturing sector. The company sells 60% of its chemicals on credit and the rest on cash basis.

The work of the external auditors significantly changed from the time the company opened more branches across the country. In order to meet the increasing demand for their audit services, the Engagement Partner recommended that the firm should adopt the use of Computer Assisted Audit Techniques (CAATs). He argued that there are a lot of benefits of using Computer Assisted Audit Techniques (CAATs) despite the resistance from the Audit Manager that it was too expensive given budget constraints that the firm was facing.

A preliminary assessment indicates that internal controls are working effectively and that the risk of material misstatements is low. Most of the accounts for Marino Ltd consist of few but large customers and the previous exception rate from the receivables confirmation carried out was low. Marino Ltd has always cooperated with external auditors regarding requests for confirmations. As a result of this, the Engagement Partner recommended that the negative confirmation method should be used to confirm receivables balances.

At the Annual General Meeting, some board members complained that they did not receive the report to management from the previous external auditors and that it was difficult to ascertain the extent of deficiencies in internal controls. This information reached the new external auditors. The Engagement Partner requested the Senior Auditor to ensure that a report to management is prepared and submitted at the end of the current audit.

At an informal meeting, after knocking off, an Audit Trainee revealed to his friends the sales system of Marino Ltd and how the company accounts for its cash transactions. He further revealed how much money is in the bank account of Marino

Ltd. An Audit Senior in charge of the audit of Marino Ltd reported for the audit of Marino Ltd late after spending a night in police cells following a fight with a bus conductor. The Audit Manager received this information and was considering taking disciplinary action against the Audit Senior prompting him to call for a meeting with the audit team to discuss the issues concerning breaches of professional ethics and further reminding them of the fact that they act in the public interest because there are many other stakeholders who rely on their work.

Required:

(a) Explain five (5) advantages of using Computer Assisted Audit Techniques (CAATs) during the audit of Marino Ltd.

(5 marks)

(b) Identify and explain four (4) reasons justifying the use of negative confirmation method to confirm receivables balances.

(4 marks)

(c) Explain four (4) matters which should be considered when preparing a report to management after the audit.

(4 marks)

(d) Identify and explain two (2) breaches of professional ethics in the audit of the financial statements of Marino Ltd.

(4 marks)

(e) Explain the meaning of public interest and give two (2) examples of other stakeholders to the audit of Marino Ltd other than shareholders.

(3 marks)

[Total: 20 Marks]

END OF PAPER

CA 2.3: AUDITING PRINCIPLES AND PRACTICE SUGGESTED SOLUTIONS

SOLUTION ONE

(a) **Principle of accountability:**

The running of the dairy business is in the hands of the supervisor who is resident at the farm. Prince and the other partners are not involved in the day to day running of the business. The supervisor is accountable to the owners and is expected to run the business in the interest of the owners.

(b) Benefits of audited financial statements for a partnership:

1. In the event that there is a dispute between the partners, audited financial statements could be a base for resolving the dispute. The audited accounts provide the means to settle accounts between the partners.
2. Two of the partners are not involved in the running of the business in any way. Audited financial statements will give confidence to the sleeping partners that their investment is safe and that the financial statements represent the activities of the business.
3. With the intention to obtain a long term loan, the bank is likely to consider the application more favorably if it is supported by audited financial statements.
4. Audited financial statements may make the accounts more acceptable to the tax authorities than accounts that are not audited.
5. In the event of wishing to sell the business, audited financial statements are a good basis for negotiation of the price.

(c)

(i) Difference between direct assistance & reliance on work of internal audit:

Direct assistance of internal audit – This is where the external auditors seek to get the assistance of internal audit to do work that the external auditors should have done. The internal auditors in this case will work under the supervision of the external auditors.

Reliance on work of internal audit – This is where during the work of conducting an audit the external auditors places reliance on work that was previously done by the internal auditors. This is done if the work done by the internal auditors meets the audit objectives of the external auditors.

(ii) **Areas that external auditors are prohibited from seeking IA direct assistance:**

1. Areas that require significant judgments in the audit. For example, evaluating the ability of a company as a going concern or determining the amount to recognize for accounting estimates.

2. Areas that the external auditors assess and conclude that they have a higher risk of material misstatement and require a significant degree of judgment. For example, determining the adequacy of the provision for irrecoverable debt.
3. The area under consideration relates to work in which the internal auditors were previously involved in. This will result in them evaluating their own work resulting in a self-review threat.
4. The work relates to an evaluation of internal audit function for the purpose of deciding whether to use the work of the department or seek direct assistance.

(d) Internal control weaknesses in the dairy business:

Weakness:	**Recommendation**
1. The milkmen determine the quantity of milk by each cow and simply inform the supervisor. There is no independent verification of the quantity which could result in the loss of milk.	The quantity of milk should be independently verified possibly by the supervisor.
2. There is no evidence that Prince reviews the information in the record book maintained by the supervisor when he visits the farm. This could result in the misappropriation of cash or milk by the supervisor.	Prince should review the record book each time he visits the farm and he should agree the cash received with the record in the book. The review should be evidenced in writing.
3. The visit to the farm by Prince is irregular at one visit per week. This is a business that is largely cash based and the irregular visits could make it easy for any fraudulent activities to occur.	Prince should possibly go to the farm daily or more frequently. Some visits should be un-announced. Such visits will reduce the risk of fraud by the workers.
4. The supervisor is responsible for recording the milk produced and also responsible for the sales and receiving of cash. This is lack of segregation of duties and is a recipe for fraud.	Someone else should be responsible for selling and receiving of cash sales so that not one person is responsible for all aspects of transactions.

5. Cash is kept by the supervisor and is only collected by Prince when he visits the farm on Friday. There is a risk of money being lost through theft or misappropriation by the custodian.	Cash should be collected daily and banked promptly. If Prince increases the frequency of his visits he could collect cash and bank it promptly. Alternatively the one responsible for sales could deposit cash received daily.
6. The receipt of money using the supervisor's line is risky in that the money may not be transferred to Prince.	Prince should secure a business line which could be used for this purpose. Details of this line should be displayed in the sales room for customers to see.
7. Wages are paid to the workers from the sales proceeds for the last week of each month. This could result in reconciliation problems of the sales and cash received for the last week.	All sales proceeds should be banked and cash drawn by Prince to pay wages when they are due.
8. The issue of cash sales receipts to customers only when they request is not a good accounting practice. It is necessary that all money received is recorded and accounted for.	Cash sale receipts should be issued for all sales and these will form the basis of recording the sales for the day.
9. The determination of the wages by the supervisor on engaging workers is a weakness in that he may introduce ghost workers and also pay more than is expected and subsequently demand the excess from the workers.	Wages should be independently determined preferably by Prince and the supervisor simply informed of the wage rate. Further, cash sale receipts should be accountable documents.

(e) **Elements of the assurance engagement:**

Three party relationship – The three parties are management running the business, the practitioner and the partners.

Subject matter – These are the financial statements that will be prepared by management and subject to audit.

Criteria – this is the fact that the financial statements will be prepared according to the relevant financial reporting framework. The auditors will base their audit on the basis of whether the criteria have been met in the preparation of the financial statements.

Evidence – In performing the audit, the auditors will gather sufficient appropriate audit evidence which will form the basis for audit opinion.

Report – This is the final output of the audit process and the report issued by the auditors will contain the opinion.

SOLUTION TWO

(a) **Client acceptance and conflict of interest:**

Reed Ltd:
There is a conflict of interest between the interests of the firm and that of Reed Ltd. This arises from the fact that the firm has shares in a company in direct competition with the prospective client. This will result in loss of objectivity on the part of the firm when providing assurance services.

Response:
The rules prohibit firms to accept appointment as auditor of a company where there is a conflict of interest. The firm should decline the nomination as auditor of Reed Ltd. the firm could consider disposing of the interest in the competing company as a safeguard in which case it may opt to accept appointment as auditors of Reed Ltd.

Fast Communications Co:
The prospective client is in the same industry with one of the existing clients of the firm which is in direct competition. This gives rise to a conflict of interests between clients. One or both companies may not be willing to be audited by the same firm for fear of transferring sensitive information between them.

Response:
The firm should communicate to the existing client and inform its management that it has been offered to be auditor of a competing company. The firm should also disclose to Fast Communications Co the fact that it has a client in direct competition with it. If either of the clients is not willing to be audited by the same firm the firms should decide whether to decline the offer from Fast Communications Co or give up the audit of the existing client and accept nomination to be auditor of Fast Communications Co.

(b)

(i) **Documentation of work on materiality:**

The working papers for the audit of the financial statements of Fig Ltd should contain the following information regarding work done with regards materiality.

1. The basis for setting the materiality for the financial statements as a whole and the amount set for materiality for the financial statements as a whole.
2. The basis for setting a different materiality level for the amount of inventory and the materiality level for inventory set at the planning stage.

3. The performance materiality for the financial statements as a whole and that for inventory set at the planning stage and when revised should be documented.
4. The revision made for the materiality figures in view of the changes made during the year. The new materiality figures should be documented for both the financial statements as a whole and the materiality for inventory.

(ii) Audit risks and responses in audit of Fig Ltd financial statements:

Audit risk	Suitable response:
1. First time audit The fact that Fig Ltd is the first client in the chemical industry, there is a risk that the audit team members may not have the skills and experience necessary to carry out a quality audit. The detection risk is high and should be managed.	Consider the assignment of more experienced audit team members. Further, there is need for close supervision of the work done and possible quality control review by another partner who will not be involved in the audit. If the firm does not have the skills to perform some aspects of the audit consideration should be given to engaging an auditor expert.
2. Opening balances: The prior year financial statements will have been audited by different auditors. There is a risk that the opening balances may be misstated and could result in the misstatement of the current year figures.	The audit team should perform audit procedures on all material opening balances. This includes looking out for evidence that relates to opening balances in the audit of the current year financial statements.
3. Regulation of chemical industry & disposal of hazardous materials: The chemical industry is highly regulated and there is a risk that Fig Ltd may not be compliant with relevant laws and regulations. This	Read management meeting and board meetings minutes and look out for any evidence of non-compliance with laws and

could impact on the ability of the company as a going concern and also provisions may be understated in view of non-compliance with laws and regulations.	regulations. During substantive tests look out for any non-compliance with laws and regulations. Review the details of legal payments made during the year and determine cause of such payments.
4. Valuation of work in progress and finished goods: There is a risk that inventory may be misstated in view of obsolete inventory that may exist. The determination and valuation of work in progress most probably requires specialist skills which both management and the auditors may lack hence relying on the use of management experts.	Attend the year-end inventory count and observe following of inventory count instructions. If necessary, engage the use of an auditor expert in the determination and valuation of work in progress and closing inventory.
5. Old unreliable equipment: Fig Ltd has old unreliable equipment in use. Most likely this equipment is impaired and an impairment review should be undertaken by management. There is a risk that no impairment review has been taken and the equipment could be carried in the financial statements at amounts greater than the recoverable amounts.	Inquire from management in an impairment review was carried out. If it was perform audit procedures on the impairment exercise. If no impairment review was conducted request management to conduct one.
6. Repairs and refurbishment: Part of the bank loan obtained by Fig Ltd is meant to be used for repairs and refurbishment of equipment. Refurbishment of equipment will require capitalization of the amounts involved. There is a risk that management could capitalize	Examine the supporting documents for repairs and refurbishment and ensure that costs have been correctly charged to revenue or capitalized. Emphasize to the audit team for application of professional

revenue expenditure for repairs and also charge against revenue amounts that should have been capitalized.	skepticism during the audit and look out for wrong classification of expenditure.
7. Composition of the audit team: The audit team comprises largely on newly qualified assistants with little practical auditing knowledge. There is a risk that the work that they will perform will not meet the auditing standards and the risk that material misstatements will remain undetected is high.	There will need for close supervision of the work done by more senior members of the audit team.

(iii) **Business risks in Fig Ltd:**

1. **Failure to meet demand:**
   The failure by Fig Ltd to meet customer demand may result in customers switching suppliers which could lead to reduced revenue for the company. Further, failure to meet demand will tarnish the reputation of the company which could adversely affect the operations of the company.

2. **Old equipment:**
   Old equipment will impact Fig Ltd negatively in that the company will fail to meet production levels. This will impact on the revenue and liquidity of the company which can have an impact on the company continuing operations.

3. **Resignation of Technical Manager:**
   The resignation of the Technical Manager will impact negatively the operations of the company which are already failing to meet customer demand. The company may have difficulties finding a suitable replacement in view of the high demand for the skills in the industry and this may result in Fig Ltd failing to meet its objectives.

4. **Secured loan:**
   Fig Ltd secured a loan secured on the equipment of the company. The company may fail to repay the loan due to poor liquidity and the bank could enforce its security which may result in the company failing to continue operations.

5. **Civil strife:**
   The civil strife in the neighboring country through which essential raw materials are imported is likely to result in delays in the movement of raw materials. This will impact production and may result in the company running out of materials and therefore fail to meet customer requirements.

SOLUTION THREE

(a)

(i) **Concern of fraud by external auditors:**

Fraud in a company could impact the financial statements. Auditors concern themselves with the risk of fraud because of the possible impact on the financial statements. Fraud can have a material effect on the financial statements making them materially misstated.

(ii) **Written representation on fraud from management & those charged with governance:**

ISA 240 *The auditor's responsibilities relating to fraud in an audit of financial statements* gives guidance on the representations that auditors should get on fraud from management and those charged with grievance.

- That management and those charged with governance acknowledge their responsibility for prevent and detecting fraud and that they are responsible for putting in place controls to help prevent and detect fraud.
- That management and those charged with governance have disclosed to the auditors their assessment of the risk of fraud in the financial statements.
- That management and those charged with governance have disclosed to the auditors any fraud that they have knowledge of involving management, employees with significant roles in internal controls and others within the organization.
- That management and those charged with governance have disclosed to the auditors fraud or suspected fraud reported to them by employees or other people.

(b)

(i) **Reasons why auditors are concerned with going concern:**

Historical financial statements are prepared on the assumption that a company is a going concern. If a company is not a going concern the preparation of the financial statements would be on the alternative basis which is the break up basis.

Auditors require to obtain evidence whether or not the company is a going concern in order to ensure that the financial statements are prepared on the appropriate basis.

(ii) **Indicators of going concern problems in Chiparamba Plc.:**

1. Failure to pay dividends for 5 years suggests that the company has going concern problems.

2. The fact that customers are switching suppliers on account of Chiparamba Plc. failing to meet their requirements. This will result in a worsening liquidity problem for the company which may fail.
3. The fact that suppliers have withdrawn credit facilities to Chiparamba Plc. suggests that they have lost confidence in the company. With a poor liquidity problem withdrawal of credit facilities may cause the company to fail.
4. Employees withdrawing labor on account of non-payment of wages and salaries. This will negatively impact the operations of Chiparamba Plc.
5. The fact that the company has a net current liability position. This may mean that if creditors demanded to be paid immediately, the company will fail to do so and may be declared insolvent.

(iii) **Suggested opinions:**

1. Client one - Unmodified opinion

   Justification:

   Although this matter appears to be pervasive to the financial statements in that environmentalists are concerned about it, the amount involved is not material to the financial statements. Immaterial amounts would not result in the auditors modifying their opinion.

2. Client two - Qualified opinion

   Justification:

   The uncorrected misstatements are material but do not impact on the decisions made by users of the financial statements.

3. Client three - Disclaimer of opinion

   Justification:

   Closing inventory is likely to be a material figure in the financial statements of a manufacturing or trading company. Further, any misstatement in the figure of inventory will result in a direct misstatement of the profit figure which figure impacts on decisions made by users of financial statements. Since the auditors could not obtain sufficient appropriate evidence they are not in a position to form an opinion hence issuing a disclaimer of opinion.

4. Client four - Adverse opinion

Justification:

The amount involved is material and will impact on decisions made by users of the financial statements. The amount is both material and pervasive to the financial statements and the opinion should be an adverse opinion.

SOLUTION FOUR

(a)

(i) **Meaning of sampling risk & impact of sampling risk on sample size:**

Sampling risk is a risk that the auditor will reach a wrong conclusion because of only testing a sample of the whole population. Had the whole population ben subjected to the same tests a different conclusion would have been reached.

Impact on sample size of level of risk:

If the auditor concludes that the audit risk is high, then in order to reduce that risk a larger sample would be tested.
If on the other hand the risk is assessed as low the sample size will be smaller.

(ii) **Extraction of samples for testing errors and omissions:**

Sample extraction for errors

The sample for items meant to test for errors is extracted from the accounting records. The auditor then examines the supporting documentation for any error.

For example if wishing to test for error in sales invoices, the sample will be extracted from processed sales invoices and traced to the supporting invoices.

Sample extraction for omissions

When testing for omissions, sample extraction is from outside the accounting system. This is because is an item is in the accounting system then it is obviously not omitted.

For example if the auditor wishes to test whether goods received have not been omitted and have not been processed a sample of Goods Received Notes will be obtained and traced to the accounting records. If it is not recorded then it clearly would have been omitted.

(b)

(i) **Audit risks for accounting estimates:**

The audit risk with regards the accounting estimates in the financial statements of Kudu Ltd is that there is no precise method of determining accounting estimates. There is subjectivity involved in arriving at these amounts and there is a risk of misstatement due to management bias. Accounting estimates are inherently a risk area because of the nature of the items.

(ii) **Audit procedures for provisions:**

Provision for obsolete stocks:

- Inquire of management how this amount was arrived at.

- Review the returns from the retail outlets for details of expired drinks and ensure these have been written off or provided for if not yet expired.
- Review post year-end sales of drinks that were nearing expiry date and establish if will require management to increase the provision.

Provision for legal case:

- Obtain written representations from management on its assessment of the outcome of the case and the adequacy of the provision made.
- Inquire from in-house legal advisor the likely outcome of the case and adequacy of the provision made.
- If case disposed of before the signing of the audit report confirm necessary adjustments to the year-end provision made.

General provision:

- Obtain explanations for all amounts making this general provision
- Accounting standards prohibit the setting up of general provisions in the financial statements. These do not meet the conditions for a provision accounting to IAS 37.
- Request management to reverse the general provision
  - If management agrees to reverse confirm this has been done
  - If management declines to reverse consider impact on the audit opinion.

SOLUTION FIVE

(a) **Advantages of using CAATs during the audit of Marino Ltd:**

(i) Since Marino Ltd expanded, CAATs can be fast when processing large volumes of transactions generated by the accounting system.

(ii) The results that external auditors will get form CAATs can be compared with those from traditional or manual testing.

(iii) Quick comparison of the results from the audit of Marino Ltd.

(iv) In the long run the use of CAATs during the audit of Marino Ltd can be cost effective in long run especially if the client accounting system is not changing.

(v) Auditors are able to test transactions rather than paper records generated by Marino Ltd.

(vi) Through the use of CAATs larger samples can be tested and by so doing reduce sampling risk.

(b) The reasons to justify the use of negative confirmation method are as follows:

(i) **The exception rate** – it has been found that the rate has been low in terms of receiving replies from receivables.

(ii) **Internal controls effectiveness**- internal controls for Marino Ltd has been effective. Therefore a negative conformation is ideal.

(iii) **Size of the population concerned** -the population consists of small but large customers of homogenous balances.

(iv) **Risks** - The risks of material misstatement were deemed to be low by auditors.

(c) The following points should be considered when preparing reports to management:

- The report should include language that conforms or does not contradict the opinion given in the auditor's report.
- It should state that the letter to management was for the purpose of audit procedures with respect to financial statements audits or accounting information and to ascertain how internal controls are functioning in Marino Ltd.
- It should highlight that the letter contains issues relating to internal controls that came to the attention of external auditors.
- It should include facts that the letter to management is addressed to management.

(d) Breaches of rules of professional ethics:

(i) Confidentiality – the rules of confidentiality were breached when the trainee auditor divulged information concerning sales system and the cash position of the client without permission of the client.

(ii) The auditor reported late for the audit after spending a night at a police cell after a fight with a bus conductor Auditors are expected to exhibit behaviour which does not discredit their profession

(e) **The meaning of public interest:**

Public interest means that auditors should act for the welfare of society at large when doing their work. They should consider the fact that their work is relied upon by other stakeholders other than the client.

This is the collection of the betterment or wellbeing of society, people and institutions that public accountants serve.

Examples of other stakeholders with an interest in the work of auditors include:

- Lenders
- Government
- Tax authority
- Investors
- Employees and
- Employers.

END OF SUGGESTED SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA APPLICATION ADVANCED DIPLOMA IN ACCOUNTANCY

CA2.4 TAXATION

THURSDAY 21 MARCH 2024

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 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

On incremental value in each norm price range	Mineral royalty rate
Less than US$4,000	4.0% of norm value
From US$4,000 but less than US$5,000	6.5% of norm value
From US$5,000 but less than US$7,000	8.5% of norm value
US$7,000 and above	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

On first K12,000	0%
On turnover exceeding K12,000 and up K800,000	4%

Rental income Tax

Annual Rental income

On first K12,000	0%
From 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		270
taxis	1,080	
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, land and buildings and shares	5%
Rate on realised value of intellectual property	5%
Rate of tax on realised value on a transfer or sale of a mining right	10%
Rate of tax on realised value on a mineral processing licence or an interest in the 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 5 years and over**	
Motor vehicles for the transport of ten or more persons, including the driver	**Customs duty K**	**Excise duty K**	**Customs duty K**	**Excise duty 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 5 years and over**	
Motor cars and other motor vehicles principally designed for the transport	**Customs duty**	**Excise duty**	**Customs duty**	**Excise duty**

of persons including station wagons and racing cars				
	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 but not exceeding 2500 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 5 years and over**	
Motor vehicles for the transport of goods -with compression-ignition internal combustion piston engine (diesel or semi-diesel):	**Custom s duty**	**Excise duty**	**Custom s 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)

Doreen, Maureen and Noreen have been in business as partners for many years, sharing profits and losses in the ratio of 5:2:1 respectively after allowing for annual partnership salaries of K420,000 for Doreen, K360,000 for Maureen and K300,000 for Noreen.

The partnership is engaged in retailing and accounts are prepared annually to 31 December.

On 31 August 2023, Noreen resigned from the partnership and with effect from that date, the partnership agreement was changed. Doreen and Maureen became entitled to annual salaries of K432,000, and K372,000 respectively, whilst profits and losses were now to be shared in the ratio 3:2 between Doreen and Maureen respectively.

The partnership's Statement of Profit or loss for the year ended 31 December 2023 was as follows:

	Note	**K**	**K**
Gross profit			7,144,100
Add Other income:			
Discount received			25,500
Profit on sale of delivery van			66,000
			7,235,600
Less expenses:			
Wages and salaries	(1)	2,336,100	
Entertainment and gifts	(2)	130,900	
Repairs and renewals	(3)	360,500	
Travel and motoring expenses	(4)	164,000	
Irrecoverable debts expense	(5)	160,600	
Miscellaneous expenses	(6)	954,500	
			(4,106,600)
Net profit			3,129,000

The following additional information is available:

Note 1: Wages and salaries

Wages and salaries included employee's salaries of K1,168,100, partner's salaries of K988,000 and the annual salary of Maureen's daughter amounting to K180,000 who is employed in the business as a Marketing Officer. Other marketing officers employed in the business performing similar roles are paid K120,000 per annum.

Note 2: Entertainment and gifts

These included entertainment expenses for partners of K26,300, entertainment expenses for business associates amounting to K16,500, Christmas gifts for employees (groceries costing K250 each) valued at K7,500, expenses on accommodation and meals for employees on business trips of K35,600 and gifts of mealie meal (costing K150 each) valued at K45,000 to approved orphanages.

Note 3: Repairs and Maintenance
These include maintenance costs incurred to comply with the Corona Virus Pandemic (COVID-19) health guidelines of K114,800, expenditure of K58,000 incurred on the replacement of hard drives for the office computers, the cost of computer printers for business offices of K85,000. The remaining balance relate to repairs incurred to remedy normal wear and tear of business premises.

Note 4: Travel and motoring expenses
These include employees' travel expenses of K75,000, motor car running expenses for Doreen's motor car of K35,000, motor car running expenses for Maureen's motor car of K30,000 and motor car running expenses for Noreen's motor car of K24,000.

The partners use their own personal private motor vehicles in the partnership business. It has been agreed with the Commissioner General that Doreen has business use of 80% of her motor car, Maureen's business use of her car is 75% and Noreen's business use of her motor car is 70%.

Note 5 Irrecoverable debts expenses:

This comprises the following:

	K
Trade debts written off	166,200
Loans written off	146,500
Decrease in specific provision for bad debts	(87,200)
Decrease in general provisions for bad debts	(26,500)
Loans recovered	(38,400)
	160,600

Note 6: Miscellaneous expenses
These comprised the following:

	K
Depreciation	245,000
Advertising and Marketing	136,100
Utility bills for Partner's residences	136,000
General allowable business expenses	437,400
	954,500

Note 7: Goods for personal use
The partners withdrew some goods from the business, for personal and family use. The total cost of the goods withdrawn was K130,000. The partnership makes a margin of 20% on all sales of these types of goods. The partners reimbursed the full cost of the drawn goods.

Note 8: Buildings, implements plant and machinery.
The income tax values of assets belonging to the business qualifying for capital allowance on 1 January 2023 and their original costs were as follows:

	Income Tax Value at 1 January 2023	Original Cost
	K	K
Shop buildings	350,000	500,000
Office computers	110,000	220,000
Delivery van	35,000	140,000

The delivery van was sold for K150,000 during the year.

The partners use their own personal motor vehicles in the partnership business (see also note (4)) above. The details of each vehicle are as follows:

Partner	Date Purchased	Original Cost
		K
Doreen's Toyota Fortuner car	10 April 2021	850,000
Maureen's Ford Ranger Double cab van	5 June 2022	900,000
Noreen's Isuzu Double cab van	20 May 2018	750,000

Note 9: Other income

The partners received the following income from other sources in their own personal capacity in the tax year 2023.

	Doreen	Maureen	Noreen
	K	K	K
Building society interest	8,250	5,100	4,200
Copyright royalties	45,900	Nil	Nil
Dividends from LuSE listed companies	34,000	42,500	38,250
Consultancy fees	Nil	55,250	76,500

The above amounts represent the actual cash received by each individual, in each case. Withholding tax was deducted at source at the relevant rates.

Required:

(a) Calculate the partnership's tax adjusted business profit for the year ended 31 December 2023, before division between the partners.

(15 marks)

(b) Calculate the amount of the business profits on which each partner will be assessed for the year ended 31 December 2023.

(10½ marks)

(c) Compute the income tax payable by each partner for the tax year 2023.

(14½ marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any THREE (3) questions.

<u>QUESTION TWO</u>

Mr Chikwanda retired from his employment with Mesco Power Limited on 31 May 2023 where he was employed for 25 years as a Logistics Manager. Mr Chikwanda's contract of employment provided for the following in the tax year 2023:

	K
Annual Salary	900,000
Monthly Entertainment allowance	12,500
Annual Transport allowance	5% of basic pay
Annual Housing allowance	15% of basic pay

During the 2023 tax year, the company made the following monthly payments in relation to his private residence:

	K
Electricity bills	2,500
Telephone bills	850
General maintenance of the residence including the surroundings	1,500
Security bills	1,300

During the tax year 2023, Mr Chikwanda also received a refund of medical bills he incurred in the month of March 2023 amounting to K32,500. His accrued leave pay amounted to K150,000.

He made NAPSA contributions of 5% of his basic pay. His other payments in the tax year 2023 included Trade Union contributions which amounted to K12,000, life assurance premiums of K18,000 and subscriptions to the Institute of Purchasing and Logistics amounting to K4,500. PAYE deducted from his salary amounted to K125,000.

Upon receiving retirement package, Mr Chikwanda decided to import a brand new 68-seater Marcopollo bus from a motor vehicle dealer in Japan at a cost of US$300,000, which he intends to use in his public passenger transportation business.

The Marcopollo bus was manufactured in January 2023. Mr Chikwanda paid insurance and shipping charges of US$50,000 and US$70,000 respectively. Other incidental costs incurred up to the port of Dare salaam in Tanzania amounted to US$32,400. He paid a clearing and forwarding agency US$16,000 to clear and transport the bus to Nakonde Border post.

He incurred further transportation and handling costs of US$10,000 in transporting the bus from Nakonde to Lusaka. He insured the bus comprehensively at the cost of K30,000 in Lusaka and motor vehicle registration charges amounted to K6,000.

At the time of the importation of the bus, the prevailing exchange rate in the local commercial banks was K18.80 to US$1 dollar. However, the Commissioner General's exchange rate was K18.50 to US1 dollar.

Required:

(a) Explain the meaning of domicile in the context of taxation and explain why the concept of domicile is important in the Zambian tax system.

(3 marks)

(b) Calculate the income tax payable by Mr Chikwanda for the tax year 2023. You should indicate in your computation by the use of a zero (0), any benefits which are not taxable and any payments made by Mr Chikwanda, which are not allowable, when computing taxable emoluments.

(13 marks)

(c) Calculate the value for duty purposes and the total import taxes paid by Mr Chikwanda on the importation of a 68-seater Marcopollo.

(4 marks)

[Total: 20 Marks]

QUESTION THREE

You are employed in a firm of Chartered Accountants and you have been presented with the following information relating to four (4) clients of your firm Kelvin, Victor Mutinta and Hendrix Kunda:

Kelvin, Victor and Mutinta wishes to know whether they will be chargeable under provisional income tax on the income they generated in the tax year 2023, whilst Hendrix is seeking advice on the property transfer tax implications of the disposal of assets he made during the year.

The relevant information relating to the tax payers is presented below:

(a) **Kelvin Manda**

Mr. Manda is employed as an electronic engineer at an annual basic pay of K126,000 and received a bonus of K12,000, in addition to his annual basic salary. He does not have any other income.

Victor Kabuswe

Mr. Kabuswe is employed as a Technical Manager by a local manufacturing company at an annual basic salary of K282,000. He also owns a shop that produced taxable business profits of K362,000 from a turnover of K680,000 for the tax year 2023.

Mutinta Hamainza

Mrs Mutinta Hamainza is a commercial farmer in Southern province. She made taxable farming profits of K390,000 from a turnover of K840,000 for the tax year 2023. She also received dividends from a Zambian resident company amounting to K17,000 (net).

Required:

(i) Describe the types of taxable persons who are required to pay provisional income tax.

(2 marks)

(ii) Explain, with reasons, which of the above individuals will be required to pay provisional income tax and which ones will not, stating how the income generated by each person will be assessed to tax in the year 2023. **You are NOT required to compute the amount of tax payable by each individual.**

(6 marks)

(b) **Hendrix Kunda**

Hendrix made the following disposals of assets during the year:

(1) On 5 February 2023 he sold a Toyota Corolla car to his step daughter for K90,000. The open market value of the car was K125,000 on the date of sale. It was necessary to carry out some repairs before selling the car. The cost of repairs amounted to K4,000.

(2) On 2 March 2023 he sold a piece of land for K120,000. He bought the piece of land in 2019 at a cost of K40,000. The open market value of the land was determined to be K135,000 by the ZRA valuation department.

(3) On 15 March 2023 he sold a three (3) bedroomed house to his last born son for K170,000. The open market value of the house as determined by government valuation experts amounted to K450,000 on the date of sale.

(4) On 25 March 2023 he sold 1,500 ordinary shares held in GHX Limited, a private company for K12 per share. The nominal value of each share was K5 per share. The open market value of the shares was determined to be K15 per share.

(5) On 3 April 2023 he sold 20,000 ordinary shares in Kariba Plc, a company listed on the LUSE at a price of K10 per share. The nominal value of each share was K1. The open market value per share on the date of sale was K12.

Required:

(i) Explain the Property Transfer Tax implications of each of the above transactions that Hendrix undertook in the tax year 2023. Your explanations MUST state the realised value and MUST include calculations of the amount of Property Transfer Tax arising where applicable.

(10 marks)

(ii) Describe how a Hendrix would make an objection to valuation of property used by the ZRA to assess any property transfer tax arising.

(2 marks)

[Total: 20 Marks]

QUESTION FOUR

Mfumbwe Limited is a company based in Chongwe District. It has been in operation for many years. The company is engaged in manufacturing and farming operations. The following information is available in respect of the tax year 2023:

Manufacturing operations

The tax adjusted profit from manufacturing before deducting capital allowances was K13,875,000.

The company owns a building which was constructed and brought into use in the tax year 2021, at a cost of K13,500,000. The total cost of constructing the building comprised the following:

	K
Cost of land	3,500,000
Factory	7,000,000
Administration offices	1,800,000
Staff welfare facilities	1,200,000
Total	13,500,000

During the year ended 31 December 2023, the company constructed ten (10) units of low-cost housing for its employees at a cost of K300,000 per unit.

Capital allowances on other implements, plant and machinery used in manufacturing operations were determined to be K650,000.

Farming operations

The financial performance of the company for the tax year 2023, from farming operations was much better, than that of the previous farming season, when most of the crop was destroyed by flash floods, which arose from heavy rains experienced in that farming season. As a result, the company made a final tax adjusted farming profit after capital allowances of only K245,500 in the previous tax year, the year ended 31 December 2022.

For the year ended 31 December 2023, the company generated a profit from farming operations before capital allowances of K6,456,000.

During the tax year 2023, the company incurred expenditure of K188,000 on water conservation, expenditure of K650,000 on the installation of a modern irrigation system, expenditure of K380,000 on the development of a banana plantation, expenditure of K750,000 on new farm implements and expenditure of K250,000 on general plant.

The company wishes to make an election to average the final taxable profits after capital allowances for the tax year 2023 with those of the tax year 2022.

Retail operations

For the year ended 31 December 2023, the final tax adjusted profit from retailing was K1,536,500. At 1 January 2023, there was an unrelieved loss from retailing of K326,500, which was the balance of the loss suffered by the company from retail operations three years ago.

Provisional income tax
Provisional income tax paid in respect of the tax year 2023, was K4,850,500.

Required:

(a) Compute the final taxable profit from manufacturing operations for the tax year 2023. (6 marks)

(b) State, with explanations, the date by which the irrevocable election to average farming income in the circumstances given above should be made by Mfumbwe Ltd. (2 marks)

(c) Assuming that the company is successful in making the averaging election, calculate the final farming taxable profits for tax years 2022 and 2023. (8 marks)

(d) Compute the final income tax payable by the company for the tax year 2023. (4 marks)

[Total: 20 Marks]

QUESTION FIVE

You are employed in the Tax department of a firm of Chartered Accountants which is preparing a training workshop for newly recruited trainee accountants. To this end, the Tax Manager has asked you to develop notes explaining how the fundamental ethical principles of integrity and objectivity apply to the provision of tax services to be used in the workshop.

The Tax Manager has additionally asked you to prepare the VAT return for the month of July 2023 for Mwanje Tambatamba, a VAT registered retailer making standard rated supplies who is a client of your firm.

You have been given the following information relating to the transactions entered into by Mwanje during the month:

(1) Standard rated sales for the month were made up as follows:

	K	K
Credit sales	15,000,000	
Less Trade discount @2%	(300,000)	
		14,700,000
Cash sales	6,000,000	
Less Cash discount @0.5%	(30,000)	
		5,970,000
Total		20,670,000

(2) Standard rated purchases for the month totalled K8,700,000 (VAT inclusive). These included goods with a cost of K60,320 (VAT inclusive) which were withdrawn from the business by Mwanje for her personal and family use.

(3) Purchases returns on the standard rated purchases were K44,080 (VAT inclusive).

(4) Standard rated overheads incurred during the month totalled K532,440 (VAT inclusive) and comprised the following items:

	K
Entertainment expenses of customers	171,680
Entertainment expenses of employees	104,400
Expenses relating to Mwanje's accommodation	24,360
Miscellaneous business overheads	232,000
	532,440

(5) Mwanje purchased a Toyota Hilux Single cab delivery van at a cost of K139,200 (VAT inclusive) to be used in the business. It has been agreed with the Commissioner General that her private use of the Toyota Hilux van is 25%.

(6) Standard rated motor vehicle running expenses for the van during the month were K13,920 (VAT inclusive).

(7) Mwanje sold some fixtures and fitting which were in excess of the business need for K20,880 (VAT inclusive).

(8) Unless specifically stated, all the above persons are registered for Value Added Tax and the transactions are stated exclusive of Value Added Tax.

Required:

(a) Explain how the ethical principles of Integrity and objectivity apply to the provision of tax services.

(4 marks)

(b) Compute the value added tax payable by Mwanje for the month of July 2022.
You should clearly show using a zero (0) items on which VAT is not chargeable or irrecoverable in your computation.

(12 marks)

(c) Compute the amounts of penalties that will arise if Mwanje pays the VAT you have computed in part (b) above on 18 October 2023 and also submits the VAT return on the same date.

(4 marks)

[Total: 20 Marks]

END OF PAPER

CA2.4: TAXATION SUGGESTED SOLUTIONS

SOLUTION ONE

(a) COMPUTATION OF FINAL TAX ADJUSTED PARTNERSIP PROFIT

	K	K
Net profit as per accounts		3,129,000
Add		
Partner's salaries	988,000	
Maureen's daughter's excessive salary		
(K180,000 - K120,000)	60,000	
Partner's entertainment expenses	26,300	
Entertaining business associates	16,500	
Computer printers	85,000	
Partner's private motoring expenses		
- Doreen K35,000 x 20%	7,000	
- Maureen K30,000 x 25%	7,500	
- Noreen K24,000 x 30%	7,200	
Loan written off	146,500	
Depreciation	245,000	
Utility bills for Partner's residences	136,000	
Goods drawn (20/80 x K130,000)	32,500	
Net balancing charge (capital allowances)	18,750	
		1,776,250
		4,905,250
Less		
Decrease in general provision	26,500	
Loans recovered	38,400	
Profit on sale of delivery van	66,000	
		(130,900)
		4,774,350

WORKINGS

COMPUTATION OF CAPITAL ALLOWANCES

Printers	
Wear & tear allownace	
(K85,000 x 25%)	21250
Shop buildings	
Wear & tear allowance	
K500,000 x 2%	10000
Office computers	
Wear & tear allowance	

K220,000 x 25%		55,000
Delivery van		
ITV b/f	35,000	
Proceeds (restricted to cost)	(140,000)	
	(105,000)	(105,000)
		(18,750)

(b) ALLOCATION OF PROFITS TO PARTNERS

	Total	Doreen	Maureen	Noreen
0.1.01.2023 - 31.08.2023	K	K	K	K
Salaries	720,000	280,000	240,000	200,000
Balance (5:2:1)	2,462,900	1,539,313	615,725	307,863
Profit (8/12 x K4,774,350)	3,182,900	1,819,313	855,725	507,863
01.09.2023 - 31.12.2023				
Salaries	268,000	144,000	124,000	-
Balance (3:2)	1,323,450	794,070	529,380	-
Profit (4/12 x K4,774,350)	1,591,450	938,070	653,380	
Total allocation	4,774,350	2,757,383	1,509,105	507,863
Less capital allowances on				
Doreen's Fortuner				
(K850,000 x 20%) x 80%	(136,000)	(136,000)	-	-
Maureen's Ford Ranger				
(K900,000 x 20%) x 75%	(135,000)	-	(135,000)	-
Noreen's Isuzu				0
	4,503,350	2,621,383	1,374,105	507,863

(c) PERSONAL INCOME TAX COMPUTATIONS FOR THE TAX YEAR 2023 FOR:

	Doreen	Maureen	Noreen
	K	K	K
Taxable Profits	2,621,383	1,374,105	507,863
Investment income			
Royalties (K45,900 x 100/85)	54,000		
Consultancy fees (K55,250/K76,500) x 100/85	0	65,000	90,000
Total taxable income	2,675,383	1,439,105	597,863
Income Tax			
On First K57,600 x 0%	0	0	0

On next K24,000 x 20%	4,800	4,800	4,800
On next K25,200 x 30%	7,560	7,560	7,560
On excess			
(K2,568,583/K1,332,305/K491,063 x			
37.5%	963,218	499,614	184,148
	975,578	511,974	196,508
Less WHT			
(K54,000/K65,000/K90,000) x 15%	(8,100)	(9,750)	(13,500)
Income Tax payable	967,478	502,224	183,008

SOLUTION TWO

(a) The concept of domicile relates to the place which an individual refers to as the permanent home. A person is domiciled in the country that is his or her permanent home.
The concept of domicile may affect the amount of income that will be assessed on a taxable individual where such an individual has income from all over the world.

(b) MR CHIKWANDA
PERSONAL INCOME TAX COMPUTATION FOR THE TAX YEAR 2023

	K	K
Salary (K900,000 x 5/12)		
375,000		
Entertainment allowance (K12,500 x 5)	62,500	
Transport allowance (K375,000 x5%)	18,750	
Housing allowance (K375,000 x 15%)	56,250	
Refund of medical bills (exempt)	Nil	
Accrued leave pay	150,000	
Electricity bills (K2,500 x 5)	12,500	
Telephone bills (K850 X 5)	4,250	
General maintenance (K1,500 X5)	7,500	
Security bills (K1,300 x 5)	6,500	
		<u>318,250</u>
		693,250
Less allowable deductions:		
Professional subscription	4,500	
Trade union contributions (not allowable)	nil	
Life assurance premiums (not allowable)	Nil	

(4,500)
Taxable Income
688,750
Less Tax free
<u>(57,600</u>)
Taxable Income
631,150
Income Tax

K24,000 x 20%	4,800
K25,200x 30%	7,560

K581,950x 37.5%
<u>218,231</u>

230,591

Less tax PAYE
(125,000)
Income tax payable
105,591

(c) Computation of VDP

	$
Cost	300,000
Insurance	50,000
Shipping	70,000
Incidental costs	32,400
Clearing and forwarding	16,000
	468,400

VDP: $468,400 x K18.50 = K8,665,400

Computation of import taxes paid

	Cost/Values	Import Taxes
	K	K
VDP	8,665,400	
Customs Duty @ 15%	1,299,810	1,299,810
	9,965,210	
Excise Duty @ 0%	Nil	Nil
	9,965,210	
Import VAT @16%	1,594,434	1,594,434
Total Cost	11,559,644	
Total import taxes		2,894,244

SOLUTION THREE

(a)

(i) The types of taxable persons who are required to pay provisional income tax are:

(1) Individuals whose taxable income is above K800,000 per annum, where such income does not consist of only emoluments taxable under the Pay As You Earn system.

(2) Limited companies and other taxable bodies of persons which are expected to make profits.

(ii) The status of the various taxable persons is as follows:

Kelvin Manda

Mr. Kelvin Manda will not be required to pay provisional income tax because all of his taxable income is in the form of emoluments from employment. Income tax on the emoluments from employment is taxable under the Pay As You Earn system.

Victor Kabuswe

Mr. Victor Kabuswe will not be required to pay provisional income tax on his income from the shop because his total taxable income for the year is below K800,000. He will therefore be required to pay turnover tax. The emoluments from employment will be taxable under Pay As You Earn System.

Mutinta Hamainza

Mrs. Mutinta Hamainza will be required to pay provisional income tax because her taxable income for the year is above K800,000 and that income is not in form of emoluments from employment that are taxable under PAYE system.

(b) (i) (1) The transfer of a Toyota Corolla to the step daughter has no realized value because PTT is not chargeable on movable properties or chattels. Therefore no PTT would be charged on the transfer of the motor car.

(2) The transfer of a piece land is chargeable to Property transfer tax. The realized value is the market value of K135,000. Therefore, property transfer tax is as follows:

Property transfer tax = K135,000 X 5% = K6,750

(3) The transfer of a three (3) bedroomed house to his last born son even though it is a member of the immediate family is be chargeable to PTT because he received some consideration. The realized value is a consideration of K170,000. Therefore the PTT is as follows:

Property transfer tax = K170,000 X 5% = K8,500

(4) The transfer of shares in a company which is not listed on the Lusaka Securities Exchange is chargeable to Property Transfer tax. The realized value is the higher of the open market value and the nominal value. Therefore, the open market of value K22,500 is the realized value.

Property Transfer tax = K22,500 X 5% = K1,125

(5) The transfer of shares in a company which is listed of the Lusaka Securities Exchange is not chargeable to PTT. Therefore, the realized value is nil and no PTT is payable.

(ii) If a Hendrix wishes to make an objection to any value, then he should make the objection to the Commissioner General in writing. The Commissioner General would then make a ruling on the matter.

If he is not satisfied with the ruling, they can make an appeal to the Tax Appeals Tribunal.

SOLUTION FOUR

(a) MFUMBWE LIMITED
COMPUTATION OF FINAL TAXABLE PROFIT FROM MANUFACTURING OPERATIONS

	K
Profit before capital allowances	13,875,000
Less	
Capital allowances on buildings	(646,000)
Other capital allowances	(650,000)
Taxable profit from manufacturing	12,579,000

WORKINGS

	K
Total Cost	13,500,000
Less: cost of land	(3,500,000)
Total construction cost	10,000,000
10% x K10m	1,000,000

The cost of the administration offices of K1.8m exceeds K1m and therefore will be classified as commercial building and not an industrial building.

	K
Factory	
Wear and tear allowance	
(Factory K7,000,000 x 5%)	350,000
Staff welfare facilities	
Wear and tear allowance	
(5% x K1,200,000)	60,000
Administration offices	
Wear and tear allowance	
(2% x K1,800,000)	36,000
Low-Cost housing units	
Wear & tear allowance	
(K100,000 x 10%) x 10 units	100,000
Initial allowance	
(10% x K100,000) x 10 units	100,000
	646,000

(b) Mfumbwe Ltd should make the irrevocable election to average the income of the tax year 2022 and 2023 no later than 31 December 2024, which is the end of the tax year following the tax year 2023.

(c) COMPUTATION OF FINAL TAXABLE PROFIT FROM FARMING

		K
Profit before capital allowances		6,456,000
Less capital allowances on		
Water conservation (K188,000 x 100%)	188,000	
Irrigation system (K650,000 x 100%)	650,000	
Banana plantation (K380,000 x 10%)	38,000	
Farm implements (K750,000 x 100%)	750,000	
General plant (K250,000 x 25%)	62,500	
		(1,688,500)
Final taxable profits		4,767,500

COMPUTATION OF AVERAGE PROFITS FOR THE TAX YEARS 2022 AND 2023

	K
Final Taxable profit for the tax year 2023	4,767,500
Final Taxable profit for the tax year 2022	245,500
	5,013,000
Average profit (K5,013,000/2)	2,506,500

COMPUTATION OF FINAL TAXABLE PROFITS FOR THE TAX YEARS 2022 & 2023

Tax year	Final Taxable Profits
	K
2022	2,506,500
2023	2,506,500

(d) MFUMBWE LTD

COMPANY INCOME TAX COMPUTATION FOR THE TAX YEAR 2023

	K	K
Non-farming income		
manufacturing profits		12,579,000
Profit from retailing	1,536,500	
Less loss relief	(326,500)	
Final taxable profits from retailing		1,210,000
Total non-farming income		13,789,000
Taxable profit from farming		2,506,500
Total taxable income		16,295,500
Company income tax on non-farming income		

(K13,789,000 x 30%)		4,136,700
Company income tax on farming income		
(K2,506,500 x 10%)		250,650
		4,387,350
Less provisional income tax		4,850,500
Income tax refundable		(463,150)

SOLUTION FIVE

(a) **Integrity**

Integrity means being straightforward and honest in all professional and business relationships.

The tax practitioner to ensure straightforwardness, fair dealing, a commitment not to mislead or deceive and truthfulness, when providing tax services.

This means that a member providing tax services shall ensure that their own personal tax obligations and those of any associated entities for which the member is responsible are properly discharged.

The tax practitioner must not knowingly be associated with reports, returns, communications or other information where the member believes that the information contains a materially false or misleading statement or calculation or contains statements or information furnished recklessly

Objectivity

This means that a tax practitioner shall not allow bias, conflict of interest or undue influence of others to override professional or business judgements.

Members shall be impartial and not allow prejudice or bias, conflict of interest or the influence of others to override their objective judgement in relation to tax matters.

In situations where a member is required to act as an advocate for a client when representing or assisting them before tribunals or courts of law, the member shall ensure that the client is aware that the member has an obligation not to mislead the Court or Tribunal and to safeguard their professional objectivity.

(b) COMPUTATION OF INPUT VAT

	K	K
Output Tax		
Standard rated sales		
(K14,700,000 + K6,000,000) x 16%		3,312,000
Sale of fixtures & fittings		
(K20,880 x 4/29)		2,880
		3314880
Input Tax		
Standard rated purchases		
(K8,700,000 - K60,320) x 4/29	1,191,680	
Less Purchases returns (K44,080 x 4/29)	(6,080)	
	1,185,600	
Entertaining customers	0	

Entertaining employees	0	
Mwanje's accommodation expenses	0	
Business overheads (K232,000 x 4/29)	32,000	
Toyota Hilux van (K139,200 x 4/29) x 75%	14,400	
Motor van running expenses (K13,920 x4/29) x 75%	1,440	
		1,233,440
VAT payable		2,081,440

(c) Mwanje should pay and submit the return on 18 August 2023. Therefore, if the return is submitted on 18 October 2023, it will be submitted late by 61 days.

(1) For late payment of VAT, the penalty is 1/2 % of the tax due for each day the VAT is unpaid. The amount of penalty arising will therefore be:

1/2 % x K2,081,440 x 61 days = K634,839

(2) The daily penalty for late submission of VAT returns is the higher of 1,000 penalty units (K300); and 1/2 % of the amount of VAT payable. Therefore, the amount of the penalty arising will be the higher of:

- K300 x 61 days = K18,300; and
- 1/2 % of the VAT payable

  K2,081,440 x 1/2 % = K10,402

Therefore, the penalty will be K18,300, being the higher amount.

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA APPLICATION ADVANCED DIPLOMA IN ACCOUNTANCY

CA2.5: FINANCIAL MANAGEMENT

FRIDAY 22 MARCH 2024

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

MJR Pharmaceuticals Inc. is considering setting up a small plant in Zambia that would be manufacturing COVID-19 vaccines to supply the southern part of Africa. The initial cost of investment is K250 million. It is expected that 80% of initial cost of investment relates to machinery with a disposal value of K50 million at the end of the project. However, the Chief Financial Officer (CFO) for MJR Pharmaceuticals Inc. is worried about the risk and uncertainty related to this proposed project and feels that it should be part of the investment appraisal process. Arising from this concern, the CFO has come up with two scenarios as part of evaluating the proposed investment with the time horizon for appraisal of 10 years.

Scenario A

The selling price of a unit of vaccine will be K15 per unit. The CFO has ascertained that the probability of a demand of 10,000,000 units per year is 0.5, with a probability of 0.4 that it will be 20% higher, and a 0.1 probability that it will be 20% lower. In this scenario the CFO expects the company to earn a contribution of 50% and expects fixed overheads to be K14.5million per year.

Scenario B

The selling price of a unit of vaccine will be K15 per unit. The CFO has assumed that demand is certain at 10,000,000 per year. In this scenario the CFO also expects the company to earn a contribution of 50%. However, fixed overheads are uncertain as follows:

Fixed overheads (K'million)	Probability
11	0.25
14.1	0.30
17.9	0.25
22.1	0.20

Other Information

MJR Pharmaceuticals Inc. pays corporate tax of 30% per year. The machinery qualifies for capital allowances on a straight line basis. The company has a dividend cover ratio of 2.0 times and expects zero growth in dividends. The company has one million K1 ordinary shares in issue and the market capitalization (value) of the company is K50 million. After-tax profits for next year are expected to be K20 million. MJR Pharmaceuticals Inc. 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 40% based on debt to equity ratio. MJR Pharmaceuticals Inc. uses the current cost of capital to evaluate all its proposed investments.

Required:

(a) Calculate the current cost of capital for MJR Pharmaceuticals Inc. (6 marks)

(b) Evaluation the final viability of the proposed investment under the following:
   (i) Scenario A (15 marks)
   (ii) Scenario B (13 marks)

(c) Explain the reasons risk and uncertainty should be considered in the investment appraisal process. (6 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any THREE (3) questions.

QUESTION TWO

BULL Ltd manufacturers exotic furniture made from Mukula tree in Zambia. The company buys already processed materials made from Mukula tree from a renowned local supplier. The annual demand of materials is 40,000 units. BULL Ltd normally sales on credit with three months allowed for payment. The annual credit sales are K140 million. The purchase price of each unit of material is K25. There are ordering costs of K20 for each order placed. BULL Ltd's inventory holding costs amount to 10% per year of inventory value.

BULL Ltd is now considering adjusting its credit and inventory policy to minimise costs. The company has decided to offer a 2% discount for payments made within ten days of the invoice being sent, and to reduce the maximum time allowed for payment to two months. BULL Ltd strongly believes that 50% of customers will take the discount. On the other hand, the main supplier has also offered BULL Ltd discounts on purchase price as follows:

Order quantity	Discount
0 to < 5,000	0 %
5,000 to < 10,000	1 %
10,000 or over	1.5 %

The shareholders of Bull Ltd require a 20% return on their investments.

Required:

(a) Evaluate the effect of the discount assuming that the volume of sales will be unaffected by the discount.

(10 marks)

(b) Determine the cost-minimizing order size in units taking into account the discount offered by the supplier.

(10 marks)

[Total: 20 Marks]

QUESTION THREE

JUKU Plc is a company listed on Lusaka Securities Exchange that supplies computer and electronic accessories solely to Lusaka Province. There has been increasing demand for computer and electronic accessories in the country and JUKU Plc wants to take advantage of this opportunity by expanding into other provinces.

The initial investment cost of K6.1 million will be raised through a 1 for 3 rights issue. The current share price of JUKU Plc is K2.40 per share and the rights issue price will be at a 15% discount to this. The Financial Manager of JUKU Plc expects that the expansion of operations to other provinces will enable the average growth rate of earnings per share over the last five years to be maintained into the foreseeable future. The following financial data relates to JUKU Plc follows:

Year	**5 *(Current)***	**4**	**3**	**2**	**1**
Dividend per share (ngwee)	15.0	14.8	14.0	13.8	12.8
Earnings per share (ngwee)	32.4	30.5	28.9	28.1	27.7

The price/earnings ratio of JUKU Plc has been approximately constant in recent years. The company has an asset beta of 0.92 and equity premium of 5%. The interest rate on government bonds is 7% while the company's gearing level is 20% based on the debt to equity ratio.

Ignore taxation and issue costs.

Required:

(a) Calculate the theoretical ex rights price per share prior to investing in the proposed business expansion.

(4 marks)

(b) Using the price/earnings ratio method, compute the expected share price following the proposed business expansion.

(4 marks)

(c) Estimate the ex div share price using the dividend growth model.

(8 marks)

(d) Discuss the reasons share price calculated in (c) above differs from the current market price of JUKU Plc.

(4 marks)

[Total: 20 Marks]

QUESTION FOUR

(a) Munali a friend of yours and also your former class mate at college recently attended a workshop focused on financial management objectives. One of the facilitators at the workshop emphasized the importance of earnings per share as a key measure of financial performance for any organization.

The facilitators concluded that financial managers need only concentrate on meeting the needs of stakeholders by maximizing earnings per share and nothing else.

Munali has phoned you recently seeking your opinion on the facilitators' conclusions about the importance of earnings per share to financial managers and shareholders. You have promised to respond to him via an email.

Required:
Draft a response to Munali discussing the subject of earnings per share and its importance to a company and its shareholders.

(10 marks)

(b) You are a financial management consultant and you recently received some jobs from two of your clients. The clients would like you to identify the stakeholders and some of the financial management issues involved in the following situations.

First Client
This is a private company with plans to convert into a public company.

Second Client
This is a highly geared company attempting to restructure its existing capital structure.

Required:
Draft suitable responses for each of the two (2) clients discussing the issues presented to you.

(10 marks)

[Total: 20 Marks]

<u>QUESTION FIVE</u>

(a) Shareholder value maximisation is a more important and sustainable objective for shareholders than short term profit maximisation. Also important to management is corporate social responsibility (CSR) in its communities. However, this goal is delivered at a great cost to the organisation.

Required:
Explain the reason shareholders value maximization is considered more appropriate than profit maximization?

(6 marks)

(b) Infratel Ltd provides data cloud storage facilities to corporate clients in Zambia. The company has 10 million issued shares currently at K50 each, 3 million preference shares trading at K25 each, and 5,000 bonds also trading at their par value of K600 each.

Required:

(i) Determine the Capital Structure of the Company.

(2 marks)

(ii) Compute the minimum return Infratel should earn annually, given that its equity shareholders have a required rate of return of 30% per annum on capital employed, the dividend rate on its preference shares per annum is 25%, and the coupon rate on its corporate bonds is 20%.

Interest paid on debt is tax deductible and corporate tax is payable at 30% per annum.

(6 marks)

(iii) Discuss the relationship between capital structure and weighted average cost of capital.

(6 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 = K10 million.

Ke = 10/50 = 20%.

$$\text{Cost of loan capital} = \left(1 + \frac{6}{95}\right)^2 - 1 = 13.0\%$$

Kd = 13% (1-0.3) = 9.1%

Cost of Capital = (20% x 0.6) + (9.10% x 0.4) = 15.64% or 16%

(b) **Scenario A**

Expected demand = (10,000,000 × 0.5) + (1,200,000 × 0.4) + (800,000 × 0.1) = 10,600,000 units

Expected contribution = 10,600,000 × 50% × K15 = K79,500,000 per year

Taxation = K79,500,000 – K14,500,000 = K65,000,000 X 30% = K19,500,000

Cost of machinery = K250m x 0.80 = 200

Capital Allowances $= \frac{\text{K200 – K50m}}{10} = \text{K40m}$

Tax relief = K40m x 30% = K12m

		K	D.F. @ 16%	P.V(K'm)
0	Initial cost	(250)	1	(250)
1 – 10	Contribution	79.5 p.a.	4.833	384.22
1– 10	Taxation	(19.5) p.a	4.833	(94.24)
1 – 10	Fixed cost	(14.5) p.a.	4.833	(70.08)
1 – 10	Tax relief	12 p.a	4.833	58.00
10	Disposal	50	0.227	11.35
		Expected NPV		**39.25**

Scenario B

Expected fixed overheads = (K11m × 0.25) + (K14.1m × 0.30) + (17.9 × 0.25) + (22.1× 0.20) = K15.875m p.a.

Expected contribution = 10,000,000 × 50% × K15 = K75,000,000 per year

Taxation = K75,000,000 – K15,875,000 = K 59,125,000 X 30% = K 17,737,500

		K	D.F. @ 16%	P.V(K'm)
0	Initial cost	(250)	1	(250)
1 – 10	Contribution	75 p.a.	4.833	362.475
1– 10	Taxation	(17.737) p. a	4.833	(85.723)
1 – 10	Fixed cost	(15.875) p.a.	4.833	(76.724)
1 – 10	Tax relief	12 p. a	4.833	58.00
10	Disposal	50	0.227	11.35
		Expected NPV		**19.378**

Under both scenarios the NPV is positive and therefore, the project can be undertaken. The highest NPV is with scenario A.

(c) The terms risk and uncertainty are often used interchangeably but a distinction should be made between them. With risk, there are several possible outcomes, which upon the basis of past relevant experience, can be quantified. In areas of uncertainty, again there are several possible outcomes, but with little past experience, it will be difficult to quantify its likely effects.

A risky situation is one where we can say that there is an 80% probability that returns from a project will be in excess of K250million but a 20% probability that returns will be less than K250million. If, however, no information can be provided on the returns from the project, we are faced with an uncertain situation.

Managers need to exercise caution when assessing future cash flows to ensure that they make appropriate decisions. If a project is too risky, it might need to be rejected, depending upon the prevailing attitude to risk.

In general, risky projects are those whose future cash flows, and hence the project returns, are likely to be variable. The greater the variability is, the greater the risk. The problem of risk is more acute with capital investment decisions than other decisions because estimates of cash flows might be for several years ahead, such as for major construction projects. Actual costs and revenues may very well above or below budget as the work progresses.

SOLUTION TWO

(a)
- The volume of accounts receivable, if the company policy remains unchanged, would be:

  3/12 x K140m = K35m

- If the policy is changed the volume of accounts receivable would be:

  (10/365 x 50% x K140m) + (2/12 x 50% x K140m)
  = K1.92m + K11.67m
  = K13.59m

- Reduction in accounts receivable = K21.41m (K35m - K13.59m)
- Value of a reduction in accounts receivable per year = K5.35m (25% x K21.41m)

Summary

	K'm
Value of reduction in accounts receivable each year	5.35
Less discounts allowed each year (2% x 50% x K140m)	1.40
Net benefit of new discount policy each year	3.95

(b) $$\text{E.O.Q.} = \sqrt{\frac{2 \times 20 \times 40{,}000}{2.50}} = 800\,\text{units}$$

Option	Order Quantity	Average stock	Number of orders	Reorder cost p.a.	*Stockholding cost p.a.	Purchase cost p.a.	Total cost p.a.
Without discount	800	400	50	1000	1,000	1,000,000	1,002,000
With 1% discount	5,000	2,500	8	160	6,188	990,000	996,348
With 1.5% discount	10,000	5,000	4	80	12,313	985,000	997,393

*800/2 x 10%x 25 = K1,000
**5000/2 x 10% x 25 x (1-0.01) = K6,188
***10,000/2 x 10% x 25 x (1-0.015) = K12,313

The best option would be to order in quantities of 5,000 units each time and therefore, receive a 1% discount.

SOLUTION THREE

(a) Rights issue price = K2.40 × 85% = K2.04 per share

Theoretical ex-rights price	K
3 shares @ K2.40	7.20
1 share @ K2.04	2.04
4 shares	**9.24**

Theoretical ex-rights price (TERP) = 9.24/4 = K2.31

(b) Average growth rate of earnings per share:

$$1 + g = \sqrt[4]{\frac{32.4}{27.7}}$$

$$1 + g = 1.03996$$

$$g = 4\%$$

EPS following expansion = K0.324 x 1.04 = K0.337 per share
Current P/E ratio = K2.4/K0.324 = 7.41times
Share price following expansion = K0.337 x 7.41 = K2.50

(c) **Dividend growth model method of valuation**

Cost of Equity:
0.92 = Be x 0.8/0.8+0.2

Be = 1.15
Ke = 7% + 1.15(5%) = 12.75%

$$g = \sqrt[4]{\frac{15.0}{12.8}} = 4\%$$

D0 = K0.15

$$P0 = \frac{0.15(1+0.04)}{0.1275-0.04}$$

= **K1.78 per share**

(d) **Reasons for difference in share price**

The dividend growth model assumes that the historical trend of dividend per share payments will continue into the future. The future dividend growth rate may however differ from the average historical dividend growth rate, and the current share price may incorporate a more conservative estimate of the future dividend growth rate.

The cost of equity of JUKU Plc may not be 10%. It may be difficult to make a confident estimate of the cost of capital.

The dividend valuation model assumes that investors act rationally and homogenously. In reality, different shareholders will have different expectations and there may be a degree of inefficiency in the capital market on which the shares of JUKU Plc are traded.

SOLUTION FOUR

(a) One of the principles of the market economy is that if the owners of businesses attempt to achieve maximum profitability and earnings this will help to increase the wealth of shareholders. As a result it is usually assumed that a proper objective for private sector organizations is profit maximization. This view is substantially correct. In general the market economy has outperformed planned economies in most places in the world. Two key objectives of financial managers must therefore be the effective management of shareholders' funds and the provision of financial information which will help to increase shareholder wealth.

However, profit seeking organizations can also cause problems for society. For example monopolists are able to earn large returns which are disproportionate to the benefits they bring to society. The costs of pollution fall on society rather than on the company which is causing it. A company may increase profitability by making some of its workforce redundant but the costs of unemployed people fall on society through the government social welfare support system.

The question that then follows is "should individual companies be concerned with these market imperfections"

There are two opposing viewpoints. On the one hand it can be argued that companies should only be concerned with maximization of shareholder wealth. It is the role of government to pick up the problems of market imperfections e.g by breaking up monopolies, by fining polluters and through the social cash transfer system or through the ministry of community development and social services.

An alternative viewpoint is that a company is a coalition of different stakeholders groups: shareholders, lenders, managers, employees, customers, suppliers, government and society as a whole. The objectives of all these groups which are often in conflict need to be considered by company managers when making decisions. From this view point financial managers cannot be content with meeting the needs of shareholders only.

The truth is somewhere in between. The overriding objective of companies is to create long term wealth for shareholders. However this can only be done if we consider the likely behavior of other stakeholders. For example if we create extra short term profits by cutting employee benefits or delaying payment to creditors there are likely to be repercussions which reduce longer term shareholder wealth. Or if we fail to motivate managers and employees adequately, the costs of the resulting inefficiencies will ultimately be borne by shareholders.

In summary the financial manager is concerned with managing the company's funds on behalf of shareholders, and producing information which shows the likely effect of management decisions on shareholder wealth. However management decisions will be made after also considering other stakeholder groups and a good financial manager will be aware that financial information is only one input to the final decision.

(b) i) **The first client**. A private company converting into a public company.

When a private company converts into a public company some of the existing shareholders/managers will sell their shares to outside investors. In addition new shares may be issued. The dilution of ownership might cause loss of control by the existing management.

The stakeholders involved in potential conflicts are as follows:

1) Existing shareholder/managers.

They will want to sell some of their shareholding at as high a price as possible. This may motivate them to overstate the company's prospects . These shareholder managers who wish to retire from the business may be in conflict with those who wish to stay in control- the latter may oppose the conversion into a public company.

2) New outside shareholders.

Most of these will hold minority stakes in the company and will receive their rewards as dividends only. This may put them in conflict with the existing shareholders/managers who receive rewards as salaries as well as dividends. On conversion in to a public company there should be clear policies on dividends and director's remuneration.

3) Employees including managers who are not shareholders.

Part of the reason for the success of the company will be the efforts made by the employees. They may feel that they should benefit when the company goes public. One way of organizing this is to create employee share options or other bonus schemes.

ii) **The second client.** A highly geared company attempting to restructure its capital finance.

The major conflict here is between shareholders and lenders. If a company is very highly geared the shareholders may be tempted to take very high risks. If the gamble fails, they have limited liability and can only lose the value of their shares. If they are lucky they can make returns many times the value of their shares. The problem is that the shareholders are effectively gambling with money provided by lenders but those lenders will get no extra return to compensate for the risk.

In restructuring the company something must be done either to shift risk away from the lenders or to reward the lenders for taking a risk.

Risk can be shifted away from lenders by taking security on previously unsecured loans or by writing restrictive covenants into loan agreements. (e.g The company agrees to set a ceiling to dividend payouts until gearing is reduced and to confine its business to agreed activities.

Lenders can be compensated for taking risks by either negotiating increased interest rates or by issue of "sweeteners" with the loans such as share warrants or the issue of convertible loan stock.

Other stakeholders who will be interested in the arrangements include trade creditors (who will be interested that loan creditors do no improve their position at the expense of themselves) and managers, who are likely to be more risk averse than shareholders if their livelihood depends on the company's continued existence.

SOLUTION FIVE

(a) Shareholder value maximization is long term and sustainable to the shareholder than profit maximization which might not necessarily lead to wealth maximization due to the following inherent challenges or disadvantages in accounting for profit:

- Profit maximization is short term
- Creative accounting could be used to boost profits
- Profits have no bearing on cash flow
- Profit does not consider time value of money
- It does not capture the risk of future cash flows

(b) (i)

Capital Structure	Amount K' millions	Share %
Equity Shares [10 million x 50]	500	86.50
Preference shares [3 million x 25]	75	12.98
Bonds [5,000 x 600]	3	0.52
Total	**578**	**100**

(ii) The required annual return to meet the minimum return (WACC) for providers of the funds is as follows:

= [Equity return x total equity/Total capital] + [Preference share return x preference shares/Total Capital] + [(Bonds return x net tax) x Bonds/Total Capital]

= [30% x 500m/578m] + [25% x 75m/578m] + [(20% x 70%) x 3m/578m]

= 25.95% + 3.24% + 0.073% = **<u>29.26%</u>**

Annual Return in Kwacha = 29.26/100 x 578m = <u>169.14 million</u>

(iii) A discussion of capital structure could start from recognizing that equity is more expensive than debt because of the relative risk of the two sources of finance. Equity is riskier than debt and so equity is more expensive than debt. This does not depend on the tax efficiency of debt, since we can assume that no taxes exist. We can also assume that as a company gears up, it replaces equity with debt. This means that the company's capital base remains constant and its weighted average cost of capital (WACC) is not affected by increasing investment

The traditional view of capital structure assumes a non-linear relationship between the cost of equity and financial risk. As a company gears up, there is initially very little increase in the cost of equity and the WACC decreases because the cost of debt is less than the cost of equity. A point is reached, however, where the cost of equity rises at a rate that exceeds the reduction effect of cheaper debt and the WACC starts to increase. In the traditional view, therefore, a minimum WACC exists and, as a result, a maximum value of the company arises.

Modigliani and Miller assumed a perfect capital market and a linear relationship between the cost of equity and financial risk. They argued that, as a company geared up, the cost of equity increased at a rate that exactly cancelled out the reduction effect of cheaper debt. WACC was therefore constant at all levels of gearing and no optimal capital structure, where the value of the company was at a maximum, could be found.

It was argued that the no-tax assumption made by Modigliani and Miller was unrealistic, since in the real world interest payments were an allowable expense in calculating taxable profit and so the effective cost of debt was reduced by its tax efficiency. They revised their model to include this tax effect and showed that, as a result, the WACC decreased in a linear fashion as a company geared up. The value of the company increased by the value of the 'tax shield' and an optimal capital structure would result by gearing up as much as possible.

It was pointed out that market imperfections associated with high levels of gearing, such as bankruptcy risk and agency costs, would limit the extent to which a company could gear up. In practice, therefore, it appears that companies can reduce their WACC by increasing gearing, while avoiding the financial distress that can arise at high levels of gearing.

It has further been suggested that companies choose the source of finance which, for one reason or another, is easiest for them to access (pecking order theory). This results in an initial preference for retained earnings, followed by a preference for debt before turning to equity. The view suggests that companies may not in practice seek to minimize their WACC (and consequently maximize company value and shareholder wealth).

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA APPLICATION ADVANCED DIPLOMA IN ACCOUNTANCY

CA 2.6 STRATEGIC BUSINESS ANALYSIS

WEDNESDAY 20 MARCH 2024

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)

Adidas Leading the Way in the Sports Fashion Industry

Adidas is one of the leading names in the sports fashion industry. Apart from making sports shoes and apparel, it makes accessories too. During the recent years the brand has seen somewhat faster growth which has mainly resulted from its renewed focus on marketing. Despite stiff competition from Nike the brand has found faster growth in the recent years. Reebok, another brand that Adidas acquired has also posted double digit sales growth across key markets. Apart from growth in revenue, the brand has also registered an improvement in operating margin.

Adidas has the large number of suppliers in Adidas's supply chain. While some of the suppliers are large in terms of size and hold some clout, not all do. Moreover, it is easier for the brand to switch to new suppliers. However, if a supplier risks losing business from Adidas then it can mean a major loss for that supplier. Its suppliers are distributed globally and singly none of them can exert any pressure on Adidas. Most of the production at Adidas is outsourced and it works with more than 1000 independent factories in 63 countries. It has a global and multilayered supply chain with several types of suppliers in the chain, some of which are direct contractors and many are not. As a result Adidas gets to set the rules of the game including labour and product quality standards and the suppliers are required to comply with. In order to ensure that the suppliers comply with the standards, Adidas has maintained a multilevel monitoring and enforcement process in place.

Adidas has a significant competitor in Nike and apart from it there are other big and small competitors like Under Armor and Puma. There are several local and international brands competing for market share in this industry. The switching costs are low for the customers. However, this factor to a large extent gets moderated by the product quality and marketing of Adidas. Adidas has focused on product quality, design and performance and it is why the brand has been able to build an impressive level of customer loyalty.

Its number of competitors is not very large and yet not so small either. There are small and large; local and international competitors which offer products under a wide range of prices. Some of them cater to the needs of the high end customer whereas the local competitors offer substitutes at lower prices. In order to further moderate the threat, Adidas has focused on marketing in the metropolitan markets since a large part of its customer base lives there.

While a brand can enter with a small capital on a local scale, to grow a brand the size of Adidas requires a very large investment which can be understood from the size of its production and supply chain. There are several factors requiring large investment like technology, skilled human resources, marketing, advertising etc. So, unless someone has enough capital to spend entering the industry would be difficult. Moreover, one cannot build as much brand equity overnight. It also takes time as well as efforts to build as much brand equity. All these factors moderate the peril arising from any new player trying to move in the industry.

Apart from the main competitors like Nike, Puma and Under Armour there are several other smaller competitors too which add to the level of competition in the industry. While the level of saturation in the industry has grown, the existing players are also engaged in an intense battle for market share. All the brands are investing heavily in marketing and spending billions on advertising and sponsorships. While the number of top brands is limited, still the level of competition in the industry is intense.

Required:

(a) Analyze the sports fashion industry using an appropriate business analysis model.

(20 marks)

(b) Use the right model to analyze Addidas internal and external environmental variables.

(8 marks)

(c) Recommend any three (3) appropriate strategies to Nike in response to competitive pressure exerted by Adidas.

(12 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any Three (3) questions.

QUESTION TWO

Matero Metal Corporation is a multinational firm operating in Zambia and is working in partnership with a local company. This company has a Board of Directors of seven that oversees its operations. Four of the directors are Zambians of which one of them is the chairperson while the vice chairperson and the other two are foreigners. The Chief Executive officer is a seconded manager from the foreigner partner. Of late, there has been some tension in board meetings on a number of issues including the organisation work culture that has been influenced by local environment.

Required:

(a) Discuss any four (4) concepts of transparency of this board to the management of the company and to its stakeholders as advised by Chris Macdonald.

(12 marks)

(b) Explain any four (4) benefits that diversity will bring to the Matero Metal Corporation Board of Directors.

(8 marks)

[Total: 20 Marks]

QUESTION THREE

(a) Distinguish between strategic risk and business risk giving practical industry examples.

(4 marks)

(b) The TARA model is a commonly used tool that provides options for managing risk. Discuss the four (4) options provided by the TARA model.

(12 marks)

(c) Explain any four (4) factors that determine the level of strategic risks.

(4 marks)

[Total: 20 Marks]

QUESTION FOUR

Charles Bwalya is a Chief Accountant of a large Parastatal Company based in Lusaka. This company has been having problems in the flow of both financial and business strategic information between management and operatives in the company. This has affected the successful performance of the firm. Management has requested you to come up with a paper on the strategic information flow.

Required:

(a) Discuss with examples the three (3) levels of information flow with system purposes and features.

(12 marks)

(b) Define the term Management Information System (MIS).

(2 marks)

(c) Explain any three (3) characteristics of the management Information system.

(6 marks)

[Total: 20 Marks]

QUESTION FIVE

(a) Buchanan and Huczynski (2010) stated that offshoring is a form of outsourcing that involves an external entity based in a different country providing an organisation with a particular product or processes which had previously been provided in-house. Large tech corporations such as Apple, IBM, and Microsoft offshore their departments to other countries. Countries like the Philippines and India are the top offshoring destinations for IT companies because of their infrastructure and staffing.

Required:

Evaluate three (3) merits and three (3) demerits of offshoring. (12 marks)

(b) The Balanced Scorecard offers a wider view of a business's strategic plan from the executive viewpoint. This, in turn, provides a framework for the entire organization in terms of guiding performance.

Required:

Explain the four (4) viewpoints of the balanced scorecard. (8 marks)

[Total: 20 Marks]

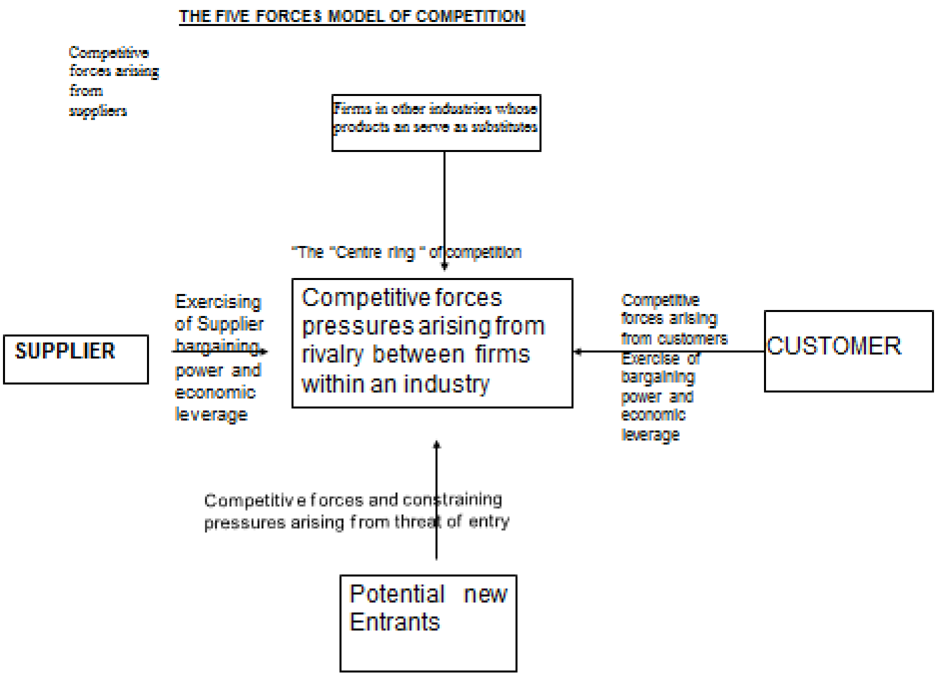
END OF PAPER

CA 2.6: STRATEGIC BUSINESS ANALYSIS SUGGESTED SOLUTIONS

SOLUTION ONE

(a) The appropriate business analysis model is Porter's Five Forces Model

(a) Diagrammatic representation of five competitive forces



Bargaining power of the suppliers:

- The bargaining power of suppliers is very low because of the large number of suppliers in Adidas's supply chain.
- While some of the suppliers are large in terms of size and hold some clout, not all do.
- Moreover, it is easier for the brand to switch to new suppliers.
- However, if a supplier risks losing business from Adidas then it can mean a major loss for the supplier.
- Its suppliers are distributed globally and singly none of them can exert any pressure on Adidas.
- Adidas has a global and multilayered supply chain with several types of suppliers in the chain, some of which are direct contractors and many are not. As a result Adidas gets to set the rules of the game including labor and product quality standards and the suppliers are required to comply with.

Bargaining power of buyers:

- The bargaining power of buyers in case of Adidas is low to moderate and while the individual buyers do not hold any significant clout, as a group they exercise somewhat significant influence.
- It has a significant competitor in Nike and apart from it there are other big and small competitors like Under Armor and Puma.
- There are several local and international brands competing for market share in this industry.
- The switching costs are low for the customers. However, this factor to a large extent gets moderated by the product quality and marketing of Adidas.
- Adidas has focused on product quality, design and performance and it is why the brand has been able to build an impressive level of customer loyalty.
- It is why the bargaining power of the customers gets reduced and becomes low to moderate.

Threat of substitutes:

- The threat of substitute products before Adidas is low to moderate.
- Its number of competitors is not very large and yet not so small either.
- There are small and large; local and international competitors which offer products under a wide range of prices.
- Some of them cater to the needs of the high end customer whereas the local competitors offer substitutes at lower prices.
- The threat from the substitute products is moderated by the quality of products and marketing efforts of Adidas.
- In order to further moderate the threat, Adidas has focused on marketing in the metropolitan markets since a large part of its customer base lives there.

Threat of new entrants:

- The threat of new entrants for Adidas is low to moderate.
- While a brand can enter with a small capital on a local scale, to grow a brand the size of Adidas requires a very large investment which can be understood from the size of its production and supply chain.
- There are several factors requiring large investment like technology, skilled human resources, marketing, advertising etc.
- So, unless someone has enough capital to spend entering the industry would be difficult.
- Moreover, one cannot build as much brand equity overnight.

- It also takes time as well as efforts to build as much brand equity.
- All these factors moderate the threat arising from any new player trying to enter the industry.

Level of competitive rivalry in sports fashion industry:

- The level of competitive rivalry in the industry is high.
- Apart from the main competitors like Nike, Puma and Under Armour there are several other smaller competitors too which add to the level of competition in the industry.
- While the level of saturation in the industry has grown, the existing players are also engaged in an intense battle for market share.
- All the brands are investing heavily in marketing and spending billions on advertising and sponsorships.
- While the number of top brands is limited, still the level of competition in the industry is intense.

(b) **The right business model is the SWOT analysis**

Strength:

- It has the wider range of products
- Renewed focus on market has led to brand growth
- Increased sales as a result of acquisition of Reebok

Weakness

- Less focus on the Human resource
- Huge investment in marketing may affect profitability in long run

Opportunities

- Outsourcing of works with more than 1000 factories in 63 countries
- Addidas sets the rules of the game in labour and quality of standards

Threats

- The level of saturation in the industry has increased
- Competition from NIKE , PUMA and Under Armour

(c) Appropriate strategies to Nike in response to pressure exerted by Adidas.

Nike may consider the following competitive strategies;

1. **Strategic Cost Analysis**
   An assessment of the relative cost position of a firm. It involves showing the make-up of costs all the way from purchase of raw materials to the end product paid for by the customer (activity cost analysis).

2. **Competitor Analysis**
   This involves a careful assessment of a company's relative competitive standing and an understanding of the firm's relative strengths and weaknesses in areas like product design, product innovation, pricing strategies, distribution network, advertising/sales promotion, customer service etc.

3. **Product Differentiation**
   This involves creating a difference from rivals in procurement of materials; for instance, production process and product design and marketing process, e.g. product branding, product appearance and packaging. Improved quality.

4. **Market Focus**
   This entails concentrating on catering to a narrower and limited segment (or niche) of the market rather than going after the whole market with a "something-for-everyone" approach.

SOLUTION TWO

(a) Concept of transparency include:

(i) The requirement of transparency to check how directors (agents) are doing indicates a big problem with governance. If shareholders had complete confidence in directors, there would be no concern about transparency.

(ii) Transparency assumes that those who receive information are well informed but problems may arise through misinterpretation.

(iii) In the context of directors' remuneration, evidence suggests that full transparency can ratchet up average reward. A chief executive, seeing how much other chief executives in their sector are earning, may want their rewards to match theirs. A remuneration committee may regard the fact that its chief executive is earning below average remuneration as poor publicity for the chief executive and the company.

(iv) Full transparency of rewards of one type may lead to those in positions of trust to seek less visible, and perhaps more costly rewards.

(b) The Tyson report of 2003 for the recruitment and development of non-executive directors, highlighted the benefit of diversity which include the following:

(i) **Talent**
A company committed to diversity has the best chance of finding and employing the best available talent rather artificially limiting itself.

(ii) **Broad range of knowledge**
No one individual director can be knowledgeable and informed about all aspects of business given the information and expertise necessary for boards to govern listed companies effectively. Management literature suggests that groups make better decisions if the available information is more diverse, provided the group understands who knows what and takes advantage of the knowledge.

(iii) **Greater range of constituencies**
Diverse boards can reach our more effectively to a broader range of constituencies to help them deal with problems. They can also send positive signals to different stakeholder groups and contribute to a better understanding of the stakeholder groups that underpin commercial success.

(iv) **Independence and Judgement**
A board with a broad range of experience is more likely to develop independence of mind and a probing attitude. It can also inhence corporate decision –making by having sensitivity to a wider range of risk to its reputation.

(v) **Corporate Citizen**

Greater diversity can enhance a company's reputation as corporate citizen that understands its community. Fairly reflecting the community can be seen as strengthening the social contract between a company and its stakeholders.

SOLUTION THREE

(a) Distinction between strategic risk and business risk:

Strategic Risks: These are risks that arise from decisions concerning an organisation's objectives. Essentially these are the risks of failing to achieve business objectives.

Business Risks: These risks are concerned with the viability of a business and whether the business will be able to generate sufficient revenue to cover costs and make profit.

(b) The TARA model is commonly used to describe the options for managing risks. These include Transfer, Avoid, Reduce and Accept.

Severity	
Low	High
Accept Risks are not significant. Keep under view, but costs of dealing with risks unlikely to be worth the benefits.	**Transfer** Insure risk or implement contingency plans. Reduction of severity of risk will minimize insurance premiums.
Reduce or control Take some action i.e. enhanced control systems to detect problems or contingency plans to reduce impact.	**Avoid or abandon** Take immediate action i.e. changing major suppliers or abandoning activities.

(c) Any four (4) factors that determine the level of strategic risks:

- The type of industries/ markets within which the business operates
- The state of the economy
- The actions of competitors and the possibility of mergers and acquisitions
- The stage in the product's life-cycle, higher risks in the introductory and decline stages
- The dependence upon inputs with fluctuating prices i.e. oil
- The level of operating gearing- the proportion of fixed costs to total costs
- The flexibility of production processes to adapt to different specifications or products.
- The significance of technology.

SOLUTION FOUR

(a) The three levels of information flow with systems purposes and features are:

(i) **Strategic systems level** whose purpose and features include Purpose that help senior managers with long-term planning covering the whole organisation with high uncertainty and subjectivity as well as less critical than at other level.

Examples of work expected include Key ratios and performance indicators; Ad hoc market analysis and Strategic Plans.

(ii) **Management or tactical level** that help middle managers monitor and control in short and medium term covering departments or functions in moderate uncertainty and subjectivity environment that needs moderate accuracy which does not require details.

Examples of work needed Variance analysis and Exception reports.

(iii) **Operational level** that is required to process transactions and help operational managers track the organisation's day-to-day operational activities that is needed immediately; This level covers specific activities whose uncertainty and subjectivity is very low but requires a high level of accuracy of information and data input. Example work needed include Transaction listings, Daily receipts and Real time production data.

(b) Definition of Management Information System (MIS) may be defined as a "system in which defined data are collected, processed and communicated to assist those responsible for the use of resources needed to make effective decisions."

(c) Characteristics of management information system (MIS) include:

(i) support structure decisions at operational and management control levels;

(ii) Designed to report on existing operations;

(iii) Have little analytical capability;

(iv) Relatively inflexible

(v) Have an internal focus.

SOLUTION FIVE

(a) The merits and demerits of offshoring are;

Advantages of offshoring include;

- **Cost savings** are often cited as the main motivation behind the decision to offshore
- **Focus on core activities**; managing non-core functions is often regarded as a destruction which can be alleviated by offshoring.
- **Capability**; offshoring can help organisations which lack expertise in delivering a particular process.
- **Skills**; some countries lend themselves to offshoring due to local conditions.
- **Flexibility**; offshoring may increase the flexibility of an organisation's operations as agreements with third parties to supply a service can be established for the short and long term.

Disadvantages of offshoring include;

- **Quality;** allowing third party providers to act as the interface between the organisation and its customers increases the scope of quality issues.
- **Public perception**; organisations may receive bad press if consumers in the home market perceive moves to offshore operations as leading to domestic job losses.
- **Loss of control**; offshoring increases the scope for third parties not to meet agreed service levels.

(b) Four (4) viewpoints of the balanced scorecard are;

- **Financial Perspectives**: How should we create value for our shareholders to succeed financially? These include measures such as growth, profitability and shareholder values.
- **Customer perspectives**: To achieve our vision how should we appear to our customers? Measures include, cost, quality, reliability, delivery etc.
- **Internal business process**; what business processes should we excel at to achieve financial and customer objectives?

Innovation and learning perspective; How will we sustain our ability to change and achieve our vision? How can we continue to create value and maintain the company's competitive position?

END OF SUGGESTED SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA ZAMBIA ADVISORY PROFESSIONAL IN ACCOUNTANCY

CA 3.1 ADVANCED FINANCIAL REPORTING

MONDAY 18 MARCH 2024

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.

QUESTION ONE

Lusaka holds investments in a number of entities, including Ndola and Mansa. The statements of profit or loss and other comprehensive income and summarised statements of changes in equity of the three entities for the year ended 31 March 2023 were as follows:

Statements of profit or loss and other comprehensive income

	Lusaka K'000	**Ndola K'000**	**Mansa K'000**
Revenue (Note 4)	628,000	560,000	450,000
Cost of sales (Notes 1, 2 and 4)	(378,000)	(335,000)	(270,000)
Gross profit	250,000	225,000	180,000
Distribution costs	(38,000)	(34,000)	(27,000)
Administrative expenses (Notes 5 and 7)	(64,000)	(56,000)	(51,000)
Investment income (Note 6)	32,000	Nil	Nil
Finance costs	(30,000)	(20,000)	(18,000)
Profit before tax	150,000	115,000	84,000
Income tax expense	(38,000)	(29,000)	(21,000)
Profit for the year	112,000	86,000	63,000
Other comprehensive income:			
Items that will not be reclassified to profit or loss			
Re-measurement gain/loss on defined benefit retirement pension plan (Note 7)	Nil	Nil	Nil
Total comprehensive income	112,000	86,000	63,000

Summarised statements of changes in equity

Balance on 1 April 2022	420,000	280,000	180,000

Comprehensive income for the year	112,000	86,000	63,000
Dividends paid on 31 December 2022	(42,000)	(32,000)	(21,000)
Balance on 31 March 2023	490,000	334,000	222,000

Additional information

Note 1: Lusaka's investment in Ndola

On 1 April 2016, Lusaka acquired 75 million of the 100 million equity shares of Ndola and gained control of Ndola. Lusaka acquired the equity shares in Ndola by issuing one new share in Lusaka for every two shares acquired in Ndola. On 1 April 2016, the fair value of an equity share in Lusaka was K4.40.

On 1 April 2016, the net assets of Ndola had a fair value of K200 million, all of which had been disposed of, or settled by 31 March 2022.

Lusaka used the proportion of net assets method for measuring the non-controlling interest when recognising the goodwill on acquisition of Ndola. No impairments of goodwill on acquisition of Ndola have been necessary in the consolidated financial statements of Lusaka up to and including 31 March 2022.

Ndola is a single cash generating unit. On 31 March 2023, the annual impairment review indicated that the recoverable amounts of the net assets, including goodwill, of Ndola at that date were K350 million. Any impairments of goodwill should be charged to cost of sales.

Note 2 – Lusaka's investment in Mansa

On 1 April 2017, Lusaka acquired 40 million of the 50 million equity shares in Mansa and gained control of Mansa. Lusaka paid K145 million in cash for the equity shares.

On 1 April 2017, the carrying amounts of the net assets of Mansa in its individual financial statements were K150 million and their fair values were K170 million. The differences were caused by:

- Property – whose fair value exceeded the carrying amount by K12 million. K8.4 million of this difference referred to the depreciable component of this property. The estimated useful life of the depreciable component of the property at 1 April 2017 was eight years.
- Plant and equipment – whose fair value exceeded the carrying amount by K8 million. The estimated remaining useful life of the plant and equipment of Mansa at 1 April 2017 was four (4) years.

All depreciation of property, plant and equipment is charged to cost of sales.

Lusaka used the fair value method for measuring the non-controlling interest when recognising the goodwill on acquisition of Mansa. The fair value of an equity share in Mansa on 1 April 2017 was K3.50. This can be used to measure the fair value of the non-controlling interest in Mansa on 1 April 2017.

No impairments of goodwill on acquisition of Mansa have been necessary in the consolidated financial statements of Lusaka up to and including 31 March 2022.

Note 3: Disposal of shares in Mansa

On 30 November 2022, Lusaka disposed of its entire equity shareholding in Mansa for a cash consideration of K196 million. Income tax payable on this disposal is expected to be K5 million. On 30 November 2022, Lusaka credited the disposal proceeds to a suspense account and has made no other accounting entries. You can assume that the profits of Mansa for the year ended 31 March 2023 accrued evenly.

Note 4: Intra-group trading

Lusaka supplies a component which has been used by both Ndola and Mansa. Lusaka applies a mark-up of one-third to the cost of these supplies when computing the sales price. Details of sales of the component to Ndola and Mansa in the current accounting period, and the holdings of inventory of the component by two entities, are as follows:

	Ndola K'000	**Mansa K'000**
Sales of the component (for Mansa all sales before 30 November 2022)	25,000	15,000
Inventory of component at 31 March 2022 (at cost to Ndola/Mansa)	4,800	4,000
Inventory of component at 31 March 2023 (at cost to Ndola)	6,400	Nil

Note 5: Leased asset

On 1 April 2022, Lusaka began to lease a property. The lease term was for five (5) years. The lease does not transfer ownership of the property to Lusaka at the end of the lease term. Lusaka does not have an option to purchase the property at the end of the lease term. The estimated useful life of the property at 1 April 2022 was 20 years. Rentals payable by Lusaka for the use of the property were K1 million per annum, payable annually in arrears. Lusaka incurred direct costs of K100,000 in arranging to lease the property. In the year ended 31 March 2023, Lusaka charged both the annual rental of K1 million and the direct costs of K100,000 to administrative expenses.

The rate of interest implicit in this lease is 7% per annum. The present value of K1 payable for five (5) years annually in arrears at a discount rate of 7% is K4.10.

All depreciation should be charged to cost of sales.

Note 6: Investment income

The investment income, which is shown in Lusaka's statement of profit or loss, represents dividends received from its subsidiary entities and also income arising from a portfolio of loan investments. This portfolio is classified by Lusaka as fair value through other comprehensive income. The gain on re-measurement of the portfolio to fair value at 31 March 2023 was K5.6 million. This gain has not yet been recognised in the financial statements of Lusaka.

Note 7: Retirement benefit plan

Lusaka has established a defined benefit plan for its workforce. Relevant details are as follows:

- The net defined benefit obligation at 31 March 2022 was K2.5 million.
- The net defined benefit obligation at 31 March 2023 was K4 million.
- The current service cost for the year ended 31 March 2023 was K5 million.
- The contributions paid by Lusaka into the plan during the year ended 31 March 2023 were K4:8 million.
- The benefits paid out by the plan to retired members during the year ended 31 March 2023 were K2:5 million.
- On 1 April 2022, the market yield on high quality corporate bonds was 5% per annum.

In the year ended 31 March 2023, Lusaka charged the contributions paid to administrative expenses but made no other accounting entries. The post-employment plans for the employees of Ndola and Mansa are defined contribution plans.
The relevant accounting entries in the financial statements of both Ndola and Mansa are both correct.

Required:

Prepare the consolidated statement of profit or loss and other comprehensive income of Lusaka for the year ended at 31 March 2023.

(40 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any THREE (3) questions.

QUESTION TWO

Hade Plc is a manufacturing entity with its operations mainly situated within Zambia.

The following are extracts from Hade's draft 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	**2022**
	K'm	**K'm**
Revenue	600	500
Gross Profit	100	72
Operating Profit	60	40
Finance Costs	(20)	(12)
Profit for the Year	38	22
Other Comprehensive Income		
Property Revaluation Gains	-	8
Remeasurement of Net Pension	-	(10)
Other Comprehensive Income for the Year	-	(2)
Total Comprehensive Income for the Year	38	20

Statement of Financial Position at 31 December:

	2023	2022
	K'm	K'm
Assets		
Non Current Assets		
Tangible	500	460
Goodwill	100	100
Financial Assets	103	103
	703	663
Current Assets	130	102
Total Assets	833	765
Equity and liabilities		
Equity		

Share capital (K1 shares)	100	100
Retained Earnings	278	291
Other Components of Equity	40	40
Total Equity	418	431
Non Current Liabilities		
10% Loan Notes	85	84
Net Defined Benefit Pension Liability	90	100
Deferred Tax	140	70
Total Non Current Liabilities	315	254
Current Liabilities	100	80
Total Equity and Liabilities	833	765

The following issues have come to light in the process of finalising the financial statements for the year to 31 December 2023:

Issue 1

Hade operates a funded defined benefit pension plan for its employees. The liability in the above financial statements is the amount brought forward at 1 January 2023 without updating it with transactions during the year to 31 December 2023 except by cash pension contributions of K10 million which Hade paid during the year to 31 December 2023. The current service cost for the year to 31 December 2023 was K12 million. The appropriate discount rates was 8.5% and 9.3% at 31 December 2022 and 31 December 2023 respectively. Pension paid during the period amounted to K10 million. The accrued pension liabilities and fair value of plan assets at 31 December 2023 amounted to K190 million and K76 million respectively. The pension cost for the year to 31 December 2023 is yet to be recognised.

(7 marks)

Issue 2

On 1 October 2022, Hade entered an arrangement with its 9 directors in which each director was promised a cash bonus equal to the market price of 100,000 Hade Plc equity shares at the time of settlement upon remaining in employment with Hade Plc over a 4 year period commencing 1 January 2023. Hade Plc had initially expected that 3 Directors would leave before the end of the four (4) year period. During the year to 31 December 2023, one (1) Director left the employment with Hade and as at 31 December 2023 it is estimated that two more directors would leave over the remaining 3 years. Each Hade Plc equity share has been trading at the following fair values to date:

Date	Fair value (K)
1 October 2022	10.50
1 January 2023	12.60
31 December 2023	12.30

Hade has not yet incorporated any amounts in respect of this arrangement with its directors in the draft financial statements above.

(7 marks)

Issue 3

Hade acquired a building on 1 January 2014 at a cost of K100 million which is included in the above financial statements at its fair value on its last revaluation on 1 January 2022 of K80 million less subsequent depreciation to 31 December 2023. It is being depreciated on a straight line basis over a total life 25 years with a nil residual value. A revaluation with a fair value of K50 million on 31 December 2023 is yet to be incorporated.

(6 marks)

Hade is liable to income tax on its profits at 35%.

Required:

Explain the required adjustments Hade Plc must make to the draft accounts in respect of the three issues (issue 1 to 3 above), including the deferred tax effects, in order to finalise the draft financial statements for the year ended 31 December 2023.

[Total: 20 Marks]

QUESTION THREE

Kamonde Plc is a Zambian company engaged in a number of industries including farming. The entity has undertaken a number of activities in the recent past for which it requires advice on accounting treatment.

Transaction One

Kamonde plc has been concerned about fluctuations in the soya beans commodity prices in the international markets. Soya beans is normally priced in US Dollars (USD). Kamonde entered into a forward commodity contract selling 200 tonnes of soya beans forward at a price of USD1,100 per tonne. The contract was entered on 1 January 2023 for settlement on 31 March 2024. The market price of soya beans on 1 January 2023 and 31 December 2023 was USD1,050 per tonne and USD1,150 per tonne respectively. The production cost of the 200 tonnes of the soya beans inventory that was subject to the hedge was K42.5 million. The company would like to designate the hedge as a fair value hedge. The directors are seeking advice on conditions that must be meet in order for hedge accounting to apply and how the fair value hedge accounting would apply in this case.

Spot foreign exchange rates have been as follows:

Date Rate (Kwacha per US Dollar)	
1 January 2023	18.5
31 December 2023	19.2

(10 marks)

Transaction Two

Kamonde borrowed a principal amount of K50 million from Dunusu Bank plc on 1 January 2022. The loan agreement requires Kamonde to pay interest equal to 10% of the principal amount of loan on 31 December each year over the four year term of the loan with the whole amount of principal due on 31 December 2025. Transaction costs relating to the loan borne by Kamonde and paid on 1 January 2023 amounted K1 million.

In the published financial statements for the year to 31 December 2022, the only amounts reported in Kamonde's financial statements were a finance cost of K6 million (computed as 10% of the principal plus K1 million transaction cost) charged in profit or loss and a loan liability carrying amount of K50 million in the statement of financial position. During the year to 31 December 2023, it has come to the directors attention that the loan liability may not have been correctly measured in the financial statements for the previous year. Consequently the directors have correctly computed the original effective interest rate on the loan liability as 10.67%.

The Directors of Kamonde Plc are seeking advice on how the measurement of the loan can be corrected in preparing the financial statements for the year to 31 December 2023.

(10 marks)

Required:

Advise the directors of Kamonde Plc on the required accounting treatment of the above transactions, showing the relevant amounts to report in the financial statements for the year to 31 December 2023 in accordance with the IFRS framework.

[Total:20 Marks]

<u>QUESTION FOUR</u>

(a) Zed Ltd manufactures equipment for lease or sale. The following transactions relates to Zed Ltd for the year ended 31 December 2022:

(i) On 31 December 2022, Zed Ltd leased out equipment under a 10-year finance lease. The selling price of the leased item was K50 million, and the net present value of the minimum lease payments was K47 million. The cost of the leased asset was K40 million and the present value of the residual value of the product when it reverts back to Zed Ltd at the end of the lease term is K2.8 million. Zed Ltd has shown sales of K50 million and cost of sales of K40 million in its financial statements.

(5 marks)

(ii) On 1 January 2022, Zed Ltd raised finance by issuing a two-year deeply discounted 2% bond with a nominal value of K20,000 that is issued at a discount of 5% and is redeemable at a premium of K2,150. There were no issue costs. The bond has an effective interest rate of 10%.

(5 marks)

Required:
Recommend to the Directors of ZED Ltd how the above transactions should be accounted for in the financial statements for the year ended 31 December 2022 in accordance with relevant International Financial Reporting Standards.

(b) You are a trainee accountant in your fifth year of employment in a limited liability company. Your immediate supervisor has been on sick leave, and you are due for study leave. You have been told by the Finance Director that, before you go on leave, you must finish a task which should have been completed by your immediate supervisor. The deadline suggested to complete the task appears unrealistic, given the complexity of the task.

You feel you are not sufficiently experienced to complete the task alone and for that matter would need additional supervision to complete it to the required standard. The Finance Director appears unable to offer the necessary support in this regard. Should you try to complete the work within the proposed timeframe but fail to meet the expected quality, you could face repercussions on your return from study leave. You feel slightly intimidated by the Finance Director, and also feel pressure to do what you can for the company in what is regarded as challenging times.

Required:

(i) Using the IFAC Code of Ethics as a guide, explain the ethical principles that apply in the above scenario.

(5 marks)

(ii) Recommend the possible actions that you should take as a member of the Zambia Institute of Chartered Accountants (ZICA) in dealing with this ethical dilemma.

(5 marks)

[Total: 20 Marks]

QUESTION FIVE

Dende Limited (Dende) operates in the ware housing, freight and packaging industry across a number of different markets and activities within Zambia.

Dende has applied for a long term loan of K75 million from ZedBank Plc. As a financial analyst for the bank, you have been asked by the credit committee to evaluate Dende's application for the loan facility and provide a report recommending whether or not the loan application must be approved.

The following are extracts from Dende's financial statements:

Statement of Profit or loss and Other Comprehensive Income for the year to 31 December:

	2023 K'm	2022 K'm
Revenue	600	700
Cost of sales	(420)	(465)
Gross profit	180	235
Distribution costs	(20)	(23)
Administrative expenses	(65)	(60)
Finance costs	(6)	(7)
Profit before tax	89	145
Income tax expense	(25)	(42)
Profit for the year		103
	64	
Other comprehensive income		
Revaluation of property		
	9	-
Total comprehensive income		103
	73	

Statement of Financial Position as at 31 December:

	2023 K'm	2022 K'm
ASSETS		
Non-current assets		
Property, plant and equipment	273	233
Intangible assets	15	
		12
	288	245
Current assets		
Inventories	73	60
Receivables	58	63
Held for trading investments	9	9
Cash and cash equivalents	-	
		20
	146	152
Total assets	434	397
EQUITY AND LIABILITIES		
Equity		
Share capital (k1 shares)	92	90
Revaluation reserve	9	-
Retained earnings	147	92
Total equity	248	182
Non-current liabilities		
Long term loans	45	90
Current liabilities		
Payables	92	80
Bank overdraft	25	-
Income tax payable		
	24	45

	141	125
Total liabilities	186	215
Total equity and liabilities	434	397

1. In November 2022, a new competitor entered one of Dende's markets and pursued an aggressive strategy of increasing market share by undercutting Dende's prices and prioritising volume sales. The directors had not anticipated this as DENDE had been the market leader in this area for the past few years.
2. The minutes from the most recent meeting of the Board of Directors state that the directors believe they can implement a new strategy to regain Dende's market position in this segment, providing long term funding can be secured. Dende acquired a trade during the year as part of its growth strategy and revenue is forecast to increase by the second quarter of 2024.
3. A meeting is scheduled with Dende's main suppliers to discuss a reduction in costs for bulk orders.
4. The existing long-term loan is due to be repaid on 1 November 2024.
5. Gains of K4.5 million generated by the held for trading investments have been offset against administrative expenses.

Required:

Prepare a report analysing the financial performance and position of Dende Limited, highlighting any further information that may be useful in assessing Dende's future prospects. Your report must recommend whether or not Dende's loan application must be approved.

(20 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.

CA3.1: ADVANCED FINANCIAL REPORTING SUGGESTED SOLUTIONS

SOLUTION ONE

Consolidated statement of profit or loss and other comprehensive income of Lusaka for the year ended 31 March 2023

	K'000
Revenue (W1)	1,448,000
Cost of sales (W2)	(856,940)
Gross profit	591,060
Distribution costs (38,000 + 34,000 + 27,000 x 8/12)	(90,000)
Administrative expenses (W6)	(153,100)
Investment income (W7)	8,000
Profit on disposal of Mansa (W8)	4,560
Finance costs (W12)	(62,412)
Profit before tax	298,108
Income tax expense (W13)	(86,000)
Profit for the year	212,108
Other comprehensive income:	
Items that will not be reclassified to profit or loss	
Re-measurement loss on defined benefit retirement pension plan (W14)	(1,175)
Items that may be reclassified subsequently to profit or loss	
Gains on the re-measurement of financial assets classified as fair value through other comprehensive income other comprehensive income	5,600
Total comprehensive income for the year	216,533
Profit attributable to:	
Owners of Lusaka (balancing figure)	182,348
Non-controlling interest (W15)	29,760
	212,108
Total comprehensive income attributable to:	
Owners of Lusaka (balancing figure)	186,773
Non-controlling interest (as above)	29,760
	216,533

WORKINGS – ALL NUMBERS IN K'000 UNLESS OTHERWISE STATED.

Working 1 – Revenue

	K'000
628,000 + 560,000 + 8/12 x 450,000	1,488,000
Intra-group revenue (25,000 + 15,000)	(40,000)
	1,448,000

Working 2 – Cost of sales

	K'000
378,000 + 335,000 + 8/12 x 270,000	893,000
Intra-group purchases (as W1)	(40,000)
Unrealised profit:	
Closing inventory (1/4 x 6,400)	1,600
Opening inventory (1/4 x (4,800 + 4,000)	(2,200)
Impairment of Ndola goodwill (W3)	3,000
Extra depreciation on fair value adjustments:	
Property (8,400 x 1/8 x 8/12)	700
Depreciation of 'right of use asset' (W5)	840
	856,940

Working 3 – Impairment of Ndola - Goodwill

	K'000
Net assets at 31 March 2023 (as per SOCIE)	334,000
Goodwill arising on acquisition (W4)	15,000
Notional grossing up of goodwill for impairment purposes (15,000 x 25/75)	5,000
	354,000
Recoverable amount	(350,000)
So impairment equals	4,000
Recognise group share only (75%)	3,000

Working 4 – Goodwill arising on acquisition of Ndola

	K'000
Cost of investment:	
Shares issued: (75,000 x ½ x K4·40)	165,000
Non-controlling interest at date of acquisition (200,000 x 25%)	50,000
Net assets at date of acquisition	(200,000)
So goodwill equals	15,000

Working 5 – Depreciation of right of use asset

	K'000
Present value of minimum lease payments (1,000 x K4·10)	4,100
Direct costs of arranging lease	100
	4,200
Depreciation (4,200 x 1/5)	840

Working 6 – Administrative expenses

	K'000
64,000 + 56,000 + 8/12 x 51,000	154,000
Reversal of incorrectly charged defined benefit plan contribution	(4,800)
Current service cost (award if alternatively taken to cost of sales)	5,000
Reversal of incorrectly charged lease charges (1,000 + 100)	(1,100)
	153,100

Working 7 – Investment income:

	K'000
Lusaka	32,000
Intra-group dividends eliminated:	
– Ndola (75% x 32,000)	(24,000)
– Mansa (paid post-disposal)	(nil)
	8,000

Working 8 – Profit on disposal of Mansa

	K'000
Disposal proceeds	196,000
Net assets of Mansa at date of disposal (W9)	(228,050)

Goodwill of Mansa at date of disposal (W10)	(10,000)
Non-controlling interest in Mansa at date of disposal (W11)	46,610
So profit on disposal equals	4,560

Working 9 – Net assets of Mansa at date of disposal

	K'000
Net assets at the start of the year (per SOCIE)	180,000
8/12 of profit for the period per accounts of Mansa (63,000 x 8/12)	42,000
Remaining fair value adjustments	
Property [(12,000 – 8,400) + 8,400 x 28/96]	6,050
Plant and equipment	Nil
So net assets equals	228,050

Working 10 – Goodwill of Mansa at date of disposal

	K'000
Cost of investment in Mansa	145,000
Non-controlling interest in Mansa at date of acquisition (10,000 x K3·50)	35,000
Fair value of net assets at date of acquisition:	(**170,000**)
So goodwill on acquisition equals	10,000

Working 11 – Non-controlling interest in Mansa at date of disposal

	K'000
Non-controlling interest at date of acquisition (W10)	35,000
Increase since acquisition (**20%** (**228,050** (W9) – **170,000** (W10)))	11,610
So non-controlling interest on disposal equals	46,610

Working 12 – Finance cost

	K'000
38,000 + 29,000 + 8/12 x 21,000	62,000
Finance cost on leased asset (4,100 (W5) x 7%)	287
Unwinding of discount on net pension liability (2,500 x 5%)	125

	62,412

Working 13 – Income tax expense

	K'000
Lusaka + Ndola + 8/12 x Mansa	81,000
Income tax payable on the disposal of Mansa	5,000
	86,000

Working 14 – Re-measurement gain on defined benefit retirement pension plan

	K'000
Net pension liability on 1 April 2022	2,500
Current service cost	5,000
Unwinding of discount (W12)	125
Contributions	(4,800)
Benefits paid to retired members (cancels)	Nil
	2,825
Actuarial loss (balancing figure)	1,175
Net pension liability on 31 March 2023	4,000

Working 15 – Non-controlling interest in profit

	Ndola	Mansa (8/12)	Total
	K'000	K'000	K'000
Profit after tax	86,000	42,000	
Extra depreciation – Mansa (W2)		(700)	
Relevant profit	86,000	41,300	
Non-controlling interest (25%/20%)	21,500	8,260	29,760

SOLUTION TWO

Issue 1 – Defined Benefit Pension Plan

The directors of Hade Plc must accrue and report the pension cost for the period as follows:

			K'm
Dr	P/L	Current service cost	12
		Net Interest cost 100X8.5%	8.5
			20.5
Dr	OCI	Remeasurement loss (W)	3.5
			24
Cr	Net DB Pension Liability		24

		K'm
Working – Remrasurement loss		K'm
Net liability in draft SFP		90
Pension cost to charge in PL		20.5
		110.5
Remeasurement loss (balance)		3.5
Net DB Pension liability at 31.12.2023	(190-76)	114

The increase in DB Pension liability will give rise to a tax deductible temporary difference for deferred tax purposes. This will has the effect of reducing the draft SFP deferred tax liability by 35%X24 = K8.4 million. The decrease in the deferred tax will primarily be credited to the income tax expense in PL except for the amount attributable to the remeasurement loss which must be credited to OCI. The amounts to credit to PL and OCI are K7.18 million (ie 35%X20.5) and K1.22 million (ie 30%X3.5) respectively. The following entries are applicable:

		K'm
Dr	deferred tax liability	8.4
Cr	Income tax expense in PL	7.18
Cr	OCI	1.22
		8.4

Issue 2 – Cash Bonus Arrangement

The cash bonus arrangement appears to fall within the scope of IFRS 2 and must therefore be accounted for under that standard. It is a cash settled transaction. Hade should therefore accrue an share based payment liability SBPL over the agreed four period based on the estimated fair value each year end.

K'm

The SBPL at 31.12.2023 can be computed as

(9-1-2)X10000X12.3X1/4	1.85

The whole liability at 31.12.2023 is the increase to report as an expense in PL for the year to 31.12.2023. Entries to post are:

		K'm
Dr	PL	1.85
Cr	SBP Liability	1.85

A tax deductible temporary difference equal to the increase in the SBPL arises giving a decrease in the deferred tax liability equal to K0.65 million. Required entries are:

		K'm	
Dr	Deferred Tax liability		0.65
Cr	Income Tax Expense		0.65

Issue 3 – Revaluation of property:

The carrying amount must be adjusted to the fair value at 31.12.23 of K50 million. This will give a revaluation loss computed as follows:

		K'm
Carrying amount at 31.12.23 before revaluation:		
FV at 1.1.22		80
Subsequent depreciation to 31.12.23	(80/17) x 2 (4.7 x 2)	(9.4)
		70.6
Revaluation loss	(balance)	(20.6)
Fair value to report at 31.12.23		50

In reporting the loss, any amount representing reversal of a past unrealised gain must be reported in PL. Any further loss, amount reducing the cost model carrying amount must be reported in PL. The cost model carrying amount is K60 million (ie 100X15/25). Therefore the revaluation loss will be reported as follows:

		K'm
Amount to report in OCI	(70.6-60)	10.6
Amount to report in PL	(60-50)	10

Required entries to update the revaluation are;

		K'm
Dr	OCI (revaluation reserve)	10.6
D	PL	10
		20.6
Cr PPE		20.6

The revaluation of the property reduces its carrying amount and hence gives rise to a tax deductible temporary difference whose effect is a decrease in the deferred tax liability of K7.21 million (ie 20.6X35%). The decrease in the deferred tax liability will be credited to PL (income tax expense) and OCI as follows:

			K'm	
Dr	Deferred Tax liability			7.21
Cr	PL	35%X10	3.5	
Cr	OCI	35%X10.6	3.71	
			7.21	

SOLUTION THREE

Transaction One

1. Conditions for Hedge accounting

The hedge accounting requirements in IFRS 9 are optional. If certain eligibility and qualification criteria are met, hedge accounting allows an entity to reflect risk management activities in the financial statements by matching gains or losses on financial hedging instruments with losses or gains on the risk exposures they hedge.

Qualifying criteria for hedge accounting

A hedging relationship qualifies for hedge accounting only if all of the following criteria are met:

a) the hedging relationship consists only of **eligible** hedging instruments and eligible hedged items.
b) at the inception of the hedging relationship there is formal **designation** and documentation of the hedging relationship and the entity's risk management objective and strategy for undertaking the hedge.
c) the hedging relationship meets all of the hedge **effectiveness** requirements [IFRS 9 paragraph 6.4.1]

Hedging instruments

Only contracts with a party external to the reporting entity may be designated as hedging instruments. [IFRS 9 paragraph 6.2.3]
A hedging instrument may be a derivative or non-derivative financial instrument measured at FVTPL.

Hedged items

A hedged item can be a recognised asset or liability, an unrecognised firm commitment, a highly probable forecast transaction or a net investment in a foreign operation and must be reliably measurable. [IFRS 9 paragraphs 6.3.1-6.3.3]

It would appear that the hedge conditions above are met in respect of Kamonde's hedge of the inventory of soya beans. The hedged position is the recognised asset, inventory of soya beans in this case. The hedging instrument , the forward commodity contract is a derivative. The hedge must be highly effective in that any changes in the price of soya will be countered by gains/losses on the forward commodity contract.

2. Fairvalue hedge accounting:

Fair value hedges are hedges of the exposure to changes in fair value of a recognised asset or liability or an unrecognised firm commitment that is attributable to a particular risk and could affect profit or loss.
For a fair value hedge, the gain or loss on the hedging instrument is recognised in profit or loss and the hedging gain or loss on the hedged item adjusts the carrying amount of the hedged item and is recognised in profit or loss. In this case the inventory of soya must be remeasured to fair value each reporting date with gains/losses reported in PL to offset remeasurement gains or losses on the hedging instrument.

Amounts to report in the FS for the year to 31.12.23 are as follows:
(a) Forward commodity contract:

Carrying amount to report in SFP at 31.12.23:
USD(1150-1100)XK19.2/USDX200 tonnes = K192,000 liability.

(b) Inventory of soya beans:
Carrying amount of the inventory to report in SFP at 31.12.23
200 tonnes X USD1150XK19.2/USD = K4.416 million

(c) Amounts to report in the SPL for the y/e 31.12.23:

		K'm
Net loss on commodity contract		(0.192)
Gain inventory	(4.416- 4.25)	0.166

Alternative Approach

Intitial FV Asset (1050-1100) =	50 x 18.5 x 200	0.185
31 Dec Subseq FV Liability (1150-1100)=	50 x 19.2 x 200	(0.192)

Gain as at 1 Jan 2023		0.185
Loss as at 31 Dec 2023	(0.185 + 0.192)	(0.377)
Net Loss		(0.192)

FCC ACCOUNT

Profit & Loss	0.185	Profit & Loss	0.377
Balance c/d	0.192		
	0.377		0.377

Transaction Two

The loan liability is a non derivative financial liability and must therefore be classified as an amortised cost item. The liability should initially have been measured at fair value (issue proceeds) net of the transaction costs. Subsequently, the loan is supposed to be carried at amortised cost. The following amortised cost schedule should have applied from inception:

		K'm
Issue proceeds		50
Transaction costs		(1)
Initial carrying amount of loan liability		49
Finance cost for y/e 31.12.22	10.67%X49	5.23
Cash paid 31.12.2022		(5)
Carrying amount at 31.12.2022/bal b/d 1.1.2023		49.23

Finance cost y/e 31.12.2023	10.67%X49.23	5.25
Cash paid 31.12.2023		(5)
Carrying amount at 31.12.2023		49.48

Kamonde must make corrections to the wrong accounting in the previous year retrospectively in accordance with IAS 8 as follows:

(a) Opening carrying amount of the loan notes must be adjusted from K50 milion to K49.23 million by crediting retained earnings and debiting the loan liability by K0.77 million ie (50 - 49.23). This amount will be reflected in the SOCIE.

(b) Finance costs for year to 31.12.23 as reported in the FS for the y/e 31.12.23 (**comparative**) must be reduced by K0.77 million, ie (6-5.23). All subsequent and overall totals below finance costs in the SPL will consequently increase by K0.77 million.

SOLUTION FOUR

(a) (i) Zed Ltd should have shown the lease receivable at the lower of the fair value of the asset and the present value of the minimum lease payments, i.e. K47 million. Therefore, an adjustment of K3 million will have to be made to profit or loss and the lease receivable. Similarly, the cost of transaction should have been (K40 – K2.8) million, i.e. K37.2 million as the asset reverts back to Zed Ltd at the end of the lease. Therefore, an adjustment should be made to profit or loss and lease receivable of K2.8 million.

Dr Profit or loss	K3 million	
Cr Lease receivable		K3 million
Dr Lease receivable	K2.8 million	
Cr Profit or loss		K2.8 million

(The net amount of K0.2 million could be adjusted in this case.) The finance lease receivable figure in the financial statements will be (K50 –K3 + K2.8) million, i.e. K49.8 million.

Statement of profit or loss for the year ended 31/12/22 - extract

	K million
lease -revenue	(3)
lease – cost of sales	2.8

Statement of financial position as at 31/12/2022 - extract

	K million
Non –current assets:	
Lease receivable	49.80

(ii) Zed Ltd has a financial liability to be measured at amortised cost in accordance with IFRS 9. It is a financial liability because the company is raising finance. This financial liability is initially recorded at the fair value of the consideration received, that is, the net proceeds of issue. This amount is then increased each year to redemption by interest added at the effective rate of 10% and reduced by the interest actually paid at 2%, with the result that the carrying amount at the end of the first year is at amortised cost.

Zed Ltd has no issue costs and the net proceeds are K20,000 less 5% discount = K19,000. The annual cash payment is the 2% coupon rate on the nominal value of the debt 20,000.

Reporting date	Bal b/fwd	Eff. rate @ 10%	Cash paid @2%	Bal c/fwd
	K	K	K	K
31 Dec 2022	19,000	1,900	(400)	20,500
31 Dec 2023	20,500	2,050	(400)	22,150

Zed Ltd
Statement of profit or loss extract for the year ended 31st December 2022

	K
Finance cost	1,900

Statement of financial position extract

	K
Financial Liability	20,500

(b) (i) **Implications on fundamental principles Integrity**
You need to be open and honest about the situation with your Finance Director. You need to be straightforward with your Finance Director since it will not be right to attempt to complete work that is technically beyond your abilities, without proper supervision.

In the first instance, you should attempt to resolve the issue with your Finance Director, although it may be necessary to involve the person responsible for training within the practice. You might, at an appropriate stage, suggest that the client be involved.

Objectivity
The short period of time given to perform the work puts undue pressure on the trainee accountant which breaches the principle of objectivity. There may be an element of bias towards the trainee accountant by his or her Finance Director.

Professional competence and due care
You are not technically competent in the complicated work given you and while you will be learning on the work and the timeline is too tight to be able to exercise due diligence. It is virtually impracticable to complete the work within the time available and still act diligently to achieve the required quality of output. Discuss with the Finance Director supervisory arrangement and support in order not to do poor work.

Professional behaviour
The practice firm that employs you is small and under pressure due to the sickness of a member of staff. However, the work you are being asked to perform is beyond the usual ability of a trainee at your level. Determine whether the deadline can be extended; when your colleague is expected to return from sick leave; and what other resources might be available to the practice. Consider the policies and procedures of the practice, as well as your professional body's code of ethics. You cannot refuse to do the work as this will damage your reputation and the reputation of the firm will also suffer if you attempt to

perform the work without sufficient knowledge and support. Therefore, avoid discrediting yourself, the
practice firm you work for, and the accountancy profession in general.

(ii) **Possible causes of action to be taken**

- You should explain to your Finance Director that you do not have sufficient time and experience to complete the work to a satisfactory standard. However, you should demonstrate a constructive attitude, and suggest how the problem may be resolved. (Your professional body is available to advise you in this respect.) For example, you might suggest the use of a subcontract bookkeeper, or contacting the client to enquire if the deadline might be extended so that the work may be performed when you return from study leave or when your colleague returns from sick leave. You might also explore the possibility of assigning another member of staff to supervise your work.
- If you feel that your Finance Director is being unsympathetic or simply fails to understand the issue, you should consider how best to raise the matter with the person within the practice responsible for training. It would be diplomatic to suggest to your Finance Director that you raise the matter together and present your respective views. This would have the added advantage of involving a third party.
- It would be unethical to attempt to complete the work if you doubt your competence. However, simply refusing to, or resigning from your employment, would cause significant problems for both you and the practice. You could consult your professional body. If you seek advice from outside the practice (for example legal advice), you should be mindful of the need for confidentiality as appropriate.

    - You should document, in detail, the steps that you take in resolving your dilemma, in case your ethical judgement is challenged in the future.

SOLUTION FIVE

Report

To: Credit Committee – ZedBank
From: Financial Analyst
Date: February 2023
Subject: Financial Analysis of Dende Limited

Introduction

At your request, this report analyses the financial performance and position of Dende Limited. The analysis is primarily based on the financial ratios of Dende for the latest two financial years to 31 December 2023. The report ends with a recommendation on whether Dende's application must be approved.

Financial performance

The financial performance of Dende has clearly been affected by the pressure resulting from the new competitor entering the market with revenue falling by 14% from 2022.Gross profit margin has fallen by 4% since 2022 and this could be due to Dende being forced to drop prices to compete with the new competitor.

The net profit margin has fallen from K235 million to K180 milliom, however administrative expenses includes the offset of a gain on held for trading investments of K4.5 million. Without this gain the net profit margin would have fallen further below 15.8%. The finance costs are still relatively high considering the loan liability has been halved in the year, although it is possible that the loan was actually repaid part way through the year. It should also be noted that Dende now has an overdraft which will be relatively expensive to service.

The return on capital employed has dropped by 24% since 2022. Capital employed has reduced in the year, despite a revaluation, mainly due to the loan being repaid. The ROCE, however has fallen, showing the impact that reduced profits has had on the business.

Asset turnover has fallen from 4.1 to 2.0. This is due to reduced revenue, and increases in NCA including the revaluation. There has also been an acquisition in the year and this could have increased NCA from last year. It looks like the investment in PPE has not yet paid off in revenue streams as revenue is down from 2022.

Financial position

The gearing has fallen from 50% to 18% in the year due to the repayment of the loan. The repayment amounted to a significant cash outflow in the year, however the lender must have been assured that DENDE could afford to service and repay the loan. The interest cover is more than enough, however the issue will be whether or not DENDE will have enough cash to actually pay the interest. In addition, the remaining loan is to be repaid by 2024 and the entity appears to be short of liquid funds.

The current and quick ratios have fallen mainly due to the increased payables and the introduction of the overdraft. The quick ratio has fallen from 0.7 to 0.5 and indicates cash crisis and the fall in current ratio is to 1.0 and so DENDE is dangerously close to insolvency.

Receivables are still being collected within 35 days which shows good credit control, or loyal customers. This however is not sufficient to generate adequate liquid funds and payables are being stretched as a result, from 63 days to 80 days. This is not a good policy at a time when there is a new market member as suppliers may choose to switch supplies to them. In addition, DENDE needs to negotiate with its suppliers to reduce costs in order to recover the margins and therefore a good relationship is vital.
The increase in inventories days is consistent with the falling revenue, but DENDE should test for obsolescence on inventories from the packaging business.

Conclusion and recommendation
DENDE has liquidity issues, however the management structure appears to be well organised. Credit control appears to be a priority and the management have made some good investments, with upward valuations in both non-current assets and held for trading investments.

The minutes of the Board meetings indicate that management are responsive to change and have reacted positively by applying for long term funding prior to the existing loan being repaid and organising a meeting with suppliers to negotiate better terms. DENDE is likely to fare better in these meetings if payables have been settled and to this end the funding would assist.

The recommendation is to put the application forward for further consideration.

Appendix – Financial Ratios

Ratio	2023	2022
Return on Capital Employed (ROCE)	95X100/(248+45)=32.2	152X100/(182+90)=55.9
Net Profit Margin	95X100/600=15.8	152X100/700=21.7
Gross Profit Margin	180X100/600=30	235X100/700=33.6
Asset Turnover	600/(248+45)=2.0	700/(182+90)=4.1
Current Ratio	146/141=1.0	152/125=1.2
Quick Ratio	(146-73)/141=0.5	(152-60)/125=0.7
Payables Days	92X365/420=80.0	80X365/465=62.8
Inventory Days	73X365/420=63.4	60X365/465=47.1
Receivables Days	58X365/600=35.3	63X365/700=32.9
Gearing Ratio	45X100/(248+45)=15.4	90X100/(182+90)=52.3
Interest Cover	95/6=15.8	152/7=21.7

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA ADVISORY PROFESSIONAL IN ACCOUNTANCY

CA 3.2: ADVANCED AUDIT AND ASSURANCE

THURSDAY 21 MARCH 2024

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>

You are an Audit Manager in Chifubu Accountants and you are responsible for the financial statement audit for Pamodzi Plc for the year ended 31 December 2022, which is nearing completion. Pamodzi Plc has a subsidiary in Switzerland which is responsible for marketing and sales of minerals. An interim audit was conducted during the year and the internal controls were assessed as effective and limited substantive tests were planned. This meant that the financial statement audit will be completed two (2) weeks ahead of schedule.

Changes in tax legislation

At the beginning of the year 2022, the government made significant changes to the tax legislation that applies to the mining industry, the following are the changes made:

(1) Mineral royalty tax of 2% of revenue was introduced that will be tax allowable for purposes of computing the tax liabilities. The objective for doing this is for it to be an incentive to the mining industry aimed at raising the country's total production levels of copper to over 3.1 million tons per year and support the targeted economic growth of over 6%.

(2) Transfer pricing by mining houses to be set at a margin of not less than 5%. The new regulation is meant to stop mining companies understating their revenue through low transfer prices and so pay less tax to the government.

(3) The corporate tax rate was reduced from 35% previously to 25% on account of the introduction of royalty tax.

(4) 100% First Year Allowance has been introduced on capital expenditure.

(5) A property transfer tax of 1% was introduced.

Pamodzi Plc spent a significant amount of money on capital expenditure compared to the previous years. The company intends to account for the timing differences through computing deferred tax. During the year, Pamodzi Plc disposed of a number of properties which are subject to property transfer tax.

Pamodzi Plc is one (1) of the large mining companies in the country which responded positively by investing over $1 billion in the expansion of its existing mines and opening new mining operations. The Minister of Finance and National Planning is impressed and promised continued government support.

The impact of these changes in tax legislation have not been reflected in the financial statements for the year ended 31 December 2022.

Flash floods

On 14 January 2023, five (5) underground tunnels became flooded at two (2) of the mines as a result of flash floods. The rescuers were unable to save three (3) miners who died after drowning in one (1) of the tunnels. The two (2) mines became inaccessible and the Mines Safety Department ordered their closure.

The Mine Management appealed against the closure arguing that this was a normal occurrence in mining operations and in fact the tunnels were now accessible. Mine Management made a provision of K3 million in respect of this incident, even though the Employee Compensation Board agreed to meet all the necessary expenses and the three (3) employees were fully covered under Pamodzi Plc's group life policy for the workers.

A number of employees are now on forced leave and there is political pressure to re-open the mines.

Sustainability report

The Chairperson of the board emailed all board members and the Engagement Partner over a newspaper article. The article alleged that the sustainability report for the previous year contained errors. The sustainability report was not audited and the Chairperson of the board requested Chifubu Accountants to audit the sustainability report for the year ended 31 December 2022.

Allowance for receivables

The allowance for receivables in the draft financial statements reduced by forty percent (40%) compared to the previous year. The Audit Senior is concerned that the allowance for receivables could be grossly understated. However, meaningful audit work is yet to be performed on the allowance for receivables.

Mitengo Mining Ltd

Chifubu Accountants have been approached by Mitengo Mining Ltd, a direct competitor to Pamodzi Plc to accept appointment as external statutory auditors for the company. The Managing Partner would like you carry out a customer due diligence (CDD).

Required:

(a) Using the information on Mitengo Mining Ltd:

(i) Explain the importance of customer due diligence (CDD) information, giving four (4) examples of such information.

(4 marks)

(ii) Discuss the ethical threat and state any three (3) safeguards which should be applied by Chifubu Accountants.

(5 marks)

(b) In relation to the changes in tax legislation, explain three (3) financial statement areas which may be affected and for each financial statement area, recommend one (1) audit procedure.

(9 marks)

(c) (i) Evaluate the appropriateness of the provision of K3 million made in the financial statements regarding the flash floods. (4 marks)

(ii) State four (4) examples of audit evidence you expect to find in the review of the working papers for the provision of K3 million. (4 marks)

(d) Suggest, giving justification for each, four (4) audit procedures which the firm should undertake in respect of the allowance for receivables.

(8 marks)

(e) (i) Discuss the nature of sustainability reports. (2 marks)

(ii) Advise Chifubu Accountants regarding two (2) main matters to consider before accepting to audit the sustainability report. (4 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any THREE (3) questions.

<u>QUESTION TWO</u>

(a) The audit of the financial statements of one (1) of your firm's clients is at review stage. The year end is 30 September 2023 and the audit report will be signed on 28 October 2023 while the financial statements will be issued on 5 November 2023. The following events took place:

(1) On 5 October 2023, inventory valued at K1.5 million caught fire and was completely destroyed. This amount represented 12% of total assets and 15% of profit after tax.

(2) On 10 October 2023 before the conclusion of the audit, a court case against the company arose and the litigant claimed damages amounting to K1.5 million. Management refused the request to make a provision arguing that the litigation came after the period end and the case would be ruled in favor of the company.

(3) Inventory at the period end that was correctly valued at cost at K2.5 million, was sold in total at K1.6 million on 2 November 2023. This was established during the exit meeting with management.

Required:

(i) Describe two (2) audit procedures that should be undertaken by the audit team for each of the three (3) items above.

(6 marks)

(ii) Discuss the impact on the audit opinion of management's refusal to adjust the financial statements following the event of the 10 October 2023.

(2 marks)

(b) You are the Audit Manager on the audit of the financial statements of Bangweulu Plc for the year ended 30 June 2023. The financial statements for the previous year were audited by a different auditor who issued a qualified audit opinion. The reason for the modification of the audit opinion still exists at the end of the current year.

Bangweulu Plc's financial statements include significant accounting estimates regarding employee benefits. In obtaining evidence regarding this amount, the audit team used the services of an expert whose report is contained in the audit working papers. Your assessment of the going concern ability of Bangweulu Plc shows that there is material uncertainty with regards to the company's ability to continue as a going concern. The use of the going concern basis in the preparation of financial statements is appropriate and Management has made necessary disclosures in the notes to the financial statements.

The following information is extracted from the draft audit report prepared by the Audit Senior.

To: The Shareholders of Bangweulu Plc

Basis for opinion
We conducted our audit in accordance with auditing standards and we believe that the audit evidence obtained, is sufficient and appropriate to provide a basis for our opinion.

Opinion
In our opinion, the accompanying financial statements of Bangweulu Plc for the year ended 30 June 2023 give a true and fair view.

Emphasis of Matter – Audit of previous year financial statements
The financial statements of Bangweulu Plc for the year ended 30 June 2022 were audited by another auditor who expressed a modified opinion on 4 August 2022.

Key Audit Matters
We draw attention to note 5 of the financial statements explaining the existence of a material uncertainty regarding the ability of Bangweulu Plc to continue as a going concern. Our opinion is not modified in respect of this matter.

Auditor's Responsibilities for the Audit of the Financial Statements
In accordance with auditing standards, we take responsibility for obtaining sufficient appropriate audit evidence during the audit which formed the basis of our opinion.

However, in relation to pension benefits, we used the work of an expert and whose report we relied upon to verify the related amount and for which we do not take any responsibility.

Required:

(i) Describe the audit risk with regards to the opening balances in the audit of the financial statements of Bangweulu Plc.

(2 marks)

(ii) Suggest two (2) audit procedures that should be performed regarding opening balances in the financial statements of Bangweulu Plc.

(2 marks)

(iii) Using the information extracted from the draft audit report, evaluate the report and suggest any amendments that may be necessary.

(8 marks)

[Total: 20 Marks]

QUESTION THREE

You work for Bruce & Associates Chartered Accountants as a Partner in Charge of one (1) of the three (3) offices of your firm. The firm is under the management of a Managing

Partner who is based at the Lusaka office. Each of the three (3) offices are under the management of a Partner in Charge and a complement of two (2) other Partners, a Manager and three (3) Audit Seniors and Audit Assistants.

The Partners in Charge are responsible for assigning individual audit work to audit teams. The firm has grown steadily over the past three (3) years and is looking forward to further expansion. You have been assigned to put in place quality control systems in the firm in order to ensure that all audits conducted meet the requirements of the International Standards on Auditing related to quality control. You have been requested to write briefing notes relating to quality control at the firm and individual audit levels which will form the basis of a discussion at a training meeting of all partners.

Your office is considering accepting an appointment as auditors of Gipsy Engineering Plc. The Engagement Partner has drafted the engagement letter for your consideration and review. He is still waiting for the management of Gipsy Engineering Plc to acknowledge its responsibilities for the preparation of the financial statements and its responsibility for the establishment of internal controls.

The following clause is contained in the draft engagement letter prepared by the Engagement Partner:

'Bruce & Associates Chartered Accountants shall not be held liable to Gipsy Engineering and its associates, for any negligence in the work conducted during the audit of the financial statements. This is on account of the fact that audits cannot give absolute assurance and can only give reasonable assurance on the financial statements.'

In gaining an understanding of the entity, the Engagement Partner established that Gipsy Engineering Plc has a running loan with Invest Bank, its bankers, and one of the conditions of the loan is that the company shall submit annual audited financial statements to the bank.

The firm does not wish to expose itself to liabilities arising from litigation as a result of professional negligence in the performance of audit work. The Managing Partner requested you to evaluate the risks the firm faces in case of litigation by Gipsy Engineering Plc., Invest Bank and individual shareholders who may take legal action against the firm for professional negligence.

Required:

(a) Discuss the objectives and responsibilities for quality control at the firm and the individual audit levels in Bruce & Associates Chartered Accountants.

(6 marks)

(b) (i) Explain the meaning of disclaimers in audit engagements and discuss the validity of the disclaimer in the draft engagement letter with Gipsy Engineering Plc.

(3 marks)

(ii) Discuss the chances of succeeding in suing Bruce & Associates Chartered Accountants by Gipsy Engineering, Invest Bank and an individual shareholder intending to sue for professional negligence.

(9 marks)

(c) Explain your firm's response in the event that Gipsy Engineering Plc management does not provide the acknowledgement of its responsibilities as requested.

(2 marks)

[Total: 20 Marks]

QUESTION FOUR

You are an Audit Manager in Kwacha Chartered Accountants and you are responsible for the financial statement audit for Bulangililo Ltd for the year ended 31 December 2022. Bulangililo Ltd has been an audit client for over three (3) years but it is your first time to audit Bulangililo Ltd.

Bulangililo Ltd was incorporated in 2022 and is one (1) of the key suppliers in the Technical Education Vocational and Entrepreneurship Training (TEVET) sector. It has a workforce of over one hundred and fifty (150) employees.

During the year under review, the company's revenues increased by over two hundred percent (200%), mainly due to the increased student enrolments as a result of government sponsorships through the Constituency Development Fund (CDF). In view of the increased business, the company secured a three (3)-year bank loan for working capital support.

All executive directors were provided with motor cars on a personal-to-holder basis. On 1 January, 2022, the company signed a four (4) year lease agreement for new motor cars.

After a query on the outstanding audit fees for last year, the Director of Finance stated that on 4 February, the company paid the outstanding audit fees using cash as it was having challenges with its on-line banking system. The cash was given to the Audit Senior who promised to issue a receipt when the Cashier returned from the bank. The Auditor Senior has readily admitted having received the cash and used it for an urgent family problem. He apologized and shows signs of repentance and has suggested that the amount be deducted from his next pay. The Audit Senior is concerned that the Managing Partner may decide to report this to the Zambia Institute of Chartered Accountants (ZICA).

Required:

(a) (i) Explain four (4) responsibilities of the Zambia Institute of Chartered Accountants (ZICA) according to the Accountants Act 2008.

(4 marks)

(ii) Explain the possible action(s) which could be taken against the Audit Senior if the matter is reported to ZICA.

(4 marks)

(b) Identify and evaluate six (6) audit risks arising in the financial statement audit of Bulangililo Ltd for the year ended 31 December 2022.

(12 marks)

[Total: 20 Marks]

QUESTION FIVE

You are an Audit Manager in Tiger Chartered Accountants. You are responsible for the group financial statements audit of Animal Group of Companies for the year ended 30 June 2023, which is about to commence. Your firm has been auditing Animal Group of Companies for over five (5) years.

Animal Group of Companies consists of a parent company and six (6) subsidiaries. Two (2) of the subsidiaries are located overseas and one (1) of them is audited by Tiger Chartered Accountants. The group is involved in the manufacture and sale of electronic equipment. At a de-briefing meeting with the group engagement team, the Group Engagement Partner discussed the following matters:

(1) **Risk assessment** – the Animal Group of Companies has been assessed as low risk. The group has excellent governance structures and the accounting system and internal controls have been evaluated as effective.
(2) **Use of data analytics** – the groups' operations have significantly increased and the Group Engagement Partner suggested the use of data analytics for the audit to be effective. Tiger Chartered Accountants have invested heavily in the required hardware and software. All audit staff have gone through the necessary training.
(3) **Intra-group trading** – during the year under review, a lot of intra-group trading took place, especially towards the year-end. Most of the inventory arising from intra-group trading was in closing stock at the year-end.
(4) **Component auditors** – there will be need for the group engagement team to obtain an understanding of two (2) new component auditors.
(5) **Joint audit** – the foreign subsidiary audited by Tiger Chartered Accountants will be audited jointly with a local firm.

Required:

(a) State two (2) advantages of joint audits.

(2 marks)

(b) Explain two (2) implications of data analytics for auditors.

(4 marks)

(c) Explain three (3) matters which must be considered when understanding the component auditors.

(6 marks)

(d) Recommend four (4) principal audit procedures which should be carried out in respect of intra-group profit in inventory.

(8 marks)

[Total: 20 marks]

END OF PAPER

CA 3.2: ADVANCED AUDIT AND ASSURANCE SUGGESTED SOLUTIONS

SOLUTION ONE

(a) (i) **Importance of customer due diligence (CDD) information and examples**

Customer due diligence (CDD) information enables the audit firm to understand their clients' business well enough to spot any unusual business activity. This assists the firm in identifying suspicions of money laundering. Through the conduct of customer due diligence (CDD), the audit firms will avoid entering into an engagement with clients who may be involved in illegal activities.

Examples of customer due diligence (CDD) information includes:

(1) Who the client is
(2) Who controls it
(3) The purpose and intended nature of the business relationship
(4) The nature of the client
(5) The client's source of funds
(6) The client's business and economic purpose.

(ii) **Ethical threat and safeguards to take**

Mitengo Mining Ltd is a direct competitor to Pamodzi Plc and as such the appointment of Chifubu Accountants could result in significant conflict of interest. The self-interest threat could pose a serious threat to objectivity, confidentiality and professional behaviour.

Examples of safeguards which could be applied include:

(1) Disclosure of the nature of the conflict of interest (and related safeguards) to clients affected, to obtain their consent to Chifubu Accountants accepting appointment as statutory external auditor.

(2) Mechanisms to prevent unauthorised disclosure of confidential information, such as:
- Separate engagement teams
- Creating separate areas of practice for speciality functions within the firm
- Establishing policies and procedures to limit access to client files.

(3) Review of safeguards by a senior individual not involved with the engagements.

(4) External review by a professional accountant

(5) Consulting with third parties, such as a professional body, legal

(b) **Financial statement areas which may be affected and recommended audit procedures**

The financial statement areas which may be affected by changes in tax legislation and the recommended audit procedures include:

Financial statement areas	Recommended audit procedures
(1) Revenue – use of new transfer pricing regulations given that Pamodzi Plc has a subsidiary in Switzerland which is responsible for marketing and sales of minerals	o Obtain a schedule of transfers to the subsidiary and check whether the new transfer pricing regulations have been used o Recalculate transfer figures for a sample of transfers using the new transfer pricing regulations and compare with the figure on the schedule of transfers.
(2) Current tax – use of new tax rates.	o Obtain the workings for the current tax payable to the tax authorities in relation to business activities of the current period o Check whether the new tax rates have been used.
(3) Deferred tax – use of new tax rates.	o Obtain the working for deferred tax workings and check that the new tax rates have been used o Agree the figures used to calculate timing differences to those on the tax computation and the financial statements.
(4) Disposal of assets – use of new rates.	o Obtain a schedule of asset disposals during the year and check that the tax rates used o Recalculate the property transfer taxes on selected disposals and compare with the remittances to the tax authorities.
(5) Disclosures – use of new tax laws and regulations	o Review contents of the disclosure notes to ensure they reflect the new tax laws and regulations o Ensure the disclosures are in accordance with IAS 12 *Income Taxes.*

(c) (i) **Appropriateness of the provision of K3 million and audit evidence expected:**

According to IAS 37 *Provisions, Contingent Liabilities and Contingent Assets,* a provision is a liability of uncertain timing or amount. A liability is a present obligation of entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits.

In this case, the event occurred on 14 January 2023, which is after the year-end and as such there was no past event deserving a provision. The applicable accounting standard is IAS 10 *Events after the Reporting Events.* The event is a non-adjusting event. This may require disclosure as it is likely to be material.

Further, given the fact that the Employee Compensation Board will meet all the expenses regarding the accident and the employees are covered under the group insurance it is not likely that the company will require to meet these costs. The amount does not meet the requirement of IAS 37 as there will be no outflow of funds from the company.

The provision is, therefore, clearly inappropriate.

(ii) **Evidence in the working papers regarding the provision:**

The incident and the provision relate to post year end period and it does not give evidence of conditions that existed at the period end. The following evidence will be expected in the current year working papers:

- Evidence of the discussion with management regarding the incident and its treatment on account of being a non-adjusting event.
- Evidence of the discussion with management that there should be no provision in the financial statements on account of there being no liability on the company.
- Evidence that the draft financial statements were reviewed and that the provision made is reversed.
- Evidence of review of draft financial statements and confirming that the incident has been disclosed as expected.

(d) **Audit procedures and justifications**

Audit procedures	**Justifications**
(1) Check whether any receipts from customers after the year-end.	This is meant to confirm the accuracy the amount of the allowance for receivables made.
(2) Review the receivables age analysis and confirm that the allowance for receivables has been computed in line with applicable accounting standards.	The allowance for receivables is required to be computed in accordance with relevant financial reporting standards.
(3) Review for specific customers, correspondence with lawyers, liquidators etc.	To confirm necessity/adequacy of the allowance.

(4) Review customer files/correspondence and accounts receivable confirmation results.	In order to obtain audit evidence for potential bad debts
(5) Examine credit notes issued after the year-end.	To identify allowance for receivables that should be made against current period balances.
(6) Review the aged customer analysis in detail and agree to supporting documentation.	Check the accuracy of the aged customer analysis and assess the reasonableness of the allowance for receivable.

(e) (i) **The nature of the sustainability report:**

Sustainability is an attempt to provide the best outcomes for the human and natural environments both now and into the indefinite future with reference to the continuity of economic, social, institutional and environmental aspects of human society, as well as the non-human environment.

Sustainability reports basically contains the set targets and sustainability indicators for an organisation and then reports on how well an organisation has performed (Key Performance Indicators – KPIs).

(ii) **Main matters to consider in accepting to audit the sustainability report:**

- Competence – whether Chifubu Accountants have staff with the requisite technical competence to undertake this engagement.
- Potential liability – Chifubu Accountants should consider its exposure to potential legal liability.
- Time pressure – the audit is nearing completion and this may entail that the time available for the audit of the sustainability report may be limited.

SOLUTION TWO

(a) (i) **Audit procedures to be performed:**

1. **Inventory destroyed – 05/10/2023**
   - Discuss with management to determine the correct value of inventory destroyed in the fire.
   - This being a non-adjusting event, review the accounting for this by inspecting the draft financial statements. Ensure that the event has not been provided for in the financial statements as it relates to the subsequent financial period.
   - If provided for request management to reverse the provision.
   - In view of the materiality of the matter, discuss with management on the need to disclose the event in the financial statements.
2. **Court case – 10/10/2023**
   - Discuss with management and obtain details of the case and management's view about the outcome of the case.
   - Discuss the matter with the legal counsel of the entity and get their view on the likely outcome of the case and the amount that the company will be liable to. If there is no in-house legal counsel seek independent legal opinion on the likely outcome of the case.
   - Discuss the refusal of management to make a provision with those charged with governance and seek their indulgence.
   - Consider the impact of the refusal to make a provision on the financial statements and if considered material, consider the implication for the audit opinion.
   - If the case is concluded before the date of signing the audit report, compare the outcome with any provisions that may have been made and adjust as necessary.
3. **Inventory valuation sold – 02/11/2023**
   - Discuss with management and find out if inventory has been written down as this is an adjusting event.
   - If management has not amended the inventory value in the financial statements, request management to reduce the inventory value by K0.9 million in order to ensure inventory is valued at the net realizable value which is lower than the cost.

(ii) **Impact of refusal to adjust financial statements:**

In view of management's refusal to amend the financial statements in view of the legal case that arose after the period end but before signing the audit report, consideration will be made on the impact the non-adjustment will have on the financial statements.

If the refusal to amend the financial statements is considered material to the financial statements, this will impact on the audit opinion. Depending on the materiality and pervasiveness the audit opinion will be modified using either a qualified opinion or an adverse opinion. If the amount involved is considered immaterial, it will not result in a modified opinion and an unmodified opinion will be appropriate.

(b) (i) **Audit risk with regards to opening balances:**

The audit risk with regards to opening balances is that the figures may be misstated. In the event that opening balances are misstated, they will have an impact on the current year figures which too will be misstated.

(ii) **Audit procedures – Opening balances:**

- Determine whether the prior year closing balances have been correctly brought forward to the current period. This is done by tracing prior year closing figures to opening balances for the current year.
- Review the previous year audit working papers and obtain evidence regarding material opening balances.
- Evaluate whether audit procedures performed in the current period provide evidence relevant to the opening balances.
- Perform specific audit procedures to obtain evidence regarding the opening balances.
- Determine whether the accounting policies related to the opening balances are consistent with appropriate accounting policies currently followed.

(iii) **Evaluation of draft audit report**

The following are the observations made based on the evaluation of the extract if the draft audit report in the question.

Evaluation point:	**Suggested action:**
15. The positioning of the Basis of opinion and the Opinion paragraphs – These have been swapped in the draft report.	The Opinion paragraph should come before the Basis for Opinion paragraph in accordance with ISA 700
16. The prior year audit opinion was modified and the reason for the modification still remains in the current year.	The current year audit opinion should be modified referring to the prior year modification. This will result in the Opinion paragraph being renamed to Qualified opinion and the Basis for Opinion renamed Basis for Qualified Opinion.
17. Incorrect use of Emphasis of matter paragraph – This paragraph is used to explain matters that have been correctly accounted for in the financial statements and adequately disclosed but the auditors wish to make reference to the matters. The fact that the prior year financial statements were audited by different auditors does not qualify as a	The matter related to the prior year financial statements having been audited by different auditors should be included in the Other matter paragraph. This is an example of a matter that should be included in this paragraph according to ISA 706.

matter to be included in this paragraph.	
18. Use of the KAM Paragraph – This paragraph is used to bring matters that auditors faced during the audit to the attention of users of financial statements and these matters are from among matters communicated to those charged with governance during the audit. It is inappropriate to bring the matters relating to material uncertainty in this paragraph.	The information relating to material uncertainty should be included in a paragraph meant for that purpose and titled 'Material Uncertainty Related to Going Concern'.
19. Auditor's responsibilities – The inclusion of the fact that reliance was made on the work of an auditor expert in obtaining evidence in inappropriate. The auditors are responsible for all the evidence obtained and should not disclaim responsibility as stated in this paragraph.	The reliance on the work of the auditor expert should be removed from the auditor responsibilities paragraph. This can only be included if it is a requirement of the country's regulations that this should be done.

SOLUTION THREE

(a) **Responsibility for quality control:**

At the firm level:

The objective of guidance on quality control at the firm level is to obtain assurance that audits conducted by the firm are of a quality that the evidence obtained will be appropriate as a basis of the audit opinion.

ISQC 1 *Quality control* for *firms that perform audits and reviews of financial statements, and other assurance and related services engagements* gives guidance on quality control at the firm level.

This relates to the whole firm as Bruce & Associates Chartered Accountants who offer audit services.

The standard provides that:

- Firms that offer audit services should have policies that deal with quality and the leadership of the firm must lead by example with regards to quality
- This suggests that the firm should appoint a quality champion who will be the focal point with regards to matters that deal with quality in the firm. This should be a person who has authority and understands the provisions of the standard on quality control at the firm level. In the case of Bruce & Associates, this may necessitate that one of the Partners be appointed to be responsible for quality control matters in the whole firm.
- The matters relating to quality should be well documented possibly in a Quality control manual which the foal person will ensure remain relevant at all time and where necessary revised.

At the individual audit level:

ISA 220 *Quality control for an audit of financial statements* gives guidance on quality control at the individual level. This is quality control required at each audit assignment conducted by the audit team.

The objective of quality control at this level is to provide the auditor with reasonable assurance that:

- The audit conducted complies with professional standards ad applicable legal and regulatory requirements and
- That the audit report issued arising from the audit is appropriate in the circumstances.

Responsibility for quality control at the individual audit level lies with the Engagement Partner. The Engagement Partner is responsible for ensuring that all work performed meets the required standards and regulations. The Engagement Partner is also responsible for appointing a Quality Control reviewer where one is required.

(b) (i) **Disclaimers:**

Disclaimers are used in business often where one party to a contractual obligation expressly states in advance that they will not be liable to the other party in the performance of their contractual obligation.

There are instances where auditors are aware that their work will be relied upon by third parties and to restrict their liability in case of litigation they issue disclaimers that they will not be liable when sued by third parties arising from negligence in the performance of their work.

Disclaimer in the draft letter of engagement:

Although auditors may include disclaimers where appropriate, it is generally accepted in conducting the audit, they owe a duty of care to the company being the shareholders as a whole. In this case it is not possible to be limited or excluded.

The clause in the draft engagement letter with Gipsy Engineering disclaiming liability is not valid. The company can succeed in suing the auditor for professional negligence and if meets the criteria damages will be paid to the company.

The disclaimer clause in the draft engagement letter should be removed because it is not valid.

(ii) **Litigation against Bruce & Associates:**

Gipsy Engineering:

The contract for audit services is between the audit firm and Gipsy Engineering. The company in this context means all shareholders as a whole and not individual shareholders.

The company can sue the auditors for professional negligence in the cause of performing their work and the following is the position:

- The courts will automatically hold that the auditors owe a duty of care to the company. The company does not require to prove this matters before the court.
- The company is required to prove that the auditors were negligent in the performance of their work and
- That the company suffered loss as a result of the breach of the duty of care by the auditors.

If the last two criteria are proved, then Gipsy Engineering stands a good chance of being awarded damages for loss suffered. Since the first criteria is automatic, it is much easier for the Gipsy Engineering to succeed in litigation against the auditors.

Invest Bank:

Generally, banks and other lenders are excluded from the decision of the Caparo case whereby it was held that auditors owe no duty of care to third parties. It is common for banks to include a clause in their agreements with borrowers that they will require audited financial statements annually to be submitted to the bank.

By including a clause in the loan agreement, the bank is establishing a duty of care by the auditors who should know that banks rely on the audited accounts to make lending decisions.

In the case at hand Invest Bank included a clause requiring audited financial statements to be lodged by Gipsy Engineering annually. The auditors should have included a disclaimer if they did not want to be liable for professional negligence in case of litigation by the bank.

The following is the position:

- The court will hold that the auditors owe a duty of care to Invest Bank
- The bank should prove that there was a breach of duty by the auditors in the performance of their audit and
- The bank will require to prove that it suffered loss as a result of the breach of duty by the auditors.

Failure to prove any of the last two criteria will result in failure to be awarded damages.

Individual shareholder:
According to the decision of the Caparo case, auditors do not owe a duty of care to third parties who rely on financial statements audited by them. This includes individual shareholders. In suing the auditors, third parties will require to prove that the auditors owed them a duty of care.

The individual shareholder will be advised that he will be treated as a third party and is subject to the decision in the Caparo case and the following will have to be proved to the court:

- That the auditors owed the shareholder a duty of care
- That there was a breach of the duty of care by the auditors and
- That the shareholder suffered loss as a result of the negligence of the auditors.

Failure to prove any one of the three criteria will result in the court not awarding damages to the individual shareholder.

(c) **Action where Gipsy Engineering does not acknowledge its responsibilities:**
Auditors are only required to accept appointment when the pre-conditions for an audit are present. These pre-conditions include management acceptance of its responsibilities for the preparation of the financial statements and for internal controls including committing to give the auditors the information they may require during the course of the audits.

If the management of Gipsy Engineering does not provide the necessary representations acknowledging these responsibilities, the auditors will require to reconsider the integrity of management and may consider not accepting the appointment as auditors.

SOLUTION FOUR

(a) (i) ZICA responsibilities and possible action(s) which could be taken

The Accountants Act 2008 sets out the responsibilities of ZICA and these are:

- Regulation of education and training of accountants
- Provision for the setting of ethical, auditing and accounting standards
- Making and investigation of disclosures in public interest
- Defining professional misconduct and providing for disciplinary procedures for the accountancy profession

(ii) ZICA has a Disciplinary Committee which considers disciplinary matters. The Disciplinary Committee is likely to find that the Audit Senior was in breach of Section 72 (a) and (c) of the Accountants Act.

In considering the matter, the Disciplinary Committee may reason that the issue before them was not whether the member readily admitted the charge and apologized and had shown signs of repentance but whether a person guilty of this sort of fraud can continue to practice without causing irreparable damage to the profession itself. The Committee may take the view that the interest of the profession and that of the public far outweigh the interests of any single member.

They may also consider that the fraud the member is engaged in disclosed. This is a serious character flaw, making his membership to the Institute untenable. The Disciplinary Committee will therefore invoke the provisions of Section 77 (5) (a) of the Accountants Act and accordingly order the cancellation of the member's registration with the Institute.

(b) **Identification and evaluation of main audit risks**

First year audit
This is the Audit Manager's first time to audit Bulangililo Ltd. The detection risk could be high given that the Audit Manager lacks the cumulative audit knowledge and experience. However, this detection risk could be mitigated by the fact that Bulangililo Ltd has been an audit client for over (3) years. The Audit Manager could make use of the previous working papers and ask auditors who have been on this audit in order to reduce the detection risk to acceptable levels.

Technical Education Vocational and Entrepreneurship Training (TEVET) sector
Bulangililo Ltd is one (1) of the key players in the Technical Education Vocational and Entrepreneurship Training (TEVET) sector. This sector is heavily reliant on government support and this means political interference is a reality. Should Bulangililo Ltd fall out of favour with the government of the day, its going concern status could become questionable. Financial statements prepared on the going concern basis will not show a true and fair view.

Number of employees
Bulangililo Ltd has a workforce of over one hundred and fifty (150) employees. There is an inherent risk of non-compliance with employment laws and

regulations. The provisions relating to employee liabilities could be understated and any material contingencies not disclosed.

Revenues
The over two hundred percent (200%) increase could be an indicator of overtrading which could soon have an adverse impact on the company's operations. It is also possible that revenue is overstated and some of it does not meet recognition criteria in IFRS 15 *Revenue from Contracts with Customers.*

Bank loan
Bulangililo Ltd may not be generating enough cash flows and as such may be defaulting on its commitments with the bank. The going concern status could be questionable, which may invalidate financial statements using the going concern assumption.

Lease agreement
There is a risk that the accounting treatment for the leased new motor cars could be wrong. The accounting treatment could be at variance with the guidance given in IFRS 16 *Leases.* There is also a disclosure risk in the financial statements.

SOLUTION FIVE

(a) **Advantages of joint audits**

- Availability of more resources, especially staff and resources
- Improved efficiency
- Improved audit quality
- Reduced engagement risk

(b) **Data analytics implications**

The implications for auditors of data analytics include the following:

- Making it increasingly possible for auditors to examine a complete data set and this may render ***sampling*** irrelevant
- Reconsideration of ***how controls are tested*** given the power of data analytics. The traditional approach of control testing will need modification.
- Improved ***audit quality*** given the many benefits which data analytics can offer.

(c) **Component auditor**

ISA 600 *Special considerations – audits of group financial statements (including the work of component auditors)* requires the group engagement team to obtain an understanding of the component auditor.

This involves an assessment of the following matters:

- Whether the component auditor is independent and understands and will comply with the ethical requirements that are relevant to the group audit
- The component auditor's professional competence
- Whether the group engagement team will be involved in the work of the component auditor to the extent that it is necessary to obtain sufficient appropriate audit evidence
- Whether the component auditor operates in a regulatory environment that actively oversees auditors.

(d) **Principal audit procedures which should be carried out in respect of intra-group profit in inventory**

- Confirm the group's procedures for identification of such inventory and their notification to the parent company who will be responsible for making the required provision
- Obtain and review schedules of intra-group inventory from group companies and confirm that the same categories of inventory have been included as in previous years
- Select a sample of invoices for goods purchased from group companies and check to see that, where necessary, these have been included in the year-end intra-group inventory. Obtain confirmation from other auditors that they have satisfactory completed a similar exercise.
- Check the calculation of the provision for unrealized profit and confirm that this has been arrived at on a consistent basis with that used in earlier years, after

making due allowance for any known changes in profit margins operated by various group companies.

- Check the schedules of intra-group inventory against the various inventory sheets and consider whether the level of intra-group inventory appears to be reasonable in comparison with previous years, ensuring that satisfactory explanations are obtained for any material differences.

END OF SUGGESTED SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA ADVISORY PROFESSIONAL IN ACCOUNTANCY

CA 3.4: ADVANCED TAXATION

THURSDAY 21 MARCH 2024

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 K**	**Excise duty K**	**Customs duty K**	**Excise duty 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 must be attempted.

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

For the purposes of this question assume that today's date is 20 December 2022, and that the earnings ceiling for the purposes of NAPSA contributions is K322,080.

You are employed in a firm of Chartered Accountants. Your supervisor has assigned you to deal with the tax affairs of the following clients:

Mulenga and Chisanga

Mulenga and Chisanga wish to commence a farming business. They are not sure as to whether their business should be run as a partnership or as a limited company. They therefore, wish to obtain taxation advice on the best option to run their business. Regardless of how the business is run, they will commence operations on 1 January 2023 and the turnover is expected to be K5,600,000 for the year ended 31 December 2023, whilst the net profit as per accounts is expected to be K2,200,000. This net profit figure is before deducting payments and expenses relating to Mulenga and Chisanga, NAPSA contributions and NHIMA contributions. All the other expenses that will be incurred and deducted in arriving at the net profit figure are allowable expenses for taxation purposes.

Regardless of whether the business is run as a partnership or as a limited company, the business will acquire a Toyota Mark-X (2,400cc) car at a cost of K220,000 and a Toyota Vanguard car (2,600 cc) car at a cost of K230,000. They will also acquire a Tractor at a cost of K410,000 and a Delivery Truck at a cost of K300,000. The two motor cars will be acquired on 1 April 2023 while the rest of the assets will all be acquired on 31 May 2023. Mulenga will use the Toyota Mark-X car while Chisanga will use a Toyota Vanguard car for both business and private purposes. The business use of the car by Mulenga is expected to be 70%, whilst that of Chisanga is expected to be 60% throughout the year ended 31 December 2023. All of the assets will be owned by the business.

If the business is run as a partnership, Mulenga and Chisanga will personally manage their business. They will be entitled to annual salaries of K410,000 and K420,000 for Mulenga and Chisanga respectively. They will also draw annual fuel allowance of 5% of their salaries. Any balance of profits and losses will be shared between Mulenga and Chisanga in the ratio of 60%: 40% respectively. No NAPSA nor NHIMA contributions will be made under this option.

If the business is run a limited company, Mulenga and Chisanga will incorporate their business under the name MuleChi Limited, and the company will have issued share capital of 1 million equity shares of K1 each. Mulenga will hold 60% of the issued equity shares while Chisanga will hold 40% of the issued equity shares. Mulenga and Chisanga will personally manage the business as full-time working directors, and draw annual basic salaries of K410,000 and K420,000 respectively. They will additionally draw 5% of each individual's basic annual salaries as fuel allowance. Mulenga and Chisanga will contribute 5% of their earnings as employees' NAPSA contributions and MuleChi Limited will contribute 5% of the earnings on behalf of Mulenga and Chisanga as employer's NAPSA contributions. Mulenga and Chisanga will also contribute 1% of their basic salary as employees' National Health Insurance Management Authority (NHIMA) contributions and MuleChi Limited will also be required to contribute 1% of their basic salary as employer's NHIMA contributions. MuleChi Limited will also be required to contribute skills development levy at a rate of 0.5% of the emoluments payable to Mulenga and Chisanga. Mulenga and Chisanga have no intentions of drawing any dividends.

Josephine Khan

Josephine was born in Zambia and has lived in Zambia since her date of birth. She had been employed at QFM Plc, a Zambian resident company, since 1 January, 2020. Her annual salary for the year ended 31 December 2023 was K481,200. She was accommodated in a company owned house throughout the year ended 31 December 2023 for which she paid no rent. If the house was let out to any other person, the company would have charged gross rentals of K12,800 per month. Ancillary expenses relating to the house averaged K2,600 per month all of which she paid.

On 1 January 2020, when Josephine joined QFM Plc, the company offered her 5,000 share options to be exercised on 1 January 2023 at an exercise price of K10 per share. The market value per share at the date of the grant of the options was K10 per share. On 1 January 2023 she exercised the options and bought the shares at the exercise price of K10 per share. The market price of each share on that date was K22 per share. The employees' share option scheme, under which Josephine was offered share options, is not approved for tax purposes by the Commissioner General.

Josephine has made investments in a foreign country from which she received interest on bonds of $6,600 and rental income of $7,500. Interest on bonds is net of withholding tax deducted in that country at the rate of 35% while rental income is net of withholding tax deducted in that country at the rate of 25%.

The only other income received by Josephine during the tax year 2023 was dividends from a Zambian company listed on the LuSE amounting to K43,350. The amount of dividends is the actual cash received by Josephine. She paid NAPSA contributions amounting to K16,104, NHIMA at a rate of 1% of her basic salary and income tax under the pay as you earn amounting to K106,179.

There is no double taxation agreement between Zambia and the country in which Josephine holds her investments. Any double taxation relief is given unilaterally in Zambia in form of a tax credit. The exchange rate during the year 2023 averaged K16.20 per $1 and must be used where appropriate.

Josephine wishes to know the taxation implications on her arising from the grant and exercise of share options offered to her by QFM Plc.

Required:

(a) In relation to Mulenga and Chisanga:

(i) Compute the amount of income tax payable by Mulenga and Chisanga for the tax year 2023 if the business is run as a partnership.

(10 marks)

(ii) Compute the amount of Income Tax, NAPSA contributions and NHIMA Contributions payable by Mulenga and Chisanga for the tax year 2023 if the business is run as a limited company.

(7 marks)

(iii) Compute the amount of Income Tax, NAPSA contributions and NHIMA Contributions payable by MuleChi Limited for the tax year 2023 if the business is run as a limited company.

(9½ marks)

(b) Advise Mulenga and Chisanga as to whether they should run their business as a partnership or as a limited company. Your answer should be supported by a computation of income net of tax and other deductions for the year ended 31 December 2023.

(6 marks)

(c) In relation to Josephine Khan:

(i) Explain, to Josephine, the taxation implications arising from the exercise of share options. Include relevant computations where applicable.

(2 marks)

(ii) Compute the amount of income tax payable by Josephine for the tax year 2023.

(5½ marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any THREE (3) questions.

QUESTION TWO

BSZ Bank plc is a Zambian resident financial institution which is listed on the Lusaka Securities Exchange. For the year ended 31 December 2023, BSZ Bank plc generated a profit before tax of K461,987,000. This profit figure was arrived at after taking into account the following items:

(1) Interest expenses comprising interest arising on current accounts of K161,200,100, interest on customer's deposit and savings accounts amounting to K455,200,000, interest on loans from other banks of K322,400,500 and interest on subordinate debt of K265,300,300.

(2) Fee and commission income
This included electronic banking fees of K60,700,200, account transaction fees of K94,600,500, foreign currency service fees of K26,744,000, commission on encashment of salary cheques amounting to K10,600,100, card-based commissions of K18,500,100 and fees on over-the counter withdrawals of K8,400,600.

(3) Non-interest income
This comprised fair value gains on investment property amounting K1,837,000, rental income of K36,600,000, foreign exchange gains arising from translating the financial statements of a foreign based branch of the bank amounting to K29,500,000, realised trading gains of K18,600,000, unrealised trading loses K6,700,000, gross dividends from LuSE listed companies of K1,380,000 and consultancy fees amounting to K7,650,000 (net).

(4) Credit impairment charges and recoveries
These comprised irrecoverable (credit impaired) loans and advances of K24,600,000, recovery of loans and advances previously written off amounting to K10,166,200 and impairment of equity financial investments of K1,150,000.

(5) Non- interest expenses
These included the following:

	K
Employee's salaries and allowances	301,263,000
Contributions to defined contributions plans	15,063,000
Entertaining directors	650,000
Customer entertainment and refreshments	1,230,000
Depreciation charges	18,900,000
Bank of Zambia supervisory fees	635,000
Marketing and advertising	1,637,000

Rental expenses for bank and ATM premises	1,150,000
Expenditure on security expenses	3,600,500
	344,128,500

Additional information

(1) During the year ended 31 December 2023, the company installed new CCTV security equipment for its branch network at a cost of K18,500,000 and new Automated Teller Machines at a cost of K10,600,000.

(2) Capital allowances on other assets qualifying for capital allowances in the charge year 2023, were determined to be K16,725,000.

Future plans

The Directors are planning to expand the branch network and intend to construct new buildings for its branches throughout the country. They can finance this programme by either issuing more ordinary shares through a rights issue or by issuing bonds. The directors are interested in knowing what the taxation implications will be in each case, both from the point of view of the company and the investors.

Required:

(a) Calculate the company income tax payable by BSZ Bank Plc for the tax year 2023. (11 marks)

(b) Advise the Directors of the bank of raising finance using each of the following methods, both from the point view of the company as well as its investors:

(i) Issue of shares. (5 marks)

(ii) Issue of bonds. (4 marks)

[Total: 20 Marks]

QUESTION THREE

Thabo Mining Plc is a Zambian resident company engaged in the mining of copper. It is an 80% owned subsidiary of a multinational mining company called Global Mining International. The company maintains its accounts in US dollars (US$). The following extract of the statement of profit or loss has been extracted from the financial statements of Thabo Mining Plc for the year ended 31 December 2023:

	Note	**K'000**
Gross profit		224,950
Operating expenses	(1)	(108,520)
Finance costs		(60,000)
Investment income	(2)	4,100
Profit before taxation		60,530

The following additional information is available:

Note 1: Operating expenses

These were arrived at after charging depreciation of K20 million, amortization of K15 million, drilling expenses of K18 million, directors' salaries of K97 million, construction of community schools in four (4) council townships at a total cost of K31 million, expenditure on construction of a first-level hospital in a mining township of K4 million, fines for breaches of environmental regulations of K11 million and crediting a profit on disposal of old mining equipment of K1.094 million. The old mining equipment was sold for disposal proceeds of K3 million and had an income tax value of K1 million at 1 January 2023. It originally cost K2.5 million and was acquired from Zambian suppliers and paid for in Zambian Kwacha.

The remainder of the operating expenses are revenue expenditure and therefore tax allowable.

Note 2: Investment income

This comprise dividends from a company listed on LuSE of K3.35 million and interest on Government bonds of K750,000. These were the gross amounts in each case and the correct amount of withholding tax had been deducted at source.

Note 3: 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 copper in the tax year 2023:

Mineral	***Quantity***	***Average LME cash price for the year***
Copper	10,000 tonnes	US$6,900

The relevant average Zambian Kwacha per US dollar rate approved by the Commissioner General was K20.00/US$1, throughout the year.

Note 4: Implements plant and machinery

On 1 January 2023, the company held imported mining equipment which was acquired and paid for in dollars in the tax year 2022. The cost of the equipment translated into Zambian Kwacha on the date of acquisition was K80 million.

During the year ended 31 December 2023, the company purchased commercial vehicles from local Zambian suppliers which were paid for in Zambian kwacha at a cost of K65 million

Note 5: Indexation formula

The indexation formula for capital allowances and mining losses, where applicable, is given below:

$$1+\frac{(R2-R1)}{R1}$$

The following Zambian Kwacha per US dollar (K/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	K18.50
Y/e 31 December 2023	K20.00

Required:
Compute Thabo Mining Plc's company income tax payable for the tax year 2023.
(20 marks)

[Total: 20 Marks]

QUESTION FOUR

You are employed in a tax practice. You are dealing with the tax affairs of Cezel Ltd, a private limited company engaged in manufacturing. The company is registered for Withholding Tax (WHT), Pay As You Earn (PAYE) and Value Added Tax (VAT). The company was recently subjected to a tax audit by the Zambia Revenue Authority.

The tax audit revealed the following three issues:

Issue 1: Withholding Tax on dividends
The directors of Cezel Ltd declared gross dividends of K5,500,000 on 5 January 2023. The dividends relate to the previous financial year ended, 31 December 2022. The dividends were subsequently paid to the company's shareholders on 31 January 2023. However, withholding tax on the dividends was only remitted to the ZRA on 31 March 2023, when the related return was also filed in.

Issue 2: Pay As You Earn
The company has been compliant with payments of PAYE and submission of PAYE returns, except for the month of April 2023. The PAYE deducted from the emoluments of the company's employees for the month of April 2023 amounting to K1,580,000 was remitted to the ZRA on 31 July 2023 and the related PAYE return for that month was also filed in on this date.

Issue 3: Value Added Tax
The company has been compliant with all VAT payments and VAT return submissions except for the VAT payment and return submission for the month of July 2023. The VAT due for the month of July 2023 amounting to K365,000 was remitted to the ZRA on 30 September 2023, when the related VAT return was also filed in.

You should assume that the Bank of Zambia discount rate is 9.5% per annum, where applicable.

Required:

(a) Explain any three (3) audit objectives that a quality tax audit of the affairs of Cezel Ltd should achieve.

(3 marks)

(b) Explain any three (3) audit procedures the tax auditor should carry out to uncover any unreported income when performing a tax audit on the affairs of Cezel Ltd.

(3 marks)

(c) Advise the directors of Cezel Ltd of the company's exposure to penalties and interest on overdue taxes and on late submission of tax returns in respect of the above issues relating to Withholding Tax on dividends, Pay As You Earn and Value Added Tax.

(14 marks)

[Total: 20 Marks]

QUESTION FIVE

You are employed in a firm of Chartered Accountants. Your supervisor has just assigned you to deal with the tax affairs of Penguin Ltd. The company is owned by five Zambian resident individuals who own 20% of the ordinary share capital of the company each. The individuals run the company as full time working directors. You have personally known the directors of the company for many years, and you were influential in securing this client for your firm.

The Directors have requested that the fee for taxation services your firm will provide should be set as a reasonable percentage of income tax savings Penguin Ltd will make from the tax planning advise your firm shall provide.

The Directors are planning to introduce an executive remuneration scheme under which each of the directors will draw interest free loans amounting to K400,000, which will be repaid at some time in the future.

The company is also in the process of introducing an employee share option scheme. The directors wish to know the procedure the company should follow to have the share option scheme approved for tax purposes.

Your initial work on this assignment has revealed the following matters:

(1) The company omitted a sales invoice of K850,000 from the computation of taxable income when preparing the income tax return for the previous tax year, 2022. The invoice represents sales made by the company to a foreign customer. The directors have indicated to you that there is no need to make amendments to the tax return already submitted to the ZRA as they have not received any query in relation to the return.

(2) The company engaged a Chinese company, CEH Corporation, to install ultra-modern elevators at its newly constructed central administration buildings during the year. Installation works have just been completed. CEH Corporation issued a tax invoice on its own behalf as it does not have a tax paying agent in Zambia. The tax invoice issued by

CEH Corporation was denominated in US dollars (US$) and had a value of US$500,000, which has been paid in full by Penguin Ltd at an exchange rate of K19.50 per US$1.

Required:

(a) Evaluate the ethical and professional issues you face in relation to your assignment, recommending any appropriate course(s) of action that should be taken in response to each issue.

(7 marks)

(b) Advise the directors of the tax implications that will arise from drawing interest-free loans of K400,000 each under the proposed executive incentive scheme.

(3 marks)

(c) Advise the directors of the procedure they must follow to have the share option scheme approved for tax purposes.

(4 marks)

(d) Advise the directors of Penguin Ltd, using appropriate supporting computations, of the tax implications arising from the installation of the elevators by the Chinese company.

(6 marks)

[Total: 20 Marks]

END OF PAPER

CA 3.4: TAXATION SUGGESTED SOLUTIONS

SOLUTION ONE

(a) Mulenga and Chisanga

(i) COMPUTATION OF FINAL TAX ADJUSTED PARTNERSHIP PROFIT AND INCOME TAX PAYABLE BY MULENGA AND CHISANGA

		K
Net profit as per accounts		2,200,000
Less capital allowances		
Toyota Mark- X		
(K220,000 x 20% x 70%	30,800	
Toyota Vanguard		
(K230,000 x 20% x 60%)	27,600	
Tractor (K410,000 x 100%)	410,000	
Delivery truck (K300,000 x 25%)	75,000	
		(543,400)
Taxable profit		1,656,600

	Total	Mulenga	Chisanga
Salaries	830,000	410,000	420,000
Fuel allowance	41,500	20,500	21,000
Balance 6:4	785,100	471,060	314,040
Total	1,656,600	901,560	755,040
Income Tax			
On First K57,600 @0%		0	0
On Excess (K901,560 – K57,600) x 10%		84,396	
Excess (K755,040 – K57,600) @10%			69,744
Income tax payable		84,396	69,744

(ii) PERSONAL INCOME TAX COMPUTATIONS FOR:

	Mulenga	Chisanga
	K	K
Salaries	410,000	420,000
Fuel allowance	20,500	21,000
Taxable income	430,500	441,000
Income Tax		
On First K106,800	12,360	12,360
On Excess (K430,500 – K106,800) x 37.5%	121,388	
On Excess (K441,000 – K106,800) x 37.5%		125,325
Income tax payable	133,748	137,685
Employees NAPSA Contributions (maximum)		
(K322,080 x 5%)	16,102	16,102

Employee's NHIMA Contributions (K410,000/K420,000 x 1%)	4,100	4,200

(iii) COMPUTATATION OF FINAL TAXABLE PROFITS AND COMPANY INCOME TAX PAYABLE BY MULECHI LIMITED

	K	K
Net profit as per accounts		2,200,000
Add personal-to-holder car benefit:		
Mulenga's car		36,000
Chisanga's car		36,000
		2,272,000
Less:		
Directors' emoluments		
(K430,500 + K441,000)	871,500	
Employer's NAPSA (K322,080 x 5% x 2)	32,208	
Employer's NHIMA		
(K410,000 + K420,000) x 1%	8,300	
Skills development levy (K871,500 x 0.5%)	4,358	
Capital allowances		
Toyota Mark-X car (K220,000 x 20%)	44,000	
Toyota Vanguard car (K230,000 x 20%)	46,000	
Tractor (K410,000 x 100%)	410,000	
Delivery trucks (K300,000 x 25%)	75,000	
		(1,491,366)
Taxable profit		780,634
Income tax (K780,634 x 10%)		78,063

(b) COMPUTATION OF NET INCOME FOR THE TAX YEAR 2023

	Partnership	Limited company
	K	K
Business profit	2,200,000	2,200,000
Less:		
Income tax:		
Mulenga	(84,396)	(133,748)
Chisanga	(69,744)	(137,685)
MuleChi Limited		(78,063)
Employees' NAPSA		(32,208)
Employers' NAPSA		(32,208)
Employees' NHIMA		(8,300)
Employer's NHIMA		(8,300)
Skills development levy		(4,358)
Net income	2,045,860	1,765,130

It will be beneficial to Mulenga and Chisanga to run the business as a partnership rather than as a limited company. This is so because the net income under partnership is K280,730 (K2,045,860 – K1,765,130) higher than the net income under a limited company.

(c) Josephine Khan

(i) The share option scheme under which Josephine was offered the options is not approved for tax purposes, therefore on the exercise of share options, the exercise price is compared with the market price of the shares. Where the market price is higher than the exercise price, the difference is taxable income on the employee.

In this case, the market price at the date of exercise was on K22 per share while the exercise price was K10 per share. This means that the difference between K22 and K10 per share will be taxable income.

The taxable income arising from exercise of share options will be: (K22 – K10) x 5,000 shares = K60,000

(ii) JOSEPHINE

PERSONAL INCOME TAX COMPUTATION FOR THE TAX YEAR 2023

Zambian income	K
Salary	481,200
Share option scheme (b) (ii)	60,000
	541,200
Foreign income	
Interest on bonds	
($6,600 x K16.20 x 100/65)	164,492
Taxable income	705,692
Income Tax	
On First K106,800	12,360
On Excess (K705,692 – K106,800) @37.5%	224,585
Income tax liability	236,945
Less:	
PAYE	(106,179)
Double taxation relief	
Interest on bonds	(55,230)
Income tax payable	75,536

Workings

Double taxation relief

Interest on bonds

Foreign tax paid: K164,492 x 35% = K57,572

Zambian equivalent tax

$\frac{K164,492}{K705,692} \times K236,945$

= K55,230

The double taxation relief is K55,230

SOLUTION TWO

(a) COMPUTATION OF TAXABLE INCOME AND COMPANY INCOME TAX PAYABLE

	K'000	K'000
Profit before income tax		461,987
Add		
Unrealised trading losses	6,700	
Impaired equity investments	1,150	
Customer entertainment and refreshments	1,230	
Depreciation	18,900	
		27,980
		489,967
Less		
Fair value gains on investment property	1,837	
Forex gain on translating financial statements	29,500	
Rental income	36,600	
Dividends from listed companies	1,380	
Consultancy fees	7,650	
Capital allowances	24,000	
		(100,967)
Adjusted business profit		389,000
Add:		
Consultancy fees (K7,650,000 x 100/85)		9,000
Taxable income		398,000
Company income tax (K398,000 x 30%)		119,400
Less tax already paid		
WHT on Management fees (K9,000,000 x 15%)		(1,350)
Income Tax payable		118,050

(b) (i,a)**Tax implications of equity for the company**

(1) Fees incurred in issuing ordinary share capital are not allowable for tax purposes.
(2) Dividends paid are not allowable for tax purposes.
(3) The cost of making distributions to shareholders is not allowable for tax purposes.

(i,b)**Tax implications of equity for investors**

(1) The dividends receivable by the investors are subject to withholding tax at the rate of 0%, for both individuals and companies as the company, BSZ Bank, is listed on the LuSE.
(2) Property transfer tax will not arise on any transfer of shares by the investors since the company, BSZ Bank, is listed on the Lusaka Securities Exchange.

(ii,a)**Tax implications of debt for the company**

(1) Issue costs of bonds are allowable when computing taxable business profits.
(2) Interest payable on the bond will be deductible, restricted to 30% of the tax earnings before interest, tax, depreciation and amortisation in arriving at taxable business profits.

(ii,b)**Tax implications of debt for investors**

(1) Interest received will be subject to a withholding tax which is a final tax for individuals and not final for companies
(2) There will be No Property Transfer Tax implications on the transfer of bonds between investors.

SOLUTION THREE

COMPUTATION OF COMPANY INCOME TAX PAYABLE FOR THE TAX YEAR 2023

	K'000	K'000
Profit before taxation		60,350
Add:		
Depreciation	20,000	
Amortization	15,000	
Community schools	31000	
First-level hospital	4,000	
Fines	11,000	
		81,000
		141,350
Less:		
Profit on disposal of mining equipment	1,094	
Dividends from a company listed on LuSE	3,350	
Interest on Government bonds	750	
Mineral royalty (W1)	77,309	
Capital allowances (W2)	32,847	
		(115,350)
Taxable mining profit before interest adjustment		26,000
Disallowed finance costs (W4)		23,475
Taxable mining profit		49,475
Add:		
Interest on Government bonds		750
Final taxable income		50,225
Computation of income tax payable		
Mining (K49,475,000 X 30%)		14,843
Non – mining (K750,000 x 30%)		225
		15,068
Less: tax already paid		
WHT on Interest on Government bonds		
(K750,000 X 15%)		(113)
Final company income tax payable		14,955

Workings

(1) COMPUTATION OF MENERAL ROYALTY

	K
Copper	
On first \$3,999	
(\$3,999 x 10,000 tonnes x K20.00) x 4%	31,992,000
On next \$1,000	
(\$1,000 x 10,000 tonnes x K20.00) x 6.5%	13,000,000
On excess \$1,901	
(\$1,901 x 10,000 tonnes x K20.00) x 8.5%	32,317,000
	77,309,000

(2) CAPITAL ALLOWANCES FOR TAX YEAR 2023

	Value K'000	Capital allowances K'000
Old mining equipment		
ITV b/d	1,000	
Disposal (restricted to cost)	(2,500)	
Balancing charge	(1,500)	(1,500)
First-level hospital		
Wear & tear allowance K4,000,000 X 20%		800
New mining equipment		
Wear & tear allowance		
[1 + (20.00 – 18.50)/18.50] X 20% X K80,000,000		17,297
Commercial Motor Vehicles		
Wear & tear allowance K65 million X 25%		16,250
Maximum capital allowances for 2023		32,847

(1) COMPUTATION OF TAX EBITDA AND DISALLOWED INTEREST

	K'000
Taxable profit	26,000
GRZ bond interest	750
Taxable income	26,750
Finance cost	60,000
Depreciation	20,000
Amortization	15,000
Tax EBITDA	121,750
Finance cost	60,000
allowable interest (30% x K121,750)	(36,525)
Disallowed interest	23,475

SOLUTION FOUR

(a) A quality tax audit of the affairs of Cezel Ltd should be able to achieve the following tax audit objectives:

(1) provide assurance that Cezel Ltd's accounts and records will be reviewed in sufficient depth to reach a supportable conclusion regarding all items of a material tax consequences.

(2) ensure that appropriate income tests will be performed where necessary to ensure the proper and complete reporting of income by Cezel Ltd regardless of the source.

(3) provide assurance that Cezel Ltd's responsibilities regarding the filing of all tax returns have been ascertained.

(4) Ensure that the conclusions reached are by the tax auditor on the audit of Cezel Insurance are expressed and documented in sufficient details to enable the reader to comprehend the process whereby such a conclusion was reached.

(b) Procedures performed to uncover hidden income

In order to uncover hidden income, the auditor will mainly consider third parties who have dealings with Cezel Ltd. Specifically; the auditor can perform the following procedures:

(1) Request Cezel Ltd to provide a statement of affairs setting out all of their assets and liabilities on a specified date to help assess the financial position and financial performance of the company.

(2) Request third parties, such as suppliers and customers, to deliver or to make available for inspection any books and records or information and explanations in relation to Cezel Ltd that may be relevant to the company's liability to tax.

(3) Request financial institutions to make available details of accounts and financial transactions, of Cezel Ltd, which may be material in determining the company's liability.

(4) Comparison of the level of income of Cezel Ltd with that generated by similar business of similar size, similar industry or nature for reasonableness.

(c) **WHT on dividends**

The due date for both the payment of WHT and submission of the WHT return is the 14^{th} day following the end of the month in which the deduction of the tax was made. Therefore, the WHT was paid late by 1 month and 14 days late (i.e., 45 days) as it was paid on 31 March 2023, when it should have been paid on 14 February 2023.

(1) The penalty for the late payment of the WHT will amount to:

Amount of WHT paid:

K5,500,000 x 15% = K825,000

Amount of penalty

5% x K825,000 x 2 = K82,500

(2) Interest will be chargeable at the BOZ discount rate plus 2% and will amount to:

9.5%+2% = 11.5% x K825,000 x 45/365

= K11,697

(Or 11.5% x K825,000 x 2/12= K15,812)

(3) The penalty for late submission of the WHT return will be 2,000 penalty units (K600) per month or part thereof as Cezel Ltd is a company and will amount to:

2,000 x 2 = 4000 penalty units (or K600 x 2 = K1,200)

Pay as You Earn

The PAYE was paid late by 2 months and 21 days late as the due date for both the payment of PAYE and submission of the PAYE return is the 10th day following the end of the month in which the deduction of the tax was made. Therefore, the return submission and payment should have been done by 10 May 2023.

(1) The penalty for late payment of the PAYE will amount to:

5% x K1,580,000 x 3 = K237,000

(2) Interest will be chargeable at the BOZ discount rate plus 2% and will amount to:

= 11.50% x K1,580,000 x 82/365
= K40,820

(Or 11.50% x K1,580,000 x 3/12 = K45,425)

(3) The penalty for late submission of the PAYE return will be 2,000 penalty units (K600) per month or part thereof as Cezel Ltd is a company and will amount to:

2,000 x 3 = 6000 penalty units (or K600 x 3 = K1,800)

Value Added Tax

The VAT was paid late by 1 month and 13 days (i.e., 43 days) (as the due date for both the payment of VAT and submission of the VAT return is the 18th day following the end of the month VAT to which it relates and therefore the return submission and payment should be done by 18 August 2023.

(1) The penalty for late payment of the VAT is 0.5% of the VAT due per day and will amount to:

Amount of penalty

0.5% x K365,000 x 43 days = K78,475

(2) Additionally, interest will be chargeable at the BOZ discount rate plus 2% and will amount to:

= 11.5% x K365,000 x 43/365

= K4,945

(Or 11.5% x K365,000 x 43/365=K6,996)

(3) The penalty for late submission of the VAT return will be K78,475 being the higher of:

(i) 1,000 penalty units (K300.00) per day which is:

K300 x 43 days = K12,900 (1,000 x 43=43,000 penalty units)

(ii) And; 0.5% of the tax due per day amounting to:

0.5% x K365,000 x 43 days = K78,475

SOLUTION FIVE

(a) Professional and ethical issues:

(1) Familiarity Threat

A familiarity threat arises as you have personally known the directors of the client for many years. You will become too sympathetic to the interest of the client or too accepting of their work, which will impair your objectivity on tax matters. You may not want to highlight any contentious tax issues or inappropriate tax treatment of transactions which may result in an increase of the tax liability of the client, for fear of damaging your relationship with the directors.

Appropriate Action
The appropriate safeguard is to have another person from Your firm to take over the assignment.

Alternatively, any tax work performed can be reviewed by an independent professional.

(2) Self-interest Threat from Contingent Tax fees

Basing the tax fees on the assignment as a reasonable percentage of income tax savings Penguin Ltd will make from the tax planning advise your firm shall provide amounts to charging a contingent fee. Contingent fees are fees calculated on a predetermined basis relating to the outcome or result of a transaction or the result of the work performed.

It would be inappropriate to accept a contingent fee from the client in these circumstances, as it will create a significant self-interest threat which will impair the objectivity firm in reporting the true tax position of the entity.

Appropriate Action
Your firm should not accept the proposed fee arrangement but should rather base the fees on the amount of work the firm shall perform and the time that will be spent on the assignment.

(3) Omitted income

You should explain to the client that not disclosing the sales and failure to submit an amended return will amount to tax fraud, which is tax evasion and is illegal.

Appropriate Action
If the directors insist on not making the necessary amendments and reporting the income, your firm may have a legal duty to disclose the issue to the proper authorities (ZRA), which will override the fundamental principle of confidentiality you owe to the client.

It will be important for you to inform your supervisor and your firm may have to seek legal advice before making the final decision.

(b) Interest free loans

The company will be deemed to have made loans to effective shareholders of the company as each director hold more than 5% of the ordinary share capital of the company.

The company will therefore be required to pay an amount equal to the difference between the amount of the grossed-up equivalent of the loan (i.e. the loan grossed up at the highest rate of income tax for an individual) and the actual amount of the loan as tax assessed on the company.

The amount of tax arising on the loans in respect of each director will be:

K400,000 x 37.5/62.5 =K240,000

(c) Procedure for approval of share option scheme

(1) The procedure for the approval of a share option scheme starts with the company preparing the constitution and scheme rules, whilst referring to the conditions for approval.

(2) Once these have been prepared, the company must make an application for approval to the Commissioner General. The application must be in writing and must be accompanied by copies of the constitution and scheme rules.

(3) Upon receiving the application, the Commissioner General reviews the constitution and scheme rules to determine whether all the conditions for approval have been satisfied.

(4) The Commissioner General would then grant the approval and communicate in writing that the scheme has been approved, stating the tax year from which the approval applies for the first time. Where the Commissioner General does not grant the approval, he still communicates to the applicant in writing and the company may later re-apply.

(d) Installation of elevators

The following are the taxation implications of the installation services:

(1) Reverse VAT will apply t this transaction because the installation service provided by the foreign company, CEH Corporation, qualifies to be classified as an imported service and CEH Corporation did not appoint an agent to act on its behalf for VAT purposes.

(2) Penguin Ltd will have to charge itself reverse VAT of K1,560,000 ($500,000 x K19.50 x 16%). This will be included as part of the company’s output VAT.

(3) Reverse charge (VAT) is not recoverable as input VAT. Therefore, the reverse VAT will form part of the cost of the equipment.

(4) Penguin Ltd will recognize total capital expenditure of K11,310,000. This is made up of cost net of VAT of K9,750,000 ($500,000 x K19.50) and VAT of K1,560,000 (K9,750,000 x 16%).

(5) Penguin Plc will claim capital allowance of K2,827,500 (K11,310,000 x 25%).

(6) Further, Penguin Ltd will have to deduct withholding tax of K1,950,000 (K9,750,000 x 20%) and remit it to the Zambia Revenue Authority.

END OF SUGGESTED SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA ADVISORY PROFESSIONAL IN ACCOUNTANCY

CA3.5: ADVANCED MANAGEMENT ACCOUNTING

TUESDAY 19 MARCH 2024

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) Chipampila Industries Ltd (CI Ltd) is a highly automated company based in Lusaka. It has three (3) divisions namely Kanyama, Matero and Ibex. A target return on investment (ROI) is set at head office level and the company appraises divisional managers' performance based on this target ROI.

CI Ltd exports speed boats from Zambia to neighbouring countries in the SADC region. The company recently set up a research facility to develop gear boxes with double horsepower compared to the current product. The new gear boxes will have a device that will regulate carbon emissions and this has attracted a great deal of interest from the environmental lobby groups since it offers the prospect of environmentally friendly engines. The market for these engines is in the development stage and there have been relatively few sales so far for this new technology. CI Ltd hopes that the current pressure from environmental groups and government encouraging motorists to switch to environmentally friendly engines will lead to large sales volume.

The research and development (R&D) director suggested that a research facility be set abroad, to work in partnership with the facility in Zambia and capitalise on the benefits that a foreign base could offer. If this venture were successful, CI Ltd would open a manufacturing facility next to the proposed overseas R&D base. The Board of Directors recognises that different countries will offer different potential advantages and disadvantages. It has been decided that the ideal characteristics and factors for the chosen country should be determined so that potential choices can be screened effectively before a final decision is made. The board has asked you to consider these factors and explain what they are. The directors would like to measure how well potential countries perform in respect of each factor and would like you to propose a key performance indicator in respect of each one of them.

The company intends to decentralise and give autonomy to the divisions. The finance director believes that this move will enhance the performance management in the company. However, most board members would like to know the value addition of such a move.

Required:

(i) Discuss four (4) characteristics or factors that should be present in the chosen country so that potential choices can be screened before final decisions are made. Suggest with justification one key performance indicator for each factor that could be used to measure it.

(12 marks)

(ii) Discuss the merits of the decision to decentralise planning and control in CI Ltd.

(8 marks)

(b) Kanyama Division (KD) buys and sells two component parts, A70 and B100. It supplies A70 to the Matero Division (MD) to be used in the manufacture of the speed boat engines and supplies B100 to the Ibex Division (ID) to be used in the manufacture of gearboxes for boats. When transfers are made in-house, CI Ltd's policy is to transfer the components at full cost plus 10%. The cost per unit for components A70 and B100 are as follows:

Component	A70	B100
	K/unit	K/unit
Variable cost	2,200	1,600
Allocated fixed costs	2,800	1,400

MD manager feels that the price for A70 is very high and has told KD that it is thinking of locating a cheaper external supplier. The management of KD is concerned with losing MD business. It has noted that its prices are higher and, therefore, has asked its Management Accountant to review the prices. However, KD's Management Accountant is uncomfortable making any changes because he knows that any other allocation method would violate corporate guidelines on overhead cost allocation.

There is also a suggestion that CI Ltd needs to restructure its divisions. KD will become a cost centre and the other two divisions, MD and ID, will remain as profit centres.

Required:

(i) Calculate the transfer prices for A70 and B100.

(4 marks)

(ii) Calculate the fixed cost per unit that would have to be allocated to A70 to enable KD to transfer it at K4,730 per unit.

(2 marks)

(iii) Evaluate whether the fear of KD's Management Accountant boarders on ethical issues.

(8 marks)

(iv) Evaluate the impact of the change on proposed divisional structure.

(6 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any THREE (3) questions.

QUESTION TWO

Blu Rad is an international hotel group with a very strong brand image. It has recently taken over Training, Restaurants and Research Institute (TRRI), an educational institution based in Zambia that provides training needs as required. Blu Rad has a very good reputation for improving the profitability of its business units and prides itself on its customer focus. The General Manager of Blu Rad was recently quoted as saying 'Our success is built on happy customers: we give them what they want'. Blu Rad continually conducts market and customer research and uses the results of these researches to inform both its operational and longer term strategies. Blu Rad has successfully opened two (2) hotels in Zambia, one in Lusaka and another one in Livingstone.

TRRI is well-established and has always traded profitably with key customers including Government institutions and large mining companies. It offers a variety of courses. TRRI has always concentrated on the quality of its courses and learning materials. TRRI has never seen the need for market and customer research as it has always achieved its sales targets. Its students consistently achieve passes at par with the national average and many employers have preferred to employ graduates from TRRI. TRRI has always had the largest market share in its sector even though new entrants continually enter the market. TRRI has a good reputation and has not felt the need to invest significantly in marketing activities. In recent years, TRRI has experienced an increasing rate of employee turnover.

Blu Rad has developed a sophisticated set of Critical Success Factors(CSF's) which are integrated into its real-time information system. Its rationale for the take-over of TRRI was the belief that it could export its customer focus and control system, based on Critical Success Factors of TRRI. Blu Rad believed that this would transform TRRI's performance and increase the wealth of its shareholders.

Required:

(a) Identify and explain four (4) Critical Success Factors which would be appropriate to use by TRRI.

(8 marks)

(b) Recommend, with reasons, two (2) Key Performance Indicators to support each of the four Critical Success Factors you have identified in (a) above.

(12 marks)

[Total: 20 Marks]

QUESTION THREE

Tango Transport Ltd (TT Ltd) was established in 2010. It operates a taxi and parcel delivery service for business, government and domestic customers. The company uses an internet application which connects the customers to the drivers. TT Ltd has engaged two (2) types of drivers, that is the pensionable and non-pensionable. The pensionable drivers have a monthly salary whereas the non-pensionable ones receive commission based remuneration. Non-pensionable drivers subscribe to the company by paying membership fees for using the internet application. TT Ltd has also a call centre where customers register their complaints. The company is a reputable one due to service reliability, quality of service and customer satisfaction. Drivers use their vehicles which are registered with the company. TT Ltd earns a commission from fares charged to the customers and has been growing its customer base by expanding from Lusaka to the Copperbelt province.

TT Ltd manages a management accounting system that measures and reports the costs of delivering different types and weights of packages between any two locations, and the profitability of its services.

TT Ltd's board is concerned about the lack of information on the company's operations and performance. The success of the company has been built on a reputation for reliable service although there is no firm evidence to support this opinion.

TT Ltd's main competitors have introduced cost-saving measures, whereby a single vehicle is used for deliveries in a particular route and TT Ltd's directors are convinced that this arrangement may provide short-term benefits through cost reduction, but that the quality of the service to customers, such as the time of delivery, is compromised.
The management accountant of TT Ltd has suggested that the company board would benefit from the provision of more qualitative information about its services and performance. The directors have opinions about reputation, quality of service, reliability, experience and customer satisfaction, but they do not have any evidence on which to base their views or to make decisions about the company's operational systems.

Required:
(a) Discuss the qualitative information that may be of benefit to the directors of TT Ltd.
(10 marks)
(b) Discuss the difficulties that would have to be addressed when introducing a reporting system for the company's management to provide information of a qualitative nature.
(10 marks)

[Total: 20 Marks]

QUESTION FOUR

Karise Metal Fabrication Ltd (KMF) is a family-owned business. It carries out large engineering jobs to individual customer specifications. James Banda is currently managing KMF and will retire at the year end. The family members believe that KMF has been successful since its inception and therefore requires a high-calibre manager to take over from James. The company recently offered you a three years contract because of your experience mostly obtained from a similar company within the same sector. As a Chartered Accountant, you have an opportunity to continue and expand the success of the company. James has provided you with performance data below:

Financial statements extract:

Financial Year	2022	2021
Turnover	K1,350,000	K1,228,500
Operating profit	K320,000	K260,000
Irrecoverable debt	K60,600	K60,500

It can be assumed that the inflation rate in each of the two years was 7.1% per annum. To decide whether to accept the employment offer, you have indicated that some additional information is needed.

The following is an extract from a balanced scorecard which was prepared at your request:

Balanced scorecard extract:

Financial Year	2022	2021
Customer perspective:		
Number of customers	60	50
Average revenue from each customer, per annum	K11,250	K13,000
Market share	9%	8%
Learning and growth perspective:		
Staff turnover rate	5%	2.5%
Training expenditure	K50,000	K50,000
Internal process perspective:		
Percentage of jobs completed which contained errors	1.5%	2%
Average completion time	2.75 days	3.5 days

Required:

(a) Analyse the change in the financial performance of KMF for both years.

(3 marks)

(b) Evaluate the change in the performance of KMF for both years, using the information contained in the balanced scorecard extract. In addition, discuss the significant reasons why this analysis may be more relevant than the answer to part (a) in helping you to decide whether to accept the offer.

(13 marks)

You have indicated that you would only be willing to accept the employment offer at KMF, if your annual bonuses were to be linked to a defined set of measures from all sections of the company's balanced scorecard. KMF management is resistant to this idea, arguing that profit is the goal of the organisation and that all bonuses should be profit-related only.

(c) Explain whether KMF management should be willing to accede to your request in this regard to secure your acceptance of the position on offer.

(4 marks)

[Total: 20 Marks]

QUESTION FIVE

Traditional cost control systems tend to be based on the preservation of the status quo and the ways of performing existing activities are not reviewed. The emphasis is on cost containment rather than cost reduction. In contrast, modern cost management focuses on cost reduction rather than cost containment.

Modern management accounting techniques are tailored at reducing costs. But it so happens that when it comes to cost reduction, it is not very clear that the new techniques are used relatively to the old ones: the old ones may still be used. For example, instead of using a new technique like the activity based budgeting to reduce costs, the existing zero based budgeting may be used. Similarly, instead of using the new target costing approach to reduce cost, the existing continuous cost improvement approach may be used.

The following is a list of modern techniques and established approaches:

	Established or existing approach		Modern or new technique
1	Continuous Cost Improvement (CCI)	Vs	Target costing (TC)
2	Zero Based Budgeting(ZBB)	Vs	Activity Based Budgeting (ABB)
3	Interfirm Comparison (IC)	Vs	Benchmarking (BM)

Required:

You are the Management Accountant for a group of companies. Select any two (2) of the newer or modern techniques above and write a report to the senior management. Your report should explain the objectives of the technique, how it works and how it would be differentiated from the established approach. It should further explain how the new technique would contribute to cost reduction.

[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) **Four characteristics**

The ideal characteristics of a country are as follows:

1. **Political factors**

A stable political environment will reduce the risk of the investment. For example, what is the likelihood of armed conflict, civil war or of employees being kidnapped by terrorist groups? The political attitude towards foreign firms is extremely important. For example, will CI Ltd face protectionist measures regarding ownership structures and repatriation of funds? On the other hand, some governments may be keen to encourage foreign direct investment via incentives such as soft loans and tax breaks If the country is a member of a regional trade union, then exporting components into neighbouring countries will be much easier and cheaper.

A KPI for political factors might be to use rankings from agencies such as transparency international or the Economist Intelligence Unit's Business Environment Index.

2. **Economic factors**

Wage rates of the people that will work in the research facilities and later in the factory will need to be considered as these can vary widely from country to country. Many global companies set up factories in countries with lower wage rates to take advantage of the lower costs. This may not be appropriate for the research facilities however, where the knowledge and skills of the staff are likely to be more important than financial costs.

A key performance indicator (KPI) could be the average wage rate in the manufacturing sector. A stable currency reduces the perceived risk of the project and should facilitate better planning.

A KPI might be the volatility of the local currency against a benchmark, which could be measured using standard deviations.

3. **Social factors**

High standards of local education, especially to degree level and beyond, will ensure a good supply of suitable candidates to recruit locally for the research facility.

A KPI for standards of local education for the research institute might be the number of graduates each year from relevant degree courses.

As far as the factory is concerned, a good supply of workers with relevant skills is important. It may be possible to train staff who do not have relevant skills, so the availability of labour in general might be a more relevant factor.
This can be measured by employment rates, where a relatively high unemployment rate might be seen as an indication that labour is available.

4. **Technological factors**

Is the infrastructure of the target country sufficiently developed? A good transport system will be necessary once the factory is operational for transporting the finished speed boats to the customers – be they in that country or in neighbouring countries.
A KPI might be the average cost of transporting per ton kilometre.

(ii) **Ethical issues**

CI Ltd would want to check the country's record on human rights to avoid attracting negative publicity as investing there could be supporting the incumbent regime.
This could be measured using rankings prepared by human rights agencies such as Amnesty International.

Decentralized organizations delegate decision-making and operational responsibilities to the managers of each segment, or division of the organization.

Advantages:

(i) **Increased Expertise.** Rather than having one manager, or a group of managers, trying to make decisions for a wide range of products, decentralized organizations delegate decision-making authority to local managers who have expertise in specific products.

(ii) **Quicker Decisions.** By having increased expertise and decision-making authority, local managers can make decisions quickly without having to wait for the approval of the organization's top management.

(iii) **Refocus of Top Management Responsibilities.** With local managers focusing on issues important to the specific segment, top management is able to delegate the day-to-day decision-making responsibilities and focus on broader companywide issues, such as long-range strategic planning.

(iv) **Motivation of Local Managers.** Managers who are given more responsibility, and the control necessary to manage their responsibility, tend to be more motivated than those who simply follow the orders issued by top management. In addition, a decentralized structure provides a means to train local managers for promotion to the next level of management.

(b) Divisional performance

(i) Transfer prices for A70 and B100

	A70	B100
	K/Unit	K/unit
Variable costs	2,200	1,600
Allocated fixed costs	2,800	1,400
Full cost	5,000	3,000
10% of full cost	500	300
Transfer price	5,500	3,300

(ii) Fixed cost per unit

For A70 to have a transfer price of K4,730 per unit, it full cost would have to be K4,730/1.1 = K4,300, because the transfer price per unit is determined by adding 10% to the full costs per unit.

Fixed costs per unit that would be allocated to A70:

	K/unit
Full cost	4,300
Less variable cost	2,200
Fixed cost	2,100

(iii) Ethical issues

Allocating overhead costs to products using methods that are in direct violation of corporate guidelines is unethical. In assessing the situation, professional standards of ethics, where they exist, should be referred to. For instance, competence, integrity, and objectivity may be relevant.

Competence

Clear reports using relevant and reliable information should be prepared. Reports prepared on the basis of incorrectly allocating fixed costs would violate the management accountant's responsibility to competence. It is unethical for the management accountant to change the numbers to reduce the cost and hence the transfer price for A70.

Integrity

The management accountant has a responsibility to avoid actual or apparent conflicts of interest and to advise all appropriate parties of any potential conflict. Lowering the fixed costs allocated to A70 will increase the costs allocated to B100. If they changed the method of fixed cost allocation, it would appear as though that MD is being favoured over ID. According to ethics, this action might be viewed as violating the responsibility for integrity. It is desirable for the management accountant to communicate favourable as well as unfavourable information. In this regard to agree to reduce the overhead costs allocated to A70 could be unethical.

Objectivity

Information should be fairly and objectively communicated, and all relevant information should be disclosed. From a management accountant's standpoint, allocating fewer costs to a product in violation of company policy clearly violates both these precepts. For the several reasons cited above, we should take the position that the behaviour described is unethical.

The management accountant should indicate to management that the overheads costs allocated to A70 are indeed appropriate, given the long-term nature of the relationship between KD and MD, and also as required by company policy. If the management still insists on making the changes and reducing the costs of making A70, the management accountant should raise the matter with the ethics committee. If, after taking all these steps, there is continued pressure to misallocate costs, the management accountant should consider resigning from the company, and not engage in unethical behaviour.

(iv) Impact on change

Kanyama Division

Cost centre – Under the proposed changes, Kanyama Division will be a cost centre.

It is difficulty to determine a fair revenue amount for its sales and therefore should be treated as cost centre rather than a profit centre because it will be a better way for responsibility accounting. KD will focus on cost control, and this will help to avoid adverse cost of sales variances. The performance measures in the division will also need to be redesigned to reinforce the focus on costs. Therefore, the change to a cost centre is not a downgrade in the status of the division. If it is, it would demotivate the divisional managers, and any fall in morale is also likely to filter through the staff.

Matero Division

This division will be making profit. It is appropriate to continue treating this division as a profit centre. Under this basis, information will be needed to decide whether to 'make or buy' the A70. The current figures, show that the MD is contributing to fixed costs.

SOLUTION TWO

(a) (i) Critical Success Factors(CSF): **Customer satisfaction**.
This CSF could be supported by such KPIs as: Student satisfaction: most learning institutions now carry out such surveys into this area and TRRI could imitate this practice. Rate of repeat business: many of TRRI's students will be sponsored by their employers. This KPI will measure if employers continue to use TRRI

(ii) CSF: **Employee attitudes.**
This CSF could be supported by such KPIs as: Rate of staff turnover: a high rate of staff turnover is suggestive of dissatisfaction, a low rate of contentment. Rate of staff absence: a high rate indicates poor staff morale; a low rate suggests staff that is happy to come to work.

(iii) CSF: **Product quality**.
This CSF could be supported by such KPI's as: Market share: TRRI has consistently had the largest market share in its sector and both its absolute market share and trends in market share (Is it increasing? Is it decreasing?) are strongly indicative of success. Accreditations: TRRI's courses are open to scrutiny by professional and academic bodies. TRRI could measure the accreditations it receives which reflect outside opinion as to the level of quality it is achieving.

(iv) CSF: **Brand image**.
This CSF could be supported by such KPIs as: Brand recognition: this KPI could be assessed by means of survey with its customers, past, present and potential. This KPI would indicate the proportion of customers who are aware of TRRI's brand. Brand reputation: as in the case of brand recognition, brand repute could be investigated to discover customers' feelings about TRRI's brand. It could be that recognition and repute are contrary.

(b) (i) Customer satisfaction.
It is important that Blu Rad knows how its customers feel about its services. As the General Manager of Blu Rad commented '...success is built on happy customers: we give them what they want'

KPI = Rate of repeat business; Student satisfaction

(ii) Employee attitudes
Employees are important in every business but this is particularly the case for TRRI where its employees come into contact with its customers.

KPI= labour turnover; rate of employee absence.

(iii) Product quality
Customers will only continue to use TRRI' s services if it can demonstrate it is providing courses of a high quality.

This can be measured, to an extent, by the endorsement of external bodies in the form of accreditations.

It can also be tracked more immediately by the market share which TRRI has gained.

(iv) Brand image

TRRI does not have a strong customer focus and it is in a market where there are continually new entrants.

KPI =brand recognition;Brand reputation. Conduct surveys.

SOLUTION THREE

(a) **Qualitative information**

The company believes that its competitive advantage is based on reputation for reliable service. This belief appears to have made the directors decide that TT Ltd should not copy its rivals and introduce on the same route single vehicle arrangement even though this may be less expensive to operate.

Information for decision-making – The directors would probably benefit from information about these aspects of the company's service, because their views currently seem to be based on opinion rather than firm evidence. In this respect, it seems probable that the board is basing decisions about the company's future strategy on its views of TT Ltd's competitive advantage, rather than any firm evidence.

If the directors believe that these qualitative aspects of performance are the reason why TT Ltd is successful in the market, they will probably base the company's future strategy on preserving the factors that create this advantage. Therefore it would be valuable to obtain information about whether these qualitative aspects of performance really do create value for TT Ltd; for example, by establishing whether they affect customer's choice of which delivery service to use.

Competitive advantage – If qualitative aspects of performance are strategically significant, then it is also important that information about them is reported regularly so that the board can monitor any change in circumstances that might create a threat to competitive advantage.

The most significant qualitative aspects of performance that appear to be significant for TT Ltd may be those that have been identified by the board.

(i) **Service reliability** – The board believes that the company's reputation is based largely on its service reliability. Reliability probably means on-time collections and deliveries, or possibly speed of delivery.

Information about on-time services and speed of services would help management to monitor this aspect of performance, and try to ensure that the service standard is maintained.

(ii) **Customer service** – The board also believes that customers value the experience and personal service of its call centre operators. As a result, it has taken the important decision to retain a personal calls system for customer orders, when rival companies have chosen to cut costs and use automated voice recognition ordering systems. Information about the value of this service to customers would enable the board to confirm their view – or prove it wrong.

(iii) **Customer needs** – Information about the quality of the telephone ordering service and reliability of service are important only if they are significant to customers. TT Ltd does not seem to have obtained reliable information about customer needs and whether TT Ltd's services are meeting them sufficiently well. Information about how much extra customers would be willing to pay for additional features in the service would also be of value.

(b) **Reporting system**

One of the distinctions between qualitative and quantitative information is that it can be harder to measure qualitative information and qualitative aspects of performance. For quantifiable aspects of performance, it is possible to set specific targets for achievement; whereas often qualitative aspects targets can only be expressed in more general terms. When targets are not measurable and performance is not measured, it can be difficult to assess whether the targets are being achieved.

There is a risk that monitoring qualitative aspects of performance can become self-delusional.

Management may decide that actual performance is what they would like it to be, not necessarily what it actually is. Strength of reputation is one such qualitative aspect of performance. Others may be employee loyalty, team spirit and quality of strategic leadership.

Since qualitative information is not currently measured at TT Ltd, there are problems in gathering and analysing information, and in accessing and retrieving qualitative information that is held on file. The information provided by a reporting system may also be of limited value, because management may not know what to do about it.

Information must have a purpose, but qualitative information may not be sufficiently specific and its purpose may therefore be unclear.

It may be argued that qualitative information may be of value for strategic planning rather than performance management and control. Information about the strengths and weaknesses of the company, and about threats and opportunities in the industry and the business environment, may be largely qualitative in nature, but this information is used to assess strategic options and make strategic choices.

SWOT analysis, however, is unlikely to be made part of a regular performance reporting system for management.

The importance of non-financial information is now widely recognised: much qualitative information is nonfinancial in nature, but many aspects of non-financial performance can be measured quantitatively.

If TT Ltd's board wants to obtain information of a qualitative nature, an appropriate approach may be to convert as many qualitative aspects of performance as possible into quantifiable aspects. Customer satisfaction, for example, and aspects of service quality may be measured by means of regular customer surveys or market research surveys.

SOLUTION FOUR

(a) **Financial performance review**

(i) Turnover:

- Increase: (K1,350,000 / K1,228,500) = 1.099 ⇒ 9.9% Increase.
- Exceeds the rate of inflation (7.1%); indicates some modest growth.

(ii) Net profit:

- Increase in absolute terms = K360,000 - K260,000 = K60,000
- Increase in % terms = (K60,000 / K260,000) x 100% = 23%.
- Rising faster than sales revenue (and inflation); suggests "real" price increases being achieved (or better cost control).

(iii) Irrecoverable debts:

- The company recorded 4.9% in 2021 and 4.4% in 2022. Therefore, a decrease of 0.5%.
- This is a minimal expense and the change between the two years is insignificant.

(b) **Balanced scorecard**

The usefulness of these indicators is that many of them provide a lead indication of future financial success. This is what of interest since you are still considering joining the firm for the first time. The good results in the lead indicators are likely to lead (after a time) to improved financial performance. By contrast the indicators in the financial performance extract measure financial success in the current period only. They do not (in themselves) provide any indication of future financial success. Given that you are only now considering joining KMF, it is its future success and potential which are of interest to you, not the past.

Customer perceptive

This views on "How well KMF is dealing with its customers".

(i) Number of customers: This has increased by 20%. A greater number of customers is (arguably) a good thing because it expands the client base who can potentially be satisfied and therefore become repeat customers in the future.

(ii) Average revenue per customer:

- **Change = (K1,750 / K13,000) X 100% = 13.4% reduction.**
- KMF might be reducing its prices to attract more customers or might not be as successful as in the past in leveraging sales from its client base. This is a potentially negative indicator. The client base is only as valuable as the profit from the sales which can be made to it.

(iii) Increase in market share:

- Total market size:

2022	**2021**	**Change**
K1,350,000/0.09 =K15m	**K1,228,500/0.08 = K15.36**	**2.3% decrease**

- KMF's modest growth in turnover seems impressive in the context of the shrinking market. KMF is expanding despite very difficult circumstances.

Internal business processes perspective

- "The key processes which the business needs to perform well in order to succeed".
- Error rates have decreased from 2% to 1.5%, while at the same time average job completion times have improved.
- Clients expect their jobs to be done correctly and on time, and these results indicate that KMF has a strong ability to provide this level of service (which augurs well for KMF's success in attracting new customers and retaining old ones, as indicated by the growing customer numbers).

Learning and growth perspective

- The increase in staff turnover is unwelcome. Recruitment and training of new staff is expensive and ultimately reduces the productivity level and increases labour costs in the short term.
- The lack growth in the training expenditure is of concern. Given the large number of new clients and the higher staff turnover, it seems likely that more training is needed. Inadequate expenditure on training is an insidious threat because in the medium term it threatens KMF's ability to maintain its high client service quality levels.

(c) **Response from KMF Management**

- KMF management should accept this request. You are asking to be allowed to embrace responsibility for all the factors which you control, not just short-term profit, and this attitude is to be welcomed and encouraged.
- The job contract is for a 3-year term only. Profits in the first year are likely to be significantly affected by the decisions made by your predecessor, e.g., not to spend more money on training. In this sense profits are not "controllable" by yourself in the short term. You might even be tempted to make up for the shortfall in profits by making dysfunctional decisions which would not affect profits in the short term but would have detrimental consequences in future years.
- By accepting responsibility for a wide range of performance measures, you are incentivised not just to pay attention to current profits but to consider what is beneficial for the firm in the long term (e.g., increasing market share, even in ways which do not immediately add to profit). The short duration of your contract might otherwise discourage you from doing this.

SOLUTION FIVE

To: Senior Management

From: Management Accountant

Date: XX/XX/2023

Subject: New cost Reduction Techniques compared with established approaches

1.0 Introduction

As requested, I set out below a report which compares the newer cost reduction techniques with the established approaches. For each newer technique, I will attempt to explain the objective(s), how it works, differentiate it from the established approaches and how it could contribute to cost reduction.

2.0 Comparative Modern and Existing Cost Reduction Techniques

2.1 Target Costing vs Continuous Cost Improvement

A target cost is derived by subtracting a desired profit margin from a competitive market price. The resulting cost is then compared with the predicted or estimated actual cost for the product. If the predicted actual cost is greater than the target cost, efforts are made to close the cost gap by using methods like value engineering and/or functional analysis. It is applied at the design and planning stage.

Continuous cost improvement is a process whereby a firm gradually reduces costs without attempting to achieve a specific target. Target costing is emphasized more at a product's design and developmental stage whereas continuous cost improvement occurs throughout a product's life. The principles of target costing can also be applied to cost reduction exercises for existing products. Where this approach is applied there is a little difference between the two methods.

Both approaches clearly focus on reducing costs throughout a product's life cycle but target costing emphasizes cost reduction at a design and development stage. At this stage there is a greater potential for reducing costs throughout a product's life cycle.

2.2 Zero Based Budgeting(ZBB) and Activity Based Budgeting(ABB)

Activity-based budgeting (ABB) is an extension of Activity Based Costing (ABC) applied to the preparation of budgets. It focuses on the costs of activities necessary to produce and sell products and services by assigning costs to separate activity cost pools. The cause and effect criterion based on cost drivers is used to establish budgets for each cost pool.

ABB involves the following stages:

1) Determining the budget cost (i.e the cost driver rate) of performing each unit of activity for all major activities.

2) Determine the acquired resources for each individual activity to meet sales and production requirements.

3) Computing the budgeted cost for each activity.

   It should be noted that ABB focusses on budgets for cost of activities rather than functional departments.

   ZBB tends to be used more as one-off cost reduction programme. The emphasis is on functional responsibility areas, rather than individual activities, with the aim of justifying all costs from a zero base.
   Activity analysis is required prior to implementing ABB. This process can help to identify non-value added activities that may be candidates for elimination or performing the activities in different ways with fewer resources. Activity performance measures can be established that enable the cost per unit of activity to be monitored and used as basis for benchmarking. This information should highlight those activities where there is a potential for performing more efficiently by reducing resource consumption and future spending.

2.3 Interfirm Comparisons and Benchmarking

Benchmarking is a continuous process that involves comparing business processes and activities in an organization with those in other companies that represent world-class best practices in order to see how processes and activities can be improved. The comparison involves both financial and non-financial indicators.

Two different approaches are adopted in most organisations. Cost-driven bench-marking involves applying the principles of benchmarking from a distance and comparing some aspects of performance with those of competitors, usually using intermediaries such as consultants. The outcome of the exercise is cost reduction. The second approach involves process-driven benchmarking. It is a process involving the philosophy of continuous improvement. The focus is not necessarily on competitors but on a benchmarking partner. The aim is to obtain a better understanding of the process and questions the reason why things take place, how they take place and how often they take place. The outcome should be superior performance through the strengthening of processes and business behaviour.

Inter-firm comparisons place much greater emphasis on the use of financial data and mostly involves comparisons at the company or strategic business unit level rather than at the business process and activity level. Inter-firm comparisons tend to compare data derived from published financial accounts whereas benchmarking also makes use of both internal and external data.

Benchmarking *contributes to cost reduction* by highlighting those areas where performance is inferior to competitors and where opportunities for cost reduction exist (e.g. elimination of non-value added activities or more efficient ways of carrying out activities).

For any further clarifications, please do not hesitate to contact me.

Signed: Management Accountant

END OF SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA ADVISORY PROFESSIONAL IN ACCOUNTANCY

CA3.6: ADVANCED FINANCIAL MANAGEMENT

FRIDAY 22 MARCH 2024

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)

JACM Copper Plc is a multinational mining company with the current annual production capacity of 350,000 tonnes of copper based in Zambia. The company exports all its copper to the European and Asian markets. The company management is considering buying a new sophisticated machine in order to increase its current annual production by 75%. This is arising from the expected demand of copper due to the introduction of electric cars on the global market especially in Europe. The machine will cost $1,900 million and is expected to last for 5 years at which time it will have an estimated disposal value of $200 million. The current price of copper is $7,920 per ton at the global market. The production costs are sourced locally as follows:

Description	Costs per ton (at current prices)
Materials	K11,745
Labour	K12,253
Variable Overheads	K12,152

JACM Copper Plc and some key financial markets analyst expects the global prices of copper to increase by 10% annually. The materials are expected to increase at 8% per year and labour is expected to increase at 5% per year. The overhead variable costs are expected to increase annually at 6%. Fixed overheads of the company currently amount to K2.5 billion. The Chief Financial Officer has decided that 25% of fixed overheads should be absorbed into the additional production. Also, the CFO strongly believes that foreign currency risk exposure should be hedged using the currency options because of its merits.

An additional K3.5 billion of working capital will be required at the start of the proposed investment. The new machine will attract capital allowances at 25% reducing balance basis. JACM Copper Plc pay corporate tax at the rate of 30% a year in arrears.

JACM Copper Plc has an asset beta of 0.95 and gearing level of 40% based on debt to equity ratio. The company has in issue redeemable bonds at par in six years' time and pay the coupon on an annual basis. Although the bonds are not traded; it is estimated that JACM Copper Plc current debt credit rating is BBB but would improve to A+ if the investment is undertaken due to expected increase in revenue capacity.

Other information

Interest rate on government bonds	10%
Market risk premium	13.2%
6-year credit spread A+ rated bonds	60 basis points
6-year credit spread BBB rated bonds	90 basis points
Annual expected inflation rate in USA	5%

Annual expected inflation rate in Zambia	9%
Spot exchange rate K/$	18.21 - 18.57

Required:

(a) As a Financial Consultant, write a report to the Board of Directors of JACM Copper Plc evaluating the financial viability of the proposed investment using:

(i) Net Present Value (NPV)

(29 marks)

(ii) Modified Internal Rate of Return (MIRR).

(7 marks)

(b) Explain the main merits of foreign currency options to JACM Copper Plc.

(4 marks)

Note: Two (2) professional marks will be awarded for the appropriate report format and coherence

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section. Attempt any THREE (3) questions.

<u>QUESTION TWO</u>

(a) Due to a drastic reduction in water reservoirs over the years in the Kariba Dam, ZESCO is considering investing in a solar energy plant that would create capacity to increase the water reservoir and enhance power generation. Financing options for the project include: retained earnings from an increase in electricity tariffs, a syndicated medium term bank loan at a fixed interest rate, a rights issue, and a concessional long term loan from a Development Bank. In order to fully utilize its debt capacity, the project will be incorporated as a separate company or a Special Purpose Vehicle (SPV).

Required:

(i) Discuss four (4) relative merits and four (4) risks of using the above project financing strategies to fund the solar energy plant.

(9 marks)

(ii) Solar energy technology is a green technology and is therefore used by many companies to assist them in achieving the objective of becoming carbon neutral.

Briefly explain how ZESCO can use 'Carbon Credit Trading' in reducing the impact of its business activities on the environment.

(4 marks)

(b) Information from an auction of Treasury bills (T-Bills) with face values of K100 extracted from a competitive public tender by Bank of Zambia is detailed below:

Tender (Days)	**Bid Price (K)**	**Yield Rate (%)**
91	95.1375	20.5034
182	89.3517	23.9001
273	84.2500	24.9943
364	80.0439	24.9999

Required:

(i) Using the term structure of interest rates, explain three (3) possible reasons for the shape of the yield curve displayed by the T-Bills.

(3 marks)

(ii) Briefly discuss four (4) factors that affect the general level of interest rates and returns available on financial assets such as T-Bills.

(4 marks)

[**Total: 20 Marks]**

QUESTION THREE

ZOE Hotels is one of the most luxurious hotel brands in the world. The Hotel has many branches operating across the globe and has adopted centralized treasury management system. Currently, ZOE Hotels has K20 million of fixed rate loans at an annual interest rate of 14% which are due to mature in one year. The company's treasury department and financial market analysts believes that interest rates are going to fall. However, the treasury department does not wish to redeem the loans because large penalties exist for early redemption. Therefore, treasurer has been tasked by management to explore alternatives that could be pursued to manage the interest risk exposure.

Recently, the banker for ZOE Hotels has offered to arrange an interest rate swap for one year with another company that has obtained floating rate finance at London Interbank Offered Rate (LIBOR) plus 1.13%. It is expected that the banker will charge each of the companies an arrangement fee of K26,000 and the proposed terms of the swap are that ZOE Hotels will pay LIBOR plus 1.7% to the other company and receive from the company 11.73%. Corporation tax is at 30% per year and the arrangement fee is a tax allowable expense. Assume that any tax relief is immediately available.

Required:

(a) Evaluate whether ZOE Hotels would benefit from the interest rate swap if LIBOR remains at 10. % for the whole year.

(9 marks)

(b) Explain the typical characteristics of interest rate swaps and their advantages.

(5 marks)

(c) Explain three (3) key functions that may be performed by the Treasury Department of ZOE Hotels.

(6 marks)

[Total: 20 Marks]

QUESTION FOUR

NIK Inc. is a Hi-Tech company that operates in a specialised sector of the telecommunications industry. The company has attracted the interest of a major multinational company, VAG Plc that is in the similar line of business operations. The management of VAG Plc indicated that they would offer K3 billion to acquire 100% shares of NIK Inc. The management of VAG Plc strongly believes that the acquisition will be beneficial to its shareholders. The management of NIK Inc. have been reluctant to entertain merger or acquisition negotiations with management of VAG Plc. However, NIK Inc. management decided to come up with a company valuation in case the merger or acquisition talks are sanctioned in the forthcoming AGM by the shareholders. The management of NIK Inc. have selected the Calculated Intangible Values (CIV) method to value the intangible element of the business.

In the previous year NIK Inc. made an operating profit of K315 million on an asset base of K605 million. The earnings are forecast to grow at 6% over the next year, and the company's minimum expected rate of return is 10%. The average return on assets for the telecommunications industry is 15%. Corporation tax is 30% per year.

Required:

(a) Evaluate whether the offer price by the multinational company would be financially beneficial to the shareholders of NIK Inc.

(8 marks)

(b) Discuss the reasons most business combinations fail to produce the anticipated benefits.

(12 marks)

[Total: 20 Marks]

QUETSION FIVE

ABM Corporations is a multinational company that has subsidiaries in over 20 countries across the globe. The company has been operating without a treasury department and now wishes to set up a decentralized treasury department which will operate as a profit centre. ABM Corporations has approached you as a financial consultant to advise on the following issues of concern as it establishes the treasury function:

(i) Recruitment of high quality treasury staff;

(ii) Prevention of costly errors and overexposure to risk;

(iii) Importance of extensive market information to the treasury team;

(iv) Dangers of differences in attitudes to risk between treasury team and the Board;

(v) Relevance of internal charges; and

(vi) Problems associated with evaluating performance of the treasury team.

Required:

(a) Advise ABM Corporations on the concerns raised above as it considers the plans to establish its treasury function as a profit centre.

(12 marks)

(b) Explain to the management of ABM Corporations the features of the following derivatives that may be used to hedge foreign currency risk exposure:

(i) Forward rate contracts. (3 marks)

(ii) Interest rate swaps. (3 marks)

(iii) Over the counter (OTC) options. (2 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

$$\text{WACC} = \left[\frac{V_e}{V_e + V_d}\right]k_e + \left[\frac{V_d}{V_e + V_d}\right]k_d(1 - T)$$

The Fisher formula

$$(1 + i) = (1 + r)(1 + h)$$

Purchasing power parity and interest rate parity

$$S_1 = S_0 \times \frac{(1 + h_c)}{(1 + h_b)} \qquad F_0 = S_0 \times \frac{(1 + i_c)}{(1 + i_b)}$$

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

(a)

To: Board of Directors, JACM Copper Plc
From: Financial Consultant
Date: xxxxxxxxx
Subject: Report on the Proposed Investment in New Machine

This report presents a financial evaluation of the proposed investment in the New Machine using the Net Present Value method and Modified Internal Rate of Return. The NPV method gives a positive NPV of **K66, 715.82million** and the MIRR method give the rate of **44.25.** Therefore, based on these results, the proposed investment should be undertaken because the wealth of the shareholders would be increased by K66, 715.82million. The MIRR of 97.92% is higher than the cost of capital of 20% which means the investment is financially viable. You may refer to the appendix attached for detailed computations.

Do not hesitate to contact the undersigned for further clarifications.

Yours

Financial Consultant

Financial Evaluation usin NPV							
	0	1	2	3	4	5	6
	K'million	K'million	K'million	K'million	K'million	K'million	K'million
Sales	-	43,230.90	49,365.56	56,370.77	64,370.05	73,504.47	-
Materials	-	3,329.71	3,596.08	3,883.77	4,194.47	4,530.03	-
Labour	-	3,377.23	3,546.09	3,723.40	3,909.57	4,105.05	-
Variable Overhead	-	3,381.29	3,584.17	3,799.22	4,027.18	4,268.81	-
Taxable Cashflows	**-**	**33,142.67**	**38,639.21**	**44,964.38**	**52,238.84**	**60,600.59**	**-**
Less:Tax@30%	-	-	- 9,942.80	- 11,591.76	- 13,489.31	- 15,671.65	-18,180.18
Investment Cost	- 35,283.00	-	-	-	-	-	-
Disposal Value	-	-	-	-	-	4,390.62	-
Working Capital	- 3,500.00	-	-	-	-	3,500.00	-
Tax relief on CA	-	-	2,646.23	1,984.67	1,488.50	1,116.38	2,031.94
Net Cash flows	- 38,783.00	33,142.67	31,342.64	35,357.29	40,238.02	53,935.93	-16,148.23
Discount@20%	1.00	0.833	0.694	0.579	0.482	0.402	0.335
Present Values	**(38,783.00)**	**27,607.84**	**21,751.79**	**20,471.87**	**19,394.73**	**21,682.24**	**(5,409.66)**

NPV	**66,715.82**						
The proposed investment should be undertaken because it provides a postive NPV which means the wealth of the shareholders will be increase by K66715.82million.							
Financial Evaluation using MIRR							

$$MIRR = \left(\frac{PV_R}{PV_I}\right)^{\frac{1}{n}}(1+r_e)-1$$

PV return phase	110,908.47						
PV investment phase	44,192.66						
Cost of capital	20%						
Period	5						
MIRR	44.25%						
Workings							
1. Forecast Exchnage Rate using Purchase Power Parity							
Period		Buying		Selling			
Spot		18.21		18.57			
1	18.21 x 1.09/1.05	18.90	18.57 x 1.09/1.05	19.28			
2	18.90 x 1.09/1.05	19.62	19.28 x 1.09/1.05	20.01			
3	19.62 x 1.09/1.05	20.37	20.01 x 1.09/1.05	20.77			
4	20.37 x 1.09/1.05	21.15	20.77 x 1.09/1.05	21.57			
5	21.15 x 1.09/1.05	21.95	21.57 x 1.09/1.05	22.39			
6	21.95 x 1.09/1.05	22.79	22.39 x 1.09/1.05	23.24			
2. Sales	0	1	2	3	4	5	6
Price per ton ($)	7,920.00	8,712.00	9,583.20	10,541.52	11,595.67	12,755.24	-
Additional Production		262,500.00	262,500.00	262,500.00	262,500.00	262,500.00	262,500.00
Sales ($'000)		2,286.90	2,515.59	2,767.15	3,043.86	3,348.25	-
Exchange rate		18.90	19.62	20.37	21.15	21.95	-
Sales (K'000)		**43,230.90**	**49,365.56**	**56,370.77**	**64,370.05**	**73,504.47**	**-**
3.Materials							
Cost per ton (K)	11,745	12,684.60	13,699.37	14,795.32	15,978.94	17,257.26	-
Additional Production	-	262,500.00	262,500.00	262,500.00	262,500.00	262,500.00	-
Material Cost (K'000)	**-**	**3,329.71**	**3,596.08**	**3,883.77**	**4,194.47**	**4,530.03**	**-**

4. Labour	-	1	2	3	4	5	6
Cost per ton (K)	12,253.00	12,865.65	13,508.93	14,184.38	14,893.60	15,638.28	-
Additional Production	-	262,500.00	262,500.00	262,500.00	262,500.00	262,500.00	-
Labour Cost (K'000)			**3,377.23**	**3,546.09**	**3,723.40**	**3,909.57**	**4,105.05**
5. Variable Overheads							
Cost per ton (K)	12,152	12,881.12	13,653.99	14,473.23	15,341.62	16,262.12	-
Additional Production	-	262,500.00	262,500.00	262,500.00	262,500.00	262,500.00	-
Variable Overhaed (K'000)		**3,381.29**	**3,584.17**	**3,799.22**	**4,027.18**	**4,268.81**	**-**
6. Capital Allowances							
Year	WDV	CA@25%	Tax Relif@30%	Year Available			
1	35,283.00	8,820.75	2,646.23	2			
2	26,462.25	6,615.56	1,984.67	3			
3	19,846.69	4,961.67	1,488.50	4			
4	14,885.02	3,721.25	1,116.38	5			
5	11,163.76	6,773.14	2,031.94	6			
7. Cost of Capital							
0.95 = Be x 0.6/0.6+0.4(1-0.3)							
Be = 1.39							
Cost of equity = 10% + 1.39(13.2%) =28.348%						18.348	
						28.348	
Cost of debt = 10% + 0.6% = 10.6%							
Cost of debt after tax = 10.6% x 0.7 = 7.42%							
Cost of Capital = (28.348% x 0.6) + (7.42% x 0.4)=20%							

(b) Merits of foreign currency options

The main advantage of foreign currency options is that they offer a right, which need not be exercised, to buy or sell foreign currency. If exchange rates move such that exercising the option is favourable, then the option will be sold or exercised. If exchange rates move in an unfavourable manner for the option holder, the option will be allowed to lapse unexercised and the only cost will be the option premium. Options therefore offer a way of limiting "downside risk" while offering potentially unlimited returns.

Foreign currency options contracts are attractive when the date on which the transaction being hedged will take place is uncertain and there is uncertainty about the likely movement in exchange rates. As indicated above JACM Copper Plc can take advantage of any favourable movements in exchange rates, while continuing to hedge any unfavourable movements.

SOLUTION TWO

(a) (i) According to the Pecking Order Theory, companies choose the source of finance which, for one reason or another, is easiest for them to access. This results in an initial preference for retained earnings, followed by a preference for debt before turning to equity.

Project finance primarily benefits sectors or industries where, projects are structured as a separate entity, apart from their sponsors.

Generally, such projects tend to be relatively huge because of the time and other transaction costs involved in structuring, and because of the considerable capital equipment that needs long-term financing.

The financing options have related costs and benefits. The subsidized loan will be cheaper than the bank term loan. Typically loans will incur issue costs of approximately 1.5% the loan proceeds. Similarly, the rights issue will incur administrative costs of say 2.0% the loan proceeds. However, the financing costs are offset by Tax Relief on Work Down Allowances (WDA).

Broadly speaking, major advantages of project finance are**:**

- Allows the promoters to undertake projects without exhausting their ability to borrow amount for traditional projects.
- Limits financial risks to a project to the amount of equity invested.
- Enables raising more debts as lenders are sure that cash flows from the project will not be siphoned off for other corporate uses.
- Provides stronger incentives for careful project evaluation and risk assessment.
- Facilitates the projects to undergo careful technical and economic review.
- Eliminates the dependency on alternative nature of funding a project.
- Facilitates the arrangement of liability financing and credit improvement, accessible to the project but unavailable to the project sponsor.
- Enables the diversification of the project sponsor’s investments to reduce political risk.
- Gives more incentive for the lender to cooperate in case of a distressed loan.
- Matches specific assets with specific liabilities.

Some of the major risks of project finance are:

- Complexity of the process due to the increase in the number of parties and the transaction cost.
- Expensive as the project development and diligence process is a costly affair.
- Time consuming or litigious negotiations.
- Complexity due to lengthy documentation.
- Requires broad risk analysis and evaluation to be performed.

- Requires qualified people for performing the complicated procedures of project finance.

Other relevant merits and risks related to the specific financing strategies include:

Source of finance	Merits	Risks
Retained profits	▪ quick and convenient ▪ easy access as an internal source of finance ▪ no interest payments to make	▪ once the source of finance is utilized , it is not available for any future unforeseen problems the business might face
Selling assets	▪ can create space for more profitable uses ▪ can be quick ▪ raise money from unused equipment	▪ might not get the full market value of the assets or even be able to sell them at all ▪ might need the assets in the future
Term Bank loan	▪ easy and quick to access ▪ can get a significant amount of money at one time	▪ Incurs interest costs ▪ difficult for a start – up business project to access
Development Institutions and Venture capital funds	▪ potential to raise huge amount of money ▪ they may offer advice and help ▪ Development institutions offer concessional financing	▪ Debt may be convertible, in some cases may assume shareholding and involvement in managing the business entity ▪ they may have a different vision for the business than

		the major share holders
New Share Issue	▪ Relatively easy way to gain money ▪ potential to raise huge amount of money ▪ they may offer advice and help	▪ Borrower must give away part of the business ▪ they may have a different vision for the business than the owner does ▪ leaves a business open to takeovers
Rights Share issue	▪ Potentially large amounts of funds can be raised ▪ no interest payable	▪ May result in changes in shareholding structure and control ▪ Shareholders who do not subscribe loose shareholding
Leasing	▪ no large upfront payments ▪ leasing company may be responsible for repairs and maintenance	▪ over time it can be a more expensive way to obtain assets ▪ assets aren't owned by the business
Government grants/Concessional loans	▪ Cheap source of finance, don't need to be paid back ▪ Easily available to government owned entities, small businesses. ▪ Government may underwrite loans.	▪ business needs to meet certain criteria ▪ It can be time-consuming to apply and access grants

(ii) - Carbon credits are part of the carbon emission trading schemes that have been developed under the Kyoto Protocol as strategies to mitigate global warming.
- The kyoto protocol is an agreement whose aim is to reduce emission of carbon dioxide and other greenhouse gases to levels that prevent interference with the climate.
- They assist in reducing the greenhouse effect by decreasing carbon emissions on an industrial scale.
- Countries that ratify the Kyoto Protocol are assigned maximum carbon emission levels and can participate in carbon trading.
- If one country has exceeded its quota of greenhouse gas emissions, another country that has not can be paid for use of its surplus capacity.
- Total annual emissions are capped and the market is allowed to assign a monetary value to any shortfall.

(b) (i) The yield curve is *normal* in that its upward sloping, implying that T-Bills with longer terms to maturity will offer higher yields than T-Bills with shorter-terms for the following reasons:

(1) Investors have to be compensated for tying up capital in longer – term assets, since there is an opportunity cost for loss of liquidity. This *liquidity preference* by investors is overcome by offering higher interest rates on longer dated T-Bills.

There is greater risk in investing in longer-term T-bills than shorter-termed ones, and therefore investors need to be compensated with higher yields on longer dated investments.

(2) The normal upward sloping yield reflects the expectation (based on *expectations theory*) that inflation levels, and therefore interest rates will increase in the future.

(3) The *market segmentation theory* suggests that there are different players in the short – term end of the market, and the long- term end of the market. As a result the two ends of the curve may have different shapes, as they are influenced independently by different factors.

(ii) Factors that affect the general level of interest rates and returns available on T-Bills include:

(1) Need for a real return - Investors want to earn a real rate of return, which is affected by investment risk.

(2) Inflation – Nominal rates of interest should be sufficient to cover expected rates of inflation over the term of the investment.

(3) Liquidity preference – investors have to be offered higher rates to invest their surplus funds. Higher yields will result in higher demand for T-Bills.

(4) Uncertainty – about the level of nominal and real interest rates in future, will result in investors requiring higher interest yields.

(5) Balance of payments – a current account deficit may result in interest rates being raised to attract capital.

(6) International Interest rates – rates in other countries and expectations of exchange rates will impact demand for T- Bills and consequently their yields.

SOLUTION THREE

(a) Evaluation of interest rate swap if LIBOR remains at 10% for whole year.

	ZOE		Other company
	%		%
Existing commitment	(14)	(10.2% + 1.13%)	(11.33)
ZOE pays (10% + 1.7%)	(11.7)		11.7
ZOE receives	11.73		(11.73)
Revised commitment	(13.97)		(11.36)

The current cost of fixed rate debt is:

K20m x 14% (1-0.3) = K1.96m

The cost under the swap is:

K20m x 13.97%(1-0.3) = K1.9558m

Arrangement fee- K0.26m x (1-0.3) = K0.0182m

Total cost K1.974m

The swap would not be beneficial, as the final cost, after tax, is increased by (K1.974m-K1.96m) = K0.014m

(b) An interest rate swap is an agreement whereby the parties agree to swap a floating stream of interest payments for a fixed stream of interest payments and via versa. There is no exchange of principal:

- The companies involved are termed 'counterparties'.
- Swaps can run for up to 30 years.

Swaps can be used to hedge against an adverse movement in interest rates. Say a company has a K20m floating loan and the treasurer believes that interest rates are likely to rise over the next five years. It could enter into a five-year swap with a counter party to swap into a fixed rate of interest for the next five years. From year six onwards, the company will once again pay a floating rate of interest.

- A swap can be used to obtain cheaper finance. A swap should result in a company being able to borrow what they want at a better rate under a swap arrangement, than borrowing it directly themselves.

(c) **Functions of Treasury Department**

1. Liquidity or cash management

A treasury department, even in a large company such ZOE hotels, is likely to be quite small, with perhaps a staff of three to six qualified accountants, bankers or corporate treasurers working under a Treasurer, who is responsible to the Finance Director. In some cases, where the company or organisation handles very large amounts of cash or foreign currency dealings, and often has large cash surpluses, the treasury department might be larger. As part of the financing decision, the treasury management function within an organisation is responsible for the management of the cash flows of the company, which is the most important measure of the financial health of a company.

2. The short term management of the firm's financial resources
   The management of short term assets and liabilities of a company, known as the management of working capital is extremely important to any company. The main current assets are stock, debtors and cash. The current liabilities are creditors and accrued expenses. The key characteristic of current assets and current liabilities is that they are expected to turn into cash, or be paid from cash, within twelve months. The treasury department should ensure that objective of working management is achieved.

3. The management of risk exposure
   Cash flows generated by business operations are subject to a wide variety of fluctuations and risks. They are particularly vulnerable to unexpected fluctuations in financial markets. Changes in exchange rates may affect future selling prices, purchase prices and volumes, and thus influence a company's market position and hence its value. Similarly changes in interest rates may influence the cost of funding if interest rates go up or it may reduce the yield earned on short-term assets if interest rates go down. The value of the firm in either case will be affected. The value of the treasury function is therefore to manage the risks that affect the cash flows of the firm and in so doing to enhance the value of the company. This can be attained through a process call hedging by using the derivative contracts that have been discussed in this chapter.

SOLUTION FOUR

(a)

1.	Calculation of value spread	K'm
	Operating profit	315
	Less: Cost (15% x K605m)	(90.75)
	Value spread	**224.25**
2.	Calculation of CIV	
	Post tax value spread (K224.25 x (1-0.3)	156.98
	Post-tax value spread at T_1 (156.98 x 1.06)	166.39
	CIV assuming growth in perpetuity (K166.39÷0.1)	1,663.94
3.	**Overall value of the company = (K1,663.94m + K605m)**	**2,268.94**
4.	**Benefit (K3, 000m – K2,268.94)**	**731.07**

(b) In some cases, although the bidding company such VAG Plc management might have expectations of an increase in wealth for its shareholders, this may not always transpire. The empirical evidence has shown that most business combinations fail to produce the anticipated benefits. Reasons suggested for this include:

1. **Difficulty of valuation**.
This involves over-optimistic assessment of benefits, especially economies of scale of which often large scale operations lead to diseconomies of size. Poor investigations or due diligence prior to the acquisition or merger may make the acquirer to miss spotting benefits that are unlikely to arise.

2. **Paying too high a price**
In a takeover bid, particularly a contested one, it is entirely possible that the bidding company may pay a higher price for the target company shares than they are worth. This is often the case, as it is common for a premium to be offered to the target company shareholders in order to persuade them to sell their shares. If the premium is greater than the benefits from the takeover, then this will be a direct transfer of wealth from the bidding company shareholders to the target company shareholders.

3. **Integration of the businesses**
After a takeover it is often hard to integrate the two businesses to such an extent that any anticipated benefits can be realised. This may be due to differences in culture, management style or operational or organisational matters. The problem is particularly highlighted where the bidding company tries to impose its own systems, culture and management on the target company. Excessive time maybe devoted to relative status of the two boards/management teams may also contribute to failure. Also, insufficient appreciation of the personnel and operational problems which may arise.

4. **Unforeseen problems**
Despite thorough investigation and due diligence procedures being carried out during a takeover bid it is entirely possible after the combination to discover problems in the target company which were not evident before the bid and which will eliminate any anticipated increases in wealth.

5. **Management problems**

In some cases, the management of the bidding company lose motivation after a takeover and assume that the benefits foreseen will just happen without additional effort on their behalf. This is rarely the case and continued management effort and motivation will be required in order to achieve the desired results.

SOLUTION FIVE

(a) If a profit centre approach is being considered, the following issues should be addressed.

(i) Competence of staff
Local managers may not have sufficient expertise in the area of treasury management to carry out speculative treasury operations competently. Mistakes in this specialised field may be costly. It may only be appropriate to operate a larger centralized treasury as a profit centre, and additional specialist staff demanding high salaries may need to be recruited.

(ii) Controls
Adequate controls must be in place to prevent costly errors and overexposure to risks such as foreign exchange risks. It is possible to enter into a very large foreign exchange deal over the telephone.

(iii) Information
A treasury team which trades in futures and options or in currencies is competing with other traders employed by major financial institutions who may have better knowledge of the market because of the large number of customers they deal with. In order to compete effectively, the team needs to have detailed and up-to-date market information.

(iv) Attitudes to risk
The more aggressive approach to risk-taking which is characteristic of treasury professionals may be difficult to reconcile with the more measured approach to risk which may prevail within the board of directors. The recognition of treasury operations as profit making activities may not fit well with the main business operations of the company.

(v) Internal charges
If the department is to be a true profit centre, then market prices should be charged for its services to other departments. It may be difficult to put realistic prices on some services, such as arrangement of finance or general financial advice.

(vi) Performance evaluation
Even with a profit centre approach, it may be difficult to measure the success of a treasury team for the reason that successful treasury activities sometimes involve avoiding the incurring of costs, for example when a currency devalues. For example, a treasury team which hedges a future foreign currency receipt over a period when the domestic currency undergoes devaluation may avoid a substantial loss for the company.

(b) (i) Forward rate agreements

Forward rate agreements (FRAs) are agreements, usually with a bank, that fix the rate of interest on future borrowings (or deposits). ABM Corporations could enter into an agreement to fix the interest rate at 10% for instance. If rates rose to a higher level the bank would compensate the company for the difference in interest incurred. If rates fell, then ABM Corporations would have to make a similar payment to the bank.
A likely disadvantage of this product is that the rate negotiated by the bank will reflect the bank's own expectations of interest rate movements. If the bank also expects a significant rise in rates, ABM Corporations is unlikely to be able to negotiate a FRA at the rate it would need to achieve its targets.

(ii) Interest rate swaps
Swaps are transactions that exploit different interest rates in different markets for borrowing. Two companies, or a company and a bank, swap interest rate commitments with each other. Thus, ABM Corporations might be able to convert its floating rate interest into a fixed rate liability thereby fixing its interest costs at somewhere near to present levels. Swaps are cheap and easy to arrange, but it may be difficult to restrict the period to six months.

(iii) Over the counter (OTC) options
OTC options are similar in form to the traded options considered above, but instead of being purchased on the exchange, they are obtained from a bank and tailored to suit the company's specific requirements.

END OF SUGGESTED SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA ADVISORY PROFESSIONAL IN ACCOUNTANCY

CA 3.7: PUBLIC SECTOR AUDITS AND ASSURANCE

FRIDAY 22 MARCH 2024

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

The Disaster Management and Mitigation Unit (DMMU) is an important unit in the Office of the Vice President. You are an Auditor in the Office of the Auditor-General (OAG) and you are responsible for both performance and Information Technology (IT) audits at the DMMU.

In 2019, the Government started financing the computerization of all key monitoring processes in the DMMU in order to improve efficiency and ensure early detection of potential disasters. A steering committee was appointed by the Vice President comprising experts and a number of community representatives. The budgeted amount included the cost of IT hardware, software and all personnel emoluments and training costs. A Project Accountant was employed to ensure all books of account are kept properly. In addition, a dedicated bank account was opened for the project funds.

A local contractor was selected following a competitive tender. The local contractor had undertaken similar assignments in two (2) neighboring countries. All the IT hardware and software were imported from Asia. The Asian suppliers are known for quality and excellent back-up facilities.

Local employees were engaged on the project and this created thirty (30) direct jobs and forty-two (42) indirect jobs. The project was completed in 2021 and the OAG is about to start both the performance audit and IT audit at the DMMU. The system is being operated by local IT experts.

The DMMU finally spent $16 million on the project and this expenditure was 6% above budget. The Steering Committee confirmed that the IT hardware and software met all the performance criteria defined by management. An intensive training program was conducted for all the workers. The project is in its second year of operation.

Zambia experienced flash floods which have caused serious disasters. The new computerized system has been unable to accurately predict these flash floods and stakeholders are now questioning whether the amount spent represents value for money. A number of stakeholders are calling for an audit to understand the value and benefits of Supreme Audit Institutions (SAIs) to the citizens who are affected by the flash floods resulting in serious disasters. They also want to appreciate the relationship between parliament, government and public sector auditors.

It has been reported that the systems in the neighboring countries are able to make accurate predictions and this has improved the monitoring processes and in turn minimize possible disasters. The systems in the neighboring countries were relatively more expensive and were operated by expatriates. The expatriates are on three (3) year contracts. At the end of their contracts, locals who are currently working under supervision of the expatriates are expected to take over.

The Government advised the stakeholders to wait for the audit findings to appreciate the impact of audit it will bring to resolving the concerns of the computerized system failure to accurately predict these flash floods. The audits are expected to be completed within three (3) weeks. The audit report will be published in the national newspapers and on the website for the OAG. A Junior Auditor on the audit team requested you to clarify how topics for performance audits are selected.

Required:

(a) (i) Explain what is meant by performance auditing. (2 marks)

(ii) Discuss how the selection of topics for performance audits is done by the Supreme Audit Institution clearly explaining the selection criteria. (5 marks)

(b) Explain the role of IT audit within the context of performance auditing. (4 marks)

(c) (i) Explain the three (3) possible approaches that the public sector auditors will choose an approach for the intended performance audit at the DMMU. (6 marks)

(ii) Using the information in the scenario, recommend a suitable approach to be used in the performance audit of the IT Project at the DMMU. (1 mark)

(d) Describe six (6) audit procedures to be performed in the performance audit of the early detection of potential disasters system at the Disaster Management and Mitigation Unit (DMMU). (6 marks)

(e) (i) Briefly describe the three (3) different types of audits in the public sector. (6 marks)

(ii) Describe the relationship between parliament, government and public sector auditors. (4 marks)

(iii) Explain the three (3) objectives in value and benefits of Supreme Audit Institutions. (6 marks)

[Total: 40 Marks]

SECTION B

There are four (4) questions in this section.

Attempt any three (3) questions.

QUESTION TWO

You are a Principal Auditor in the Supreme Audit Institution (SAI) in the Republic of Zambezi and you are part of the audit team working on the financial statement audit of the University of Zambezi for the year ended 31 December 2022. The University of Zambezi is wholly owned by the Government. The country's local currency is the Zambezi Dollar (Z$).

The University of Zambezi contributes significantly to the human resource capital of the country, although the university is generally underfunded. All receipts for the university are banked in the Government controlled account at the Bank of Zambezi. The university is funded from the national treasury.

The financial statement audit for the year ended 31 December 2022 is almost complete. However, the following two (2) matters have been brought to your attention:

(1) During the year under review, five (5) retired lecturers commenced legal action in the Industrial Relations Court (IRC) claiming that their terminal benefits were incorrectly computed. On 16 January 2023, the IRC passed judgement in favour of the five (5) lecturers. The university has since been ordered to pay the lecturers a total sum of Z$3 million.
The Director of Finance made a provision of Z$70 million, given that incorrect computations affect all employees who retired in the past three (3) years. The audit team has not performed any audit work on this matter. However, the University Council has told the Director of Finance not to take the ruling seriously as the relevant political authorities will intervene especially that the five (5) lecturers are considered to be sympathizers of the main opposition political party.

(2) The Audit Senior has suggested that, in order to save time and meet parliamentary deadlines, no follow-up audit should be conducted.

Required:

(a) Explain:

(i) The audit implications if the statement that the Director of Finance ignores the ruling as advised by the University Council.

(3 marks)

(ii) Whether it will be advisable to obtain written representations if the University Council insisted on ignoring the ruling.

(3 marks)

(b) Assuming the provision has not been removed from the financial statements, recommend five (5) audit procedures which should be performed on the provision for terminal benefits.

(10 marks)

(c) Explain the consequences of not carrying out follow-up audits in the public sector.
(4 marks)

[Total: 20 Marks]

QUESTION THREE

The Government of Zambia, through the Ministry of Finance and National Planning mobilized financial resources from foreign donors to assist in the development of curriculum for primary and secondary education. This is required so that matters relating to Information Technology (IT) and Financial Literacy are adequately addressed. The funds are being administered by the Ministry of Education.

The Government of the Republic of Zambia and the foreign donors emphasized the need to observe regularity and propriety. They agreed on a zero-tolerance to non-compliance with authorities. The project is about to start and the foreign donors requested for a compliance audit on the following matters considered fundamental to the success of the project:

(1) Appointment of experts with requisite skills specified in the funding agreement to oversee the implementation of the project.

(2) The recruitment of a Project Accountant to ensure all books of accounts as required by the funding agreement are kept and reports in the prescribed format are submitted to the Republic of Zambia and foreign donors on a quarterly basis.

(3) The opening of a dedicated account for the project funds and appointment of experienced professionals as signatories. At least one (1) of the signatories must be a qualified accountant and member of the Zambia Institute of Chartered Accountants (ZICA).

(4) A detailed procurement manual based on the agreed tender procedures between the Government of the Republic of Zambia and the foreign donors to be developed and circulated to all key stakeholders specified in the funding agreement.

You are an Auditor in the Office of the Auditor-General (OAG) and the Auditor-General has assigned you to this compliance audit. You are also in charge of the financial statement audit at the Ministry of Defence and you have been informed by the Audit Senior that the pre-conditions for the audit do not exist.

Required:

(a) Explain what is meant by propriety and its importance in public sector entities.
(4 marks)

(b) Recommend six (6) audit procedures which should be performed in the compliance audit of the project under the Ministry of Education.
(9 marks)

(c) Advise the Audit Senior on the action(s) to take regarding the non-existence of the pre-conditions for audit at the Ministry of Defence.

(7 marks)

[Total: 20 Marks]

QUESTION FOUR

You are an Audit Manager in the Supreme Audit Institution (SAI) for the Republic of Delta and you are responsible for the performance audit at Gamma Co-operative, which is supported by the Government of the Republic of Delta through various programs.

Gamma Co-operative is the largest co-operative in the country and it is owned by over six (6) hundred vulnerable women. Gamma Co-operative is involved in goat and sheep rearing, and with the help of the Government of the Republic of Delta, 60% of the animals are exported to Asian countries, while the rest are sold locally on a cash basis.

Continued government support depends on meeting the set performance targets. The performance report for the year ended 30 June 2023, shows that Gamma Co-operative has exceeded all its performance targets. An extract from the performance report for the year ended 30 June 2023 shows that income for the year was above budget by 32% while expenditure was 15% below budget. In addition, one (1) of the non-financial performance indicators shows that 95% of the customers rated their experience with Gamma Co-operative as excellent compared to a target of 80%.

The management team is highly motivated and are willing to put in extra hours of work at no extra cost to the co-operative. Thirty (30) of the employees are casual workers but they are reasonably paid. The Accountant for Gamma Co-operative has wide experience in financial accounting for co-operatives but lacks formal accountancy qualifications. The performance report was prepared by the Accountant's friend who is a partly qualified accountant. The Co-operative paid a fee of 0.1% of income for the work.

A week before the year-end, management was alerted about the fraud involving exaggerated overtime for some employees in the production department. Management is wondering how the SAI could assist in this regard.

Required:

(a) Explain three (3) fraud risk factors that are present in Gamma Co-operatives.

(6 marks)

(b) Advise management on how the SAI can assist in the detection of the reported fraud.

(5 marks)

(c) Recommend six (6) audit procedures which may be performed when auditing the performance information.

(9 marks)

[Total: 20 Marks]

QUESTION FIVE

The Government payroll department at Cabinet Office has just replaced the old legacy payroll system because of loopholes that included ghost workers on the payroll. The government initiated the new payroll system after realising that the number of people being paid salaries was more than the approved number of workers in the public service establishment. The new payroll automated system is introduced to among others, to implement an enhanced and integrated centralized computerized system for controlling the establishment and the payroll.

You are an Audit Senior assigned at the Office of the Auditor General, together with an inexperienced Audit Junior to audit the payroll system in the Ministry of Health that has adopted the new payroll system for year ended December 2022. The Ministry pays all employees on a monthly basis, using new computerised payroll system to process salaries, prior to making payment directly into employees' bank accounts. Salaries costs are reported as K31.45 million in the financial statements of Ministry for the year December 2022.

You are about to commence tests of control on the salaries system. However, from discussions with the Audit Junior, it is apparent that he does not understand the concept of obtaining evidence to verify the assertions normally understood to have been made implicitly or explicitly by management and contained in a Ministry's financial statements. Similarly, he does not understand that there are several recognised methods that an auditor may adopt when selecting a sample of items to be tested from a population.

Required:

(a) Explain the objective of financial audits in the public sector.

(4 marks)

(b) Explain the substantive procedures to confirm the accuracy and completeness of reported payroll costs in the financial statements of Ministry of Health.

(6 marks)

(c) Discuss why it is important for the auditor to obtain an understanding of the Ministry of Health, including the payroll's internal controls.

(4 marks)

(d) Discuss the characteristics of the sample selection methods in line with ISSAI 1530 that can used in the audit of payroll in the Ministry of Health.

(6 marks)

[Total: 20 Marks]

END OF PAPER

CA 3.7: PUBLIC SECTOR AUDITS AND ASSURANCE SUGGESTED SOLUTIONS

SOLUTION ONE

(a) (i) **Meaning of performance auditing:**
ISSAI 3000 defines performance auditing as an independent, objective and reliable examination of whether government undertakings, systems, operations, programmes, activities or organizations are operating in accordance with the principles of economy, efficiency and/or effectiveness and whether there is room for improvement.

(ii) **Selection of performance audit topics by the SAI:**
The selection of performance audit topics should be done in the long and short term by the Supreme Audit Institution. In the long term the SAI should as a matter of strategic planning select topics it wishes to audit in the next few years of say five years. Due to limitations including inadequacy of human resources, the SAI will select topics subject to audit annually from the topics in the strategic plan.

Selection criteria:

- Topics should be selected from the SAI strategic plan and be consistent with the SAI mandate.
- Priotize topics that will **add more value** from the results of the performance audit.
- Consider areas and topics with the highest risk for consequences in terms of value for money (Economy, efficiency and effectiveness or public interest).
- Areas where there is strong public interest should be considered in order for the SAI to show its relevance.
- Consider topics that are significant and auditable and required evidence is available.

(b) **Explanation of the role of IT audit within the context of performance audit**

IT audit will be required to apply the performance audit criteria of economy, efficiency and effectiveness and value for money to a government organization's IT systems.

In this context, economy involves minimizing the resource cost of the IT system over its life, from design and specification through to operation. Some elements of this may be outsourced and the economy of any outsourcing agreements should also be considered.

Efficiency of IT systems is concerned with maximizing utilization of IT resources without compromising the operation of the IT system. IT auditors should consider the existence of process duplication or superfluous processes within the system.

In respect of effectiveness, the IT auditor should consider if the system has been implemented in such a manner that it meets the organization's objectives.

(c) (i) **Possible performance audit approaches:**

System-oriented approach – this examines the proper functioning of management systems and elementary principles of good management within the system. This is concerned with the functioning of a system, such as a financial management system or a control system, and considers whether they are well managed and functioning efficiently and effectively, on whether improvements can be made.

Result-orientated approach – this assesses whether outcome or output objectives have been achieved as intended, or whether programmes and services are operating as intended. It deals with questions such as: "What results have been achieved, and have the requirements or objectives been met? Findings are usually presented in the form of a deviation from criteria, and recommendations are aimed at eliminating the deviation.

Problem-oriented approach – this examines, verifies and analyses the causes of particular problems or deviations from audit criteria. Conclusions and recommendations are based on analyzing and confirming causes rather than comparing audit evidence with audit criteria. It deals with questions such as: "What is the problem?" "What are the causes of the problem? To what extent can the government resolve the problem? The audit begins with a recognition that there is a problem or deviation. The audit should set out to establish what the problem is, what its causes are, and what can be done about it.

(ii) Recommended approach in the performance audit of the IT system:

In the case of the Disaster Management and Mitigation Unit (DMMU), there is a concern about the functioning of the system. Hence, the suitable approach could be the System-oriented approach.

(d) **Audit procedures that should be performed in the performance audit for the IT system of DMMU**

Economy

- Obtain evidence on the cost of the project and confirm if the cost is within budgeted cost
- Obtain and review the procurement procedures followed by the DMMU
- For a sample of purchases, confirm that the procurement procedures have been adhered to
- Review invoices for supplies and other purchases and confirm the best price has been paid.

Efficiency

- Establish the output in terms of the speed and accuracy to inputs in terms of resources
- Obtain evidence on whether the same output would have been achieved using lesser input resources

Effectiveness

- Read through the funding agreement and obtain the objective of the project namely improve monitoring and accurate predictions

- Establish the output at the end of the project and determine the achievement of the project
- Obtain written representations from management explaining the possible reason for failing to meet the desired objectives.

(e) (i) **Type of public-sector audits**

The three main types of public-sector audit are defined as follows:

- **Financial audit** focuses on determining whether an entity's financial information is presented in accordance with the applicable financial reporting and regulatory framework. This is accomplished by obtaining sufficient and appropriate audit evidence to enable the auditor to express an opinion as to whether the financial information is free from material misstatement due to fraud or error.

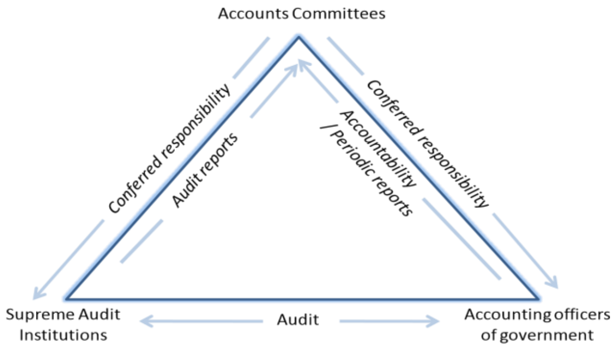
- **Performance audit** focuses on whether interventions, programmes and institutions are performing in accordance with the principles of economy, efficiency and effectiveness and whether there is room for improvement. Performance is examined against suitable criteria, and the causes of deviations from those criteria or other problems are analyzed. The aim is to answer key audit questions and to provide recommendations for improvement.

- Compliance audit focuses on whether a particular subject matter is in compliance with authorities identified as criteria. Compliance auditing is performed by assessing whether activities, financial transactions and information are, in all material respects, in compliance with the authorities which govern the audited entity. These authorities may include rules, laws and regulations, budgetary resolutions, policy, established codes, agreed terms or the general principles governing sound public-sector financial management and the conduct of public officials.

(ii) **The relationship between parliament, government and public sector auditors**

The OAG operates within what is commonly referred to as the Westminster system of accountability, based on the system originating from the United Kingdom. Figure 1 demonstrates the typical relationship in the Westminster system between Parliament with its Public Accounts Committee (PAC), the SAI (Office of the Auditor General) and the executives of government, or accounting officers.

Figure 1 The Westminster system for accountability and oversight in government



Parliament confers responsibility on public sector agencies (accounting officers) to efficiently and effectively manage funds and the delivery of services. The accountability mechanisms put in place include periodic reporting.

The Auditor General's responsibility in this process is to provide a report on the financial information presented by government executives to Parliament. The Auditor General can usually also report on the economy, efficiency and effectiveness with which the allocated resources have been used. The SAI's reports are the first step in oversight. Representing Parliament, the PAC is the main stakeholder of the SAI's reports. It is up to the PAC to ensure that the issues raised in the audit reports are further investigated when necessary and that the actions taken by accounting officers are followed up. Effective oversight in a Westminster system relies heavily on a well-functioning relationship between the SAI and the PAC.

(iii) **The value and benefits of Supreme Audit Institutions.**

The values and benefits of the Supreme Audit Institutions are as follows:

1. Strengthening accountability, integrity and transparency
   One of the objectives of the Supreme Audit Institutions (SAI) should be to strengthen the accountability, integrity and transparency of government and public sector entities. SAIs do this by auditing public sector operations and reporting on their findings, whilst protecting and maintaining their independence.
   Audit reports help oversight bodies (such as the National Assembly or Public Accounts Committee) to discharge their own responsibilities for holding audited entities to account.
   The SAI will be strengthening accountability, integrity and transparency by examining whether public sector institutions funds are spent economically, efficiently and effectively in compliance with existing rules and regulations and in line with project implementation guidelines. The SAI will play an important role in confirming that controls are operating effectively, identifying waste and suggesting ways in which the public sector institutions can operate better.

2. Demonstrating ongoing relevance

   The second objective of a SAI should be to demonstrate its ongoing relevance 'to citizens and other stakeholders'. The public should be aware of the value that the SAI provides for the public sector. Perhaps on a more practical level, a SAI needs to demonstrate its relevance and value to both government and the management of public sector entities.

   To be a credible voice for beneficial change, SAIs should have a good understanding of developments in the wider public sector, and should have a meaningful dialogue with stakeholders about how the work of the SAI can support improvements in the public sector.

   The SAI will demonstrate ongoing relevance by having dialogue with the public sector institutions on their planned programmes and activities and beneficiaries on how well the audit and implementation of the implementation planned programmes and activities will support and improve the lives of the communities.

3. Being a model organization

   The third way in which a SAI should provide value to the public and (perhaps more significantly) other stakeholders is to act as a model organization and lead by example. The SAI should set high standards of conduct and behaviour that can act as a role model for others in the public sector.

   SAIs must be trustworthy and credible. Credibility depends on being seen as competent, independent and publicly accountable for their activities.

   The SAI will deal with all stakeholder with courtesy and diplomacy, observing the ethical code of conduct during the conduct of the implementation programmes and activities audit.

SOLUTION TWO

(a) (i) **Audit implications of the Director of Finance ignoring the ruling as advised by the University Council**

An audit is an independent review of the financial statements and disclosures produced by directors to confirm that they are both honest and unbiased. This means if the ruling is ignored for whatever reason, the truthfulness and fairness of the financial statements may be questionable. Ignoring the ruling will go against the recommended accounting treatment.

The SAI will seriously consider the implication of this misstatement on the audit report and the audit opinion.

(ii) **Obtaining written representations if the University Council insisted on ignoring the ruling**

ISSAI 1580 *Written Representations* gives detailed guidance in this area. Written representations form part of the evidence that the public sector auditor gathers and which forms part of the evidence upon which the audit opinion is reached.

It may be advisable for audit team obtain written representations on the matter just to confirm in writing the University Council's position given that verbal evidence can be retracted.

The standard, however, stresses that written representations do not provide sufficient appropriate audit evidence on their own.

(b) **Audit procedures**

The audit procedures should significantly involve those recommended by ISSAI 1540*Auditing Accounting Estimates, Including Fair Value Accounting Estimates, and Related Disclosures.* The standard requires the auditor to perform one or more of the following:

(1) Test how Director of Finance made the accounting estimate and the data on which it is based.
(2) Develop a point estimate, or a range, to evaluate Director of Finance's point estimate.
(3) Evaluate whether the accounting estimates are reasonable or whether they are misstated.
(4) Obtain sufficient appropriate audit evidence about whether disclosures are correct.
(5) Obtain written representations from management whether management believes significant assumptions used are reasonable.

(c) **Consequences of not carrying out follow-up audits in the public sector**

- It will be difficult to identify the extent to which audited entities have implemented changes in response to the audit findings and recommendations
- It will be difficult to identify areas that might be useful to follow up in future audit work

- It can be difficult to evaluate the effectiveness of SAI's.
- The audited entities may not implement recommendations made by the SAI resulting in continued loss of public resources.

SOLUTION THREE

(a) **Meaning of propriety and its importance**

Propriety relates to general principles of sound public sector financial management and conduct of public sector officials.

Propriety is important because it ensures public resources are used for the intended purpose and not misappropriated or misapplied.

(b) **Recommend audit procedures**

The audit procedures that should now be performed in the compliance audit of Ministry of Education include:

(1) Obtain copies of the appointment letters to confirm that experts with requisite skills specified in the funding agreement to oversee the implementation of the project have been appointed.

(2) Obtain the CVs and any supporting documents and confirm that they match the specifications in the funding agreement

(3) Check whether a Project Accountant has been recruited

(4) Check whether dedicated bank for project funds has been opened and request for bank confirmation.

(5) Inspect the list of signatories and ensure they as specified.

(6) Inspect the relevant documents to confirm that at least one (1) of signatories is a senior member of the Zambia Institute of Chartered Accountants (ZICA).

(7) Obtain a copy of the detailed procurement manual developed and ensure it is based on the agreed tender procedures between the Government of the Republic of Zambia and the foreign donors to developed

(8) Ask selected key stakeholders to confirm that they have received copies of the detailed procurement manual developed.

(c) **Advise on the action(s) to take**

ISSAI 1210 *Agreeing the Terms of Audit Engagements* gives detailed guidance in this area. The preconditions for an audit are the use by management of an acceptable financial reporting framework in the preparation of the financial statements, and the agreement of management (and, where appropriate, those charged with governance) to the premise on which an audit is conducted.

The pre-conditions in the public sector could be much broader and the Audit Senior may have taken a narrow view taken in private sector audits. It will therefore be important to consider what the Audit Senior considered before engaging the management of the Ministry of Defence.

If it is true that the pre-conditions are non-existence, it will important to involve those charged with governance and the legislature. This will definitely assist the SAI in resolving this problem since unlike the private sector audits, the SAI might not be permitted to refuse an audit engagement for a public sector entity.

SOLUTION FOUR

(a) **Fraud risk factors**

- **40% of the sales are on a cash basis** – where cash is concerned everyone is a potential thief because everyone needs cash. Cash transactions therefore a fertile ground for fraudulent activities.
- **Continued government support depends on meeting the set performance targets –** this provides pressure/incentives for manipulation of figures and therefore show a picture which not real.
- **The Accountant for Gamma Co-operative lacks formal accountancy qualifications** –this could imply existence poor controls or non-existence of required controls at all, hence, providing opportunities for fraud to happen since it then difficult to prevent, detect and correct fraudulent activities.
- **Fee of 0.1% of income for the outsourced work** – this could have provided an incentive to the Accountant's friend to overstate the income so that the fees are also overstated.

(b) **Advice on assistance on fraud**

ISSAI 1240 *The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements* gives detailed guidance in this area. Fraud is a broad legal concept, but the auditor's main concern in a financial statement audit is with fraud that causes a material misstatement in the financial statements.

However, in a public sector financial audit the auditor may also be expected to consider compliance issues, such as instances of non-compliance with authorities (such as budgets and accountability frameworks) or report on the effectiveness of internal control. These additional responsibilities and the related fraud risks need to be considered when planning and performing a public sector audit.

The primary responsibility for the prevention and detection of fraud is with those charged with governance and the management of an entity.

The auditor is responsible for obtaining reasonable assurance that the financial statements are free from material misstatements, whether caused by fraud or error, and an overriding requirement is that auditors are aware of the possibility of misstatements due to fraud.

It is not the responsibility of the SAI to assist management on fraud detection. This is the responsibility of management and those charged with governance. In designing and performing audit procedures, the public sector auditors take into consideration the risk of fraud and its impact on the financial statements.

In doing so, the public sector auditor:

- Will bring to the attention of management any internal control weaknesses that they will come across.
- Communicate to management details of any fraud that the auditors will come across during the cause of the audit and

- Report to management and those charged with governance any fraud that the auditors suspect could have taken place.

(c) **Recommend six (6) audit procedures which may be conducted when auditing the performance information**.

The audit procedures which may be conducted when auditing the performance information include:

Economy
- Obtain a copy of the approved budget and confirm by recalculation that the expenditure is 15% below budget
- Agree samples of actual supporting invoices, payment vouchers and other supporting documents to the schedule of actual expenditure reported
- Ask selected employees to confirm quality of any procurements made during the year.

Efficiency
- Confirm the ratio of income to expenditure through recalculation
- Interview selected senior technical employees to confirm any improvements in operational efficiencies
- Obtain management representation to confirm significant improvements in operational efficiencies.

Effectiveness
- Obtain a copy of the approved budget and confirm by recalculation that the income for the year was above budget by 32%
- Agree samples of actual supporting invoices, receipts and other supporting documents to the schedule of actual income reported
- Request senior management for explanations regarding significant variances
- Inspect the questionnaires or surveys completed by customers from which the 95% of the customer rated their experience with Gamma Co-operative as excellent and recalculate the percentage and trace the target of 80% to the approved budget.

SOLUTION FIVE

(a) **The objective of a financial audits in the public sector**

In conducting an audit of financial statements, the overall objectives of the auditor are:

- To enhance the degree of confidence of intended users in the financial statements.
- To obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, thereby enabling the auditor to express an opinion on whether the financial statements are prepared, in all material respects, in accordance with an applicable financial reporting framework; and
- To report on the financial statements, and communicate as required by the ISSAIs, in accordance with the auditors' findings.
- Communicate to users, management, those charged with governance, or parties outside the entity, in relation to matters arising from the audit as required by the standard or by legislation.

(b) **The substantive procedures that should be carried out in connection with the audit of the reported payroll costs**

Substantive Procedures: To confirm the accuracy and completeness of reported payroll costs in the financial statements of Ministry the auditor should perform the following procedures:

- Agree the total wages and salaries expense per the payroll system to the staff payroll budget estimate, investigate any differences.
- Test check master file data and amendments and verifying to appropriate independent documentation authorized by a responsible official.
- Review a sample of payrolls for evidence of review and authorization by a responsible official review a sample of payroll summaries of entries to be posted to the nominal ledger accounts and tracing through the sample to ensure proper authorization and entry into the appropriate accounts
- For a sample of employees, recalculate the gross and net pay and agree to the payroll records to verify accuracy.
- Re-perform calculation of statutory deductions to confirm whether correct deductions for this year have been included within the payroll expense.
- Compare the total payroll expense to the prior year and investigate any significant differences.
- Review monthly payroll charges, compare this to the prior year and budgets and discuss with management any significant variances.
- Perform a proof in total of total salaries, incorporating joiners and leavers and the pay increase. Compare this to the actual wages and salaries in the financial statements (Statement C) and investigate any significant differences.
- Select a sample of joiners and leavers, agree their start/leaving date to supporting documentation, recalculate that their first/last pay packet was accurately calculated and recorded.
- For salaries, agree the total net pay per the payroll records to the bank transfer listing of payments and to the cashbook.

(c) **Importance of obtaining and understanding of the Ministry of Health**

ISSA1 1315: *Identifying and assessing the risk of material misstatement through understanding the entity and its environment* gives guidance in this area.

Obtaining an understanding of the entity, including the entity's internal control is a continuous, dynamic process of gathering, updating and analyzing information throughout the audit.

The understanding establishes a frame of reference within which the auditor plans the audit and exercises professional judgement throughout the audit, for example, when:

- Assessing the risks of material misstatement of the financial statements;
- Establishing materiality and evaluating whether the judgement about materiality remains appropriate as the audit progresses
- Considering the appropriateness of the selection and application of accounting policies, and the adequacy of financial statement disclosures
- Identifying areas where special audit considerations may be necessary, for example, related party transactions, the appropriateness of management's use of the going concern assumption, or considering the business purpose of transactions;
- Developing expectations for use when performing analytical procedures;
- Responding to the assessed risks of material misstatement, including designing and performing further audit procedures to obtain sufficient appropriate audit evidence; and
- Evaluating the sufficiency and appropriateness of audit evidence obtained, such as the appropriateness of assumptions and of management's oral and written representations.

(d) **The characteristics of the sample selection methods in line with ISSAI 1530**

(i) **Random Selection** This is a method of selection in which items in a population have the same statistical probability of being selected. The method uses random numbers as a basis for selection.

(ii) **Haphazard Selection** This is a method of selection in which the auditor attempts to ensure that all items in a population have the same statistical probability of being selected by choosing items haphazardly. The auditor selects the sample without following a structured technique. Although no structured technique is used, the auditor would nonetheless avoid any conscious bias or predictability (for example, avoiding difficult to locate items, or always choosing or avoiding the first or last entries on a page) and thus attempt to ensure that all items in the population have a chance of selection. Haphazard selection is not appropriate when using statistical sampling.

(iii) **Systematic Selection** This is a method of selection in which the auditor selects items using a constant interval between selections. The first item may be selected on a random or haphazard basis, and thereafter the sampling interval is derived by the auditor, for example, by dividing the population by the sample size. The number of sampling units in the population is divided by the sample size to give a sampling interval, for example 50, and having determined a starting point within the first 50, each 50th sampling unit thereafter is selected. Although the starting point may be determined haphazardly, the sample is more likely to be truly random if it is determined by use of a computerized random number generator or random number tables. When using systematic selection, the auditor would need to determine that sampling units within the population are not structured in such a way that the sampling interval corresponds with a particular pattern in the population.

END OF SUGGESTED SOLUTIONS

CA ZAMBIA PROGRAMME EXAMINATIONS

CA ADVISORY PROFESSIONAL IN ACCOUNTANCY

CA 3.8: PUBLIC SECTOR FINANCIAL MANAGEMENT

FRIDAY 22 MARCH 2024

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.

QUESTION ONE

CASE A

(a) Zambia's procurement rules and regulations are outlined in the Public Procurement Act no. 8 of 2020 and the Public Procurement Regulations of 2022. The act provides for the regulation of procurement entities. In the recent Auditor General's report there have been reports of incomplete infrastructure or infrastructure not properly constructed or items delivered with wrong specification.

Required:

Explain the best practice that a public sector entity should adhere to when they are going to deliver or procure capital projects.

(6 marks)

(b) Zambia intends to invest in solar energy following reported load management by the utility company. The project will be undertaken over a period of five (5) years. The expected undiscounted costs and benefits are tabulated below:

Year	0 K'000	1 K'000	2 K'000	3 K'000	4 K'000	5 K'000
Cost	(10,500)	(20,500)	(45,000)	(15,000)	(15,000)	(15,000)
Benefit	0	0	35,000	35,000	35,000	35,000

The Government of the Republic of Zambia uses a social time preference rate of 6% and Social opportunity costs of 8%.

Required:

(i) Evaluate the investment in the solar energy using the social time preference rate and social opportunity cost.

(8 marks)

(ii) Comment on your results in (i) above.

(2 marks)

(iii) Discuss with examples and justification of the following charging methods that a central or local government department can use in pricing its services or goods:

1. Minimum standards. (2 marks)
2. Differential pricing. (2 marks)

CASE B

(c) A centralized Treasury function can improve the management of fiscal risks by supporting co-ordination across the public sector, assist in the imposition of direct controls and regulations and by making better use of provisioning and risk transfer. However, with the quest of implementing fiscal decentralization, there has been several calls for countries to implement decentralized Treasury Functions.

Required:

(i) Explain the advantages of *centralized* and *decentralized treasury* functions. (16 marks)

(ii) Discuss the reasons certain hedging techniques are restricted in the public service. (4 marks)

[Total: 40 Marks]

SECTION B

There are FOUR (4) questions in this section.

Attempt any THREE (3) questions.

QUESTION TWO

Last month a team from the International Monetary Fund (IMF) visited Zambia to familiarize themselves with Zambia's legal system. The area of interest was the legal and regulatory framework that governs management of public finances. They specifically wanted a presentation on Local Governance system Zambia. Most of the major stakeholders in Zambia feel the legal and regulatory framework related to public finance need further reforms. The IMF were concerned with lack of development in rural areas and wanted to know the sources of finance the local government authorities can access in order to develop the respective areas.

The IMF observed that there were a lot of resources budgeted for at the central level of the various institutions.

Required:

(a) Discuss the reasons major stakeholders feel the legal and regulatory framework, within which Public Finance Management operates in Zambia needs further reforms.
(5 marks)

(b) Compare and contrast the sources of finance available to central and local Government in Zambia.
(7 marks)

(c) Differentiate the responsibilities of the Ministry of Finance and Local Authorities.
(8 marks)

[**Total: 20 Marks]**

QUESTION THREE

Gregory a student in accounting at a local college is carrying out a research as part of the requirements of his degree in accountancy programme. The research is centered on public financial management (PFM) in Zambia.

He has approached you and presented several questions about the subject of PFM. He has several issues to deal with in his research such as:

(i) The nature of public financial management,
(ii) The Public financial management cycle
(iii) The Public expenditure and financial accountability reforms in Zambia between 2005 and 2012.
(iv) The budget reforms introduced in Zambia in the year 2014 for the 2015 budget.

With respect to the budget reforms, Gregory believes that the output based budgeting approach has its own limitations compared to the activity based budgeting (ABB) approach. He explains that the ABB approach is good enough for Zambia since it is based on the cost of each activity.

Gregory has asked you to assist him with some notes on:

(i) The concept of Public Financial Management in Zambia.
(ii) The Public financial management cycle
(iii) The Public expenditure and financial accountability reforms in Zambia between 2005 and 2012.

During your conversation with Gregory you have agreed that you will email some notes to him related to the subject of PFM in Zambia. This approach was necessary because both you and Gregory have extremely busy schedules throughout the week; therefore, it is not possible to meet in person.

Required:
Draft some notes to be included in your email. Your notes should include:
(a) A discussion of the nature of Public Financial Management (PFM) and the public financial management cycle in Zambia.
(12 marks)
(b) An Explanation of the reforms that were introduced by the Public Expenditure Management and Financial Accountability framework (PEMFA).
(8 marks)

[Total: 20 Marks]

QUESTION FOUR

Assume you were recently employed as a risk manager in QX Limited, a public company in the manufacturing industry. Some of your responsibilities as outlined in your appointment letter include:

(i) Reviewing and assessing risk management policies and protocols
(ii) Making recommendations and implementing modifications and improvements.
(iii) Recommending and implementing risk management solutions.

In your first month, the senior management tasked you with the following specific responsibilities:

(i) Identifying the risks faced by the institution.
(ii) Identifying suitable risk management strategies.
(iii) Implementing the risk management strategies identified in (ii) above.

The company has in recent years been running without a qualified risk management officer. As the first qualified officer appointed in this position, your role is to reduce the company's exposure to risk and minimizing the losses arising from investment in risky projects.

You are currently working on a paper explaining the types of risks in the public sector as a whole and also at the individual entity level for presentation to the board of directors.

Required:

(a) Explain the meaning of the fiscal risk.

(2 marks)

(b) Compare and contrast the following types of Fiscal risks in the public sector,

(i) Endogenous and Exogenous. (4 marks)

(ii) Continuous and Discrete risks. (4 marks)

(c) The IMF fiscal transparency code notes that governments should publish regularly as summary reports on risks to their fiscal prospects.
Explain the IMF fiscal transformation codes. (3 marks)

(d) Discuss the entity level financial risks for individual public sector entities like QX Limited.

(7 marks)

[Total: 20 Marks]

QUESTION FIVE

To narrow the fiscal deficit from the projected 9.8 percent of GDP in 2022, to 7.7 percent in 2023, and attain fiscal sustainability, the government has taken a contractionary fiscal stance in 2023, by proposing to reduce its expenditure by 3.2 percent from ZMW 172.9 billion in 2022 to ZMW167 billion in 2023.

One key metric used to guide fiscal policy, is the country's debt-to-GDP ratio. As debt is likely to reach significantly higher levels, it will be important for government to stabilize the debt-to-GDP ratio and prevent the debt from growing unsustainably. The preparation of a medium-term fiscal framework at a macroeconomic level usually includes projections around a range of Government policies.

During a global crisis, such as the COVID-19 pandemic, the role of the International Monetary Fund may be particularly important for some countries. To boost economic recovery, post the COVID – 19 pandemic, many governments have announced a number of economic initiatives, including investing in major public infrastructure projects.

Required:

(a) Explain roles of the International Monetary Fund (IMF).

(4 marks)

(b) Explain the types of policies you would expect a Government to have in place to manage its macro-economic climate, and suggest examples of targets or specific policy objectives that may be in these policies.

(6 marks)

(c) Describe two (2) main financing options that do not involve borrowing, available to national governments with high debt- to - GDP ratios and hence higher default risk.

(2 marks)

(d) Using examples, discuss at least two (2) potential sources of borrowing, either domestically or externally, that the Zambian government might utilize to help its economy recover from financial shocks arising from the COVID–19 pandemic, and the benefits or limitations of each of the sources of borrowing.

(8 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

$$c = P_aN(d_1) - P_eN(d_2)e^{-rt}$$

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

CASE A – Capital Projects

(a)

- Scope the scheme and prepare an initial strategic case – this confirms the strategic context of the proposed project and makes a robust case for change and indicators of a way forward that can be tested with stake holders. Individual activities can include SWOT analysis on an initial long list of possible options, and the development of an initial short list with high levels of costs and benefits.
- Plan the scheme and prepare outline Business case – this provides additional analysis in order to identify a preferred option that demonstrates public value, the expected procurement model and delivery method, the affordability of the project and the management arrangements to ensure successful delivery.
- Procure the solution and prepare a full business case – following market testing and negotiations with potential suppliers, this revisits earlier analysis, recommends the most economic, efficient and effective offer and delivery method, confirms that funding is in place and the project is affordable, and provides detailed management plans that demonstrate how it will be implemented and eventually evaluated.

(b) (i) **Social Time Preference**

Year	0 K'000	1 K'000	2 K'000	3 K'000	4 K'000	5 K'000
Undiscounted net Benefits	(10,500)	(20,500)	10,000	20,000	20,000	20,000
Discount factors 6%	1.00	0.943	0.890	0.840	0.792	0.74
Net Present Value	(10,500)	(19,331.5)	8,900	16,800	15,840	14,800

NPV = 26,508.50

(ii) **Social Opportunity Cost Rate**

Year	0 K'000	1 K'000	2 K'000	3 K'000	4 K'000	5 K'000
Undiscounted net Benefits	(10,500)	(20,500)	10,000	20,000	20,000	20,000
Discount factors 8%	1.00	0.926	0.857	0.794	0.735	0.681
Net Present Value	(10,500)	(18,983)	8,570	15,880	14,700	13,620

NPV = 23,287

Comment: Using social time preference rate the project delivers a higher positive NPV over the time period compared with using Social Opportunity Cost Rate, because the latter benefits are discounted more heavily hence the NPV being lower.

(iii) 1) Minimum standards

Minimum standards could be set and provided free for the public. If individuals wished a higher level of service they could pay some form of charge for this. Charges could therefore be used to finance discretionary increases in service provision. Many local authorities apply this principle to domestic refuse collection: normal household refuse is collected free of charge, but bulky items attract an extra special collection fee.

2) Differential pricing

This is similar to the private sector, where different prices are set for different customers to help differentiate behaviours. For example, peak/off peak, adult/child, disadvantaged/advantaged.

CASE B – Treasury Management

(c) (i) **Advantages of Centralised Treasury Functions**

- Centralised liquidity management – cash is consolidated which avoids having a mix of cash surpluses and overdrafts in different local bank accounts. This facilitates bulk cash flows , enabling lower bank charges;
- Consolidated view of cash requirements across the public sector – enables central view of expected borrowing requirements , and enables borrowing to be arranges in bulk which can provide for lower interest rates;
- Larger volumes of cash are available to invest – this provides better short term investment opportunities
- Skilled and experienced staff – a centralized specialized function enables the employment of experts who have knowledge in borrowing and investment opportunities and the use of techniques such as hedging
- Better control of – centralization can enable the exercise of better control through the use of standardized procedures and risk

Advantages of Decentralised Tresury Functions

- Diversification of finance resources – Localised Treasury functions may be able to access resources of finance not available to centralized functions and match these against local assets (for example , tax concept financing where future local property taxes are diverted to an economic re development project).

- Operational and financial autonomy – greater autonomy can be given to local delivery entities because they are likely to have a closer relationship with the decentalised cash management function.
- Responsiveness – the decentalised function may be more responsive to the needs of local entities resulting in quicker release of funds to where it is needed.

(ii)

- Public sector entities have found themselves in financial difficulties when they hedging technique employed is used for speculation rather than true hedging.
- Where there are no clear guidelines to compel approval from the centre, institutions may end up hedging using instruments which may disadvantage a public institutions.

SOLUTION TWO

(a) The stakeholders have highlighted the following major issues:

- Non issuance of commencement order on the Public Audit Act of 2016.
- Laws do not fully capture internationally accepted best practice.
- Do not sufficiently strengthen certain institutions such as National Assembly and office of the Auditor General.
- Need to extend coverage to wider public sector and the need to include provision of monitoring fiscal risks.

(b)

- Central government has access to much larger sources of income than local government.
- Local government is a recipient of funds from central government through grants
- Local government does not have the ability to raise income tax locally in form of a company income tax, PAYE, withholding tax, mineral royalty tax or VAT.
- Local government cannot raise customs or exercise duties
- It is not practical for local government to raise funds by charging those entering specific parts of the country whereas central government can levy a fee for entry to the country at points of entry.
- It is not legal for local government to raise money through foreign loans.
- Central government does not raise taxes through property rates, personal levies and parking fees.

(c)

- Ministry of finance is responsible for the whole country and not just one Central government has access to much larger sources of income than local government.
- Local government is a recipient of funds from central government through grants
- Local government does not have the ability to raise income tax locally in form of a company income tax, PAYE, withholding tax, mineral royalty tax or VAT.
- Local government cannot raise customs or exercise duties
- It is not practical for local government to raise funds by charging those entering specific parts of the country whereas central government can levy a fee for entry to the country at points of entry.
- It is not legal for local government to raise money through foreign loans.
- Central government does not raise taxes through property rates, personal levies and parking fees.
- sector or local area.
- The team managing the Ministry of Finance has wide span of control than the Local government

- The Ministry of Finance will oversee local government entities in conjunction with Ministry of Local Government and Rural Development.
- Ministry of Finance is concerned with long and medium term strategy while local government is more concerned with short term and medium term issues.
- Ministry of Finance is more likely to liaise with other government entities
- Ministry of Finance will undertake co-ordination of external resource mobilization while local government are prohibited from contracting debt from foreign entities without authorization of the Minister of finance.
- Ministry of Finance sets revenue targets for the entire government.
- Ministry of Local Government holds regular meetings with local representatives while Ministry of Finance only engages local representatives during planning and budgeting processes.

SOLUTION THREE

(a) According to Lawson (2015) public financial management refers to a set of laws, rules and systems and processes used by government to mobilise revenue, allocate public funds and undertake public spending account for funds and audit results.

The PFM cycle comprise a number of phases including:

1) Policy formulation
2) Budget formulation
3) Budget approval
4) Budget execution and expenditure management,
5) Accounting
6) External audit and evaluation

Budgets formulation- Budgets are formulated based on clear overall strategy and to support the implementation of policies to achieve public service goals.

Annual budgets are aligned with medium term plans and there is collective participation

Budget approval- the budget is subject to approval by the legislature which is able to effectively scrutinize government plans.

Budget execution- there is predictability and control in budget execution. Standard procedures and processes are followed and there is ongoing monitoring in places to enable the effective application of controls.

Budget evaluation- annual financial reports are produced and they are subject to independent external audit and scrutiny. They are used to assist in the formulation of future budgets.

(b) Between 2005 and 2012 the PEMFA programme saw a range of reforms introduced. They included:

i) Strengthening the linkage between the annual budget and the medium and long term development plans through the constitution of Zambia (Amendment) Act 2009. This provided for the budget to be laid before the national assembly not later than the second week of October before the next financial year, providing a full year for programme implementation.

ii) The development of a socio economic simulation model , ZAMMOD enabling improvements to macroeconomic and fiscal frameworks used in the preparation of annual budgets and medium term plans including the MTEF and NDP.

iii) Further improvements to the MTEF and activity based budgeting frameworks.

iv) Public procurement enhancements through the enactment of the PPA Act and establishment of the ZPPA (Public financial management reform strategy for the government of the republic of Zambia 2013-2015 ministry of finance)

SOLUTION FOUR

(a) Fiscal policy is concerned with the use of government revenue collection and spending in order to influence economic activity. Fiscal risks are deviations of fiscal outcomes from those expected at the time of a government budget.

The IMF has highlighted that over the past decades governments experienced on average an adverse fiscal shock (that is a difference between the expected level of government finance to fund public goods and that actually obtained) of 6% of GDP once every 12 years leading to average increases to debt to GDP ratio of 15% of GDP.

(b) In order to understand fiscal risk, the IMF recommends the following categorization:

(i) **Endogenous or exogenous**

(1) Endogenous risks - These are risks generated from government activities or which can be influenced by government actions. E.g. expenditure above budget limits.

(2) Exogenous risks – those that arise from actions or events outside of government control. E,g global commodity price volatility.

(ii) **Continuous or discrete risks**

(1) Continuous risks. These are regular events that cause outturns which differ from forecasts and which can be incorporated into fiscal settings.

(2) Discrete risks. Those that occur irregularly or may never have occurred. The likelihood of such risks could be:

a. Probable: In which case they should be provided for in budgets and medium term expenditure forecasts. e.g defaults on loans provided by the government to enterprises or institutions.

b. Possible: likely to occur at some point but not in the near term. E.g the call on a government guarantee.

c. Remote: particularly significant but hard to predict when if ever they will occur. E.g natural disasters.

(c) **The IMF fiscal transparency code notes that governments should publish regular summary reports on risks to their fiscal prospects.**
These include:

(i) Macroeconomic risks. Government should report on how fiscal outcomes may differ from baseline forecasts.
(ii) Specific fiscal risks. Government should provide a regular summary report on the main specific risks to its fiscal forecast.
(iii) Loan term financial sustainability analysis. Governments should regularly publish projections of the evolution of public finances over the long term.

(d) Entity level risks include:

(i) Demand forecasting.

Entities forecast expenditure on the basis of expected levels of demand for goods and services. If demand is higher than forecast entities may need to either restrict provision, with subsequent impact on the delivery of wider government objectives, or seek emergency financing which may carry significant costs and have wider implications to financial sustainability.

(ii) Cost forecasting.

Expenditure forecasts are implemented by factors over which entities may not have control.

(iii) Approved financial resources are not provided.

Delivery of public goods and services requires those financial resources that have been approved and appropriated by the legislature to be provided to the entities that deliver them

(iv) Wider resources used to finance operations.

Where entities are permitted to fund themselves through fees and charges for goods and services, shortfalls on forecasts can often have a significant impact on their financial position and ability to deliver wider public goods and services.

(v) Regularity.

Where resources are approved by the legislature public sector entities are usually required to demonstrate that they have been applied for the purpose for which they were appropriated and raised.

SOLUTION FIVE

(a) The roles of the IMF are as follows:

- Surveillance - involves the monitoring of economic and financial developments, and the provision of policy advice, aimed especially at crisis - prevention.
- Lending to countries with balance of payments difficulties, to provide temporary financing and to support policies aimed at correcting the underlying problems; loans to low-income countries are also aimed especially at poverty reduction.
- The IMF provides countries with technical assistance and training in its areas of expertise.

Supporting all three of these activities is IMF work in economic research and statistics.

As part of its efforts to strengthen the international financial system, and to enhance its effectiveness at preventing and resolving crises, the IMF has applied both its surveillance and technical assistance work to the development of standards and codes of good practice in its areas of responsibility, and to the strengthening of financial sectors.

The IMF also plays an important role in the fight against money-laundering and terrorism.

(b) Macroeconomic projections are not simple forecasts of trends in macroeconomic variables. <u>Projections are based on a definition of targets and instruments in policy areas such as:</u>

- monetary policy – control over interest rates and money supply
- fiscal policy – levels of government taxation and spending
- exchange rate and trade policy
- external debt management
- regulation and promotion of private sector activities, and reform of public enterprises.

<u>For example, the policy objective of reducing inflation normally corresponds to targets such as:</u>

- the level of the current account deficit and
- the debt to GDP ratio.

<u>While specific instruments can include:</u>

- changes in the balance of direct and indirect taxes, and
- credit policy measures.

A macroeconomic framework should include projections of the government accounts, which form a medium term fiscal (or financial) framework (MTFF). Projections should cover the current year and a forward period of 3 to 4 years. The MTFF should detail the broad economic categories of revenue and expenditure.

Moreover, it should preferably be supplemented with expenditure estimates by main function or sector.

(c) Sources of Government funding not involving borrowing

Printing money of new money (or quantitative easing) by central banks is carried to boost economic activity by increasing liquidity to the financial system. For that reason, printing money is considered an expansionary policy. The primary policy instrument used by banks is a short-term interest rate or base rate that they control. Sale of public owned assets, though sparingly used is an alternative to financing government expenditure to avoid or supplement borrowing, and can take the form of selling publicly held fixed assets, companies or shares in companies. Deferred payments or postponement of debt repayments can also improve cash flows, savings from which can be used to sustain public services by governments under debt distress.

(d) Sources of Government borrowing

Treasury Bills

Treasury bills are defined as government financial instruments that have a maturity period of less than a year. They are therefore used for short term financing.

Treasury bills are the shortest-term Treasury securities, those that mature within a year (from the time they are issued).

Treasury bills are discount instruments. Rather than making interest payments, they are issued at a discount to face value and mature at face value. The interest rate is a function of the purchase price, the face value and the time remaining until maturity.

Bills are quoted in terms of their discount rate, or interest rate based on a 360-day year. As with bond yields, when the discount rate is going up, a bill is losing value.

A 'bond-equivalent yield' can be calculated for a bill, to allow for a comparison with other debt instruments.

Government Bonds

Treasury bonds are financial instruments that have a maturity period of more than one year. They are also known as gilts.

Gilts are, very simply, units of debt issued by the government. When buying them, you are effectively lending money to the government, which promises to pay back the amount in full (known as the principal) at a set date, along with interest (known as the coupon).

A conventional 'gilt-edged security' is the simplest and oldest form of government stock. The bond pays out half the annual coupon every six months until the maturity date, when the final coupon payment and principal (the initial investment) are paid to the holder in full.

Gilts are issued at par, but are then traded on the open market. This means you can sell the gilt before its redemption date, in which case you might not recoup your initial investment. However it also means that you can buy gilts below par and hold them until redemption to make a profit. Of course, if you buy them above par you can make a capital loss on redemption.

Bond prices rise when the Bank of Zambia cuts the base interest rate, and fall when the base rate goes up. So gilt yields rise and fall with interest rates. This is one of the great attractions of conventional gilts.

Gilt prices are also affected by the market's perception of future interest rates, and this is reflected in the yield curve. The longer gilt has to maturity, the more sensitive it is to changes in interest rates – what is known as duration risk.

For both bonds and treasury bills, these may be traded, but will only rarely be spent on goods and services. In this way, the expected increase in inflation due to the increase in national wealth is lower than if the government had simply printed the money and increased the more liquid forms of wealth (i.e., the money supply).

Other government financing sources include grants, concessional loans from multilateral financial institutions, such as the AIB, African Development Bank and the IMF, and borrowing from other governments such as the European Union.

END OF SUGGESTED SOLUTIONS