AUGUST 2022 PROFESSIONAL EXAMINATION
FINANCIAL MANAGEMENT (PAPER 2.4)
CHIEF EXAMINER'S REPORT, QUESTIONS & MARKING SCHEME

STANDARD OF PAPER

The standard and quality of the paper was good and in line with the required standard. The quality of the questions was considered good and were generally clear, straight forward and devoid of ambiguities making it easy for candidates to understand. This clearly reflected in the performance of the candidates in the paper.

The questions reflected a comprehensive coverage of the syllabus with each question containing a number of sub questions spread across the various topics in the syllabus. This enabled candidates to largely have the opportunity to answer each question. Candidates generally were able to attempt all questions within the stipulated time.

The distribution of questions between theory or essay and quantitative or calculations was also largely good. In this paper, theory questions carried 36 marks while the remaining 64 marks were for calculations or quantitative questions spread across the various subject areas thereby testing the candidates understanding of both areas. The trend was similar in April sitting as theory covered 39% and calculations covered the remaining 61%.

The quality of the questions was considered standard and providing adequate information expected to enable candidates understand and answer the questions. They were generally precise, straight forward, and easy to understand. Marks allocation was good and well spread and in line with load and difficulty level of questions.

PERFORMANCE OF CANDIDATES

The overall pass rate for the August sitting was 49% compared to the 26% performance in April sitting this year. This was the best results in the paper in recent memory and a significant improvement in the performance of the candidates in the paper.

Drivers of the good performance:

- Good spread of questions and mix which were high standard, precise, and unambiguous making it easy for candidates to understand and answer without deviations
- Remarkable improvement in candidates understanding of the questions and approaches in answering the questions in line with the requirements.
- Candidates comprehensive preparation and research for the exams which reflected on the quality of answers and marks obtained generally across the various questions
- Improvement in candidates' ability of generally providing answers to all questions satisfactorily within the stipulated time as these enabled candidates to obtain some marks across all the five questions contributing to the pass rate.

The candidates answer to the questions were generally unique and the team did not observe any paten of copying by candidates

NOTABLE STRENGTHS AND WEAKNESSES OF CANDIDATES

The following strengths were observed:

- Comprehensive research and preparation by candidates
- Ability of the candidates to answer all questions and getting some reasonable marks from each question
- Strong knowledge in both the theory and calculations
- Very good coverage of the syllabus in the preparation by candidates
- Good use of feedback from interactions with examiners and tuition centres.

Observed reasons of the strengths:

- Well planned and thorough preparation for the exams by candidates
- Thorough research and studies across the entire syllabus
- Candidates use of feedback provided to students through live interactions between the students and the examiners
- Improvement in the distribution of tuition centres across the various parts of the country especially the urban centres
- Improvement in availability and access to study materials
- Prior knowledge of some aspects of the syllabus covered at the degree level by some candidates

The strengths can be enhanced by:

- Continuing improvement in research and new study material in the subject
- Continuing to ensure a complete and comprehensive coverage of the syllabus and practice of more sample questions before the exams
- Use of peer group and tuition centres pre-exam assessments to beef up preparations for the exams
- Leveraging more on technology to access study materials and tuition especially those outside the urban centres

Observed weaknesses demonstrated by candidates:

- Inability to identify the extent of detail required in answering the questions especially the theory base questions. Some candidates over write for questions that carry small marks
- Ability to identify the right formula to use in answering the questions. Some use wrong formula leading to deviation and loss of valuable marks
- Poor planning and understanding the question by some candidates leading to a lot of cancellations thereby wasting valuable time and marks in the exams
- Very ambiguous responses and incoherent and mix thoughts making it difficult for examiners to understand the head and tail of the answer

Remedies for observed weaknesses:

- Candidates to use the marks allocated to the questions as a guide to determine the extent of details expected in the answer.
- Taking time to plan work and understand the right formulas to use in answering questions and make use of the formulas provided in the question paper
- Ensure the thought process flows and is logical and the examiner will be able to follow your thoughts and flow process well to score the maximum marks
- Plan the work well to avoid unnecessary deviations and cancellations

QUESTION ONE

a) Public Sector Institutions exist generally not to make business profit. In view of this, there are other objectives that such sectors aspire to achieve in the performance of their functions.

Required:

i) Explain **THREE (3)** core objectives of Public Sector Institutions. **(8 marks)**

ii) Distinguish between ***financial objectives*** and ***non-financial objectives*** of a firm. **(2 marks)**

b) Baaday Company Ltd is a Ghanaian registered company engaged in the importation and exportation of general goods. The company issued GH¢600 million bonds at a coupon of 25% per annum. The bonds are irredeemable. Baaday Company Ltd pays a tax rate of 25% and the issue cost is 2% on the value of the bonds issued which is tax deductible.

Additionally, the company has sold GH¢900 million worth of shares and the issue cost for the shares is 5% of the value of the shares issued which is also tax deductible. The Company shareholders require a return of 30% per annum.

Required:

i) Calculate the cost (in percentage terms) of servicing the bonds. **(3 marks)**

ii) Calculate the amount raised from the sale or issue of the shares. **(2 marks)**

iii) Compute the amount the company should earn annually to be able to meet the return expectation of the suppliers of funds. **(2 marks)**

iv) Compute the Weighted Average Cost of Capital (WACC) for Baaday Company Ltd. **(3 marks)**

(Total: 20 marks)

QUESTION TWO

a) Mergers and acquisitions are business strategies used to achieve various synergies. However, it is observed that there are instances where the desired results are not achieved after the mergers and acquisitions have taken place.

Required:

Explain **THREE (3)** reasons why mergers and acquisitions fail to achieve the desired results. **(6 marks)**

b) Mako Ghana Ltd is a company in Ghana operating in the Manufacturing industry and currently valued at GH¢200 million. Jini Ltd is also operating in the same industry but on a smaller scale and is currently valued at GH¢80 million. Due to growing challenging operating environment currently, the shareholders of both companies agreed to a 100% equity acquisition of Jini Ltd by Mako Ghana Ltd.

A detailed research and analysis by the Finance team of Mako Ghana Ltd shows the following:

- There will be incremental operation cost of GH¢40 million per annum in perpetuity due to increased number of branches.
- The combined company's market share will improve by 15% per annum on the average leading to incremental revenue of GH¢160 million per annum in perpetuity

Based on the analysis above, both parties agreed to seal the deal under the following payment terms:

Option One:
Mako Ghana Ltd to pay GH¢170 million in cash for the 100% equity of Jini Ltd.

Option Two:
Mako Ghana Ltd to offer 25% of the combined company's equity to shareholders of Jini Ltd as the payment for the 100% equity.

The cost of capital of Mako Ghana Ltd is 15% per annum.

Required:

i) Calculate the gains from the acquisition for Mako Ghana Ltd. **(4 marks)**

ii) Calculate the cost of the acquisition to Mako if cash is paid under Option one. **(4 marks)**

iii) Calculate the cost of the acquisition to Mako Ghana Ltd if the 25% of the combined equity is used for the payment under option two. **(6 marks)**

(Total: 20 marks)

QUESTION THREE

a) Jeanne Cosmetics Ltd is located in Taifa and is now considered as the leader of organic and natural cosmetic products in the municipality. Per the cash management policy of Jeanne Cosmetics Ltd, any excess cash that is idle for more than three months should be invested. Three months ago, the company invested GH¢100,000 of idle cash in a 3-month fixed deposit account. The investment matures today, and the company will receive a maturity value of GH¢105,000.

Required:

i) Compute the interest rate earned on the account over the investment holding period. **(2 marks)**

ii) Suppose the interest rate on the account remains the same, and the company rolls over the principal, compute the annual simple interest rate on the investment. **(2 marks)**

iii) Suppose the interest rate on the account remains the same and the company rolls over both the principal and interests, compute the annual compound interest rate on the investment. **(2 marks)**

b) Apphia Fabrics Ltd plans to replace its existing manufacturing plant with a newer version in three years' time. The replacement cost of the existing plant is GH¢10 million currently. However, experts forecast that the cost of the newer version of the plant will be GH¢12 million in three years' time.

On the advice of the Finance Manager, the company will start saving from now to raise the required amount to buy the plant in three years' time. Consequently, the company has signed an investment agreement with DT Financial Services Ltd. Per the agreement, the company will deposit equal amounts into an interest-bearing account at the beginning of each of the next three years. The annual nominal interest rate on the account is 16%, but interest will be compounded monthly.

Required:
Compute the equal annual deposit required to raise the required amount in three years' time. **(4 marks)**

c) Aduro Pharmaceuticals Plc is a Ghana-based multinational company with a production facility in India and marketing subsidiaries in some West African countries. The Treasury Department of the company is considering strategies for managing its foreign exchange risk exposures. In particular, the Treasury Department is concerned about the following two cases of foreign exchange risk exposures:

Case 1:
The exchange rate between the Ghanaian cedi (GH¢) and the British pound sterling (GBP) is currently GH¢8.1125/GBP1. The company recently borrowed GBP500,000 from an offshore bank to buy active chemicals for the production of paracetamol syrup. The loan is to be paid in six months' time. Market pundits project that the Ghanaian cedi would depreciate against the pound sterling over the next six months.

Case 2:
The exchange rate between the Ghanaian cedi (GH¢) and the Indian rupee (INR) is currently GH¢0.0799/INR1. The company's production subsidiary in India presents its financial statements in the Indian rupee. The net worth of this production subsidiary in India is INR20 million. The company would be preparing its consolidated financial statements in a few months' time. Market pundits project that the Ghanaian cedi will appreciate against the Indian rupee.

Required:

i) For each case, identify the type of currency risk exposure the company is facing. **(2 marks)**

ii) In respect of Case 1, recommend **TWO (2)** internal strategies and **TWO (2)** external hedging strategies the Treasury Department can use to manage the foreign exchange risk exposure. **(8 marks)**

(Total: 20 marks)

QUESTION FOUR

a) Lease or Buy decision could be a tough call to make, especially considering that different industries benefit more than others from leasing or buying outright depending on the specific needs of that sector. There is a need to assess the pros and cons in relation to your own unique business.

Freda Automobile (Freda), an emerging automobile company has taken a decision to provide a new Toyota Land Cruiser for its Chief Executive Officer (CEO). The company is considering whether to buy or lease. The Toyota Land Cruiser has a useful life of six years and will cost GH¢1,000,000 to buy and will be funded with a bank loan. The Finance Director provided the borrowing interest rate for the loan at 22% per annum. The annual repairs and maintenance cost when the V8 is bought is GH¢18,000. The corporate tax rate is currently 25% paid in the same year the profit is made. The capital allowance on the V8 is 25% per annum on reducing balance basis.

Alternatively, the Toyota Land Cruiser could be leased at a rental cost of GH¢250,000 per annum for six years payable at the beginning of each year.

Required:

i) Explain **TWO (2)** reasons why Freda will prefer leasing option to outright buy. **(4 marks)**

ii) Calculate the Net Present Value (NPV) for the buy option. **(5 marks)**

iii) Calculate the Net Present Value (NPV) for the lease option. **(4 marks)**

iv) Based on your computations in ii) and iii) above advise management which option should be considered. **(2 marks)**

b) The Ghana Stock Exchange (GSE) market has recently been intensifying its public education for Ghanaian companies to list on the stock market to raise the needed capital for expansion and growth. You have been approached by owners of Asafo Ghana Ltd who have expressed interest in getting listed on the stock market but has limited knowledge on what they stand to benefit by listing their company on the market

Required:

Explain **FOUR (4)** advantages Asafo Ghana Ltd could derive from listing on GSE. **(5 marks)**

(Total: 20 marks)

QUESTION FIVE

a) Adjei Departmental Stores' demand for cash has been quite volatile recently, with the standard deviation in daily cash demand rising to GH¢60,000. The managers of the company are therefore considering using the Miller-Orr model to manage its cash flows. The minimum cash balance would be set to GH¢300,000. The annual interest rate is expected to be 18.25% while the cost of trading investments in securities is GH¢10,000 per transaction.

Required:

i) Compute the cash return point. **(4 marks)**

ii) Compute the upper cash limit. **(2 marks)**

iii) Explain how the minimum cash limit, upper cash limit, and cash return point would be used to manage the cash balances of Adjei Departmental Stores. **(3 marks)**

b) The Founder of a growing technology company has questioned her Chief Finance Officer about the company's holdings of cash in demand deposit accounts and on hand when the money could be invested in financial securities for returns.

Required:

Explain to the Founder **THREE (3)** motives for holding cash. **(6 marks)**

c) Serwaa Home Décor Ltd, a trading company based in Ghana, usually buys foreign currency to settle invoices for imports. The Treasury Manager is considering ways of hedging the company's foreign currency risk exposures. After considering various options available to her, she has settled on both forwards and futures contract.

Required:

Explain **TWO (2)** advantages of currency forwards over currency futures contract.

(5 marks)

(Total: 20 marks)

SUGGESTED SOLUTION

QUESTION ONE

a)

i) The Three core objectives of public sector Institutions are:

- Economy
- Efficiency
- Effectiveness

Economy refers to doing things using the least cost or lowest cost. This emphasis on the minimum resources to achieve results. This is usually at the operational level. The quality of the output is irrelevant it is the quantum of inputs that is measured.

Efficiency looks at the relationship between inputs and output. It measures the ratio of input to output. It tries to use the least inputs possible for the maximum output possible. This is usually at the tactical level of control.

Effectiveness is associated with doing things right irrespective of the level of resources used to achieve that. Emphasis is on output or outcome and not the cost or input used to achieve that. This is usually done at the strategic control level.

(3 points for 8 marks)

ii) The ***financial objectives*** are the ones that most people think of for companies and they involve profits, costs and so on. Everything else falls into the category of ***non-financial objectives***. Let's have a look at a few examples of each:

Financial Objective Examples

- To increase turnover to over $5 million in the next 8 years
- To increase total revenue by 15% annually for the next 5 years
- To decrease marketing expenses by 5% annually for the next 7 years
- To increase net profit by 15% annually

Non-Financial Objective Examples

Some organizations are not focused on profit - such as non-profit organizations. Some non-financial objectives relate to the current customers, potential customers or customer services, as follows:

- To expand sales to existing customers (current customers)
- To increase customer loyalty to the weaker brands (current customers)
- To develop new products for current and potential customers (current and potential customers)
- To become international by setting up an online ordering service (current and potential customers)
- To improve customer satisfaction with customer services (customer services)

(1 mark each for any Financial and Non-Financial objectives =2 marks)

b)

i) Cost of debt (kd) = $\dfrac{\text{Int}(1 - t)}{MV - [MVf(1 - t)]} \times 100$

Interest = 25% x 600 million = 150 million
Tax rate = t = 25%
Issue cost = f = 2%
Market Value (MV) = 600 million
Mvf = 2% x 600 million = 12 million

Kd = $\dfrac{150\,(1\text{-}25\%)}{600 - 12\,(1\text{-}25\%)} \times 100$

$= \dfrac{150\,(0.75)}{600 - 9} \times 100 = \dfrac{112.5}{591} \times 100 = 19\%$

(3 marks)

ii) Net proceeds = Pc - [pof(1 – t)]
P0 = 900 milliom
f = 5%
pof = 5% x 900 million = 45 million
t = 25%
Net proceeds = 900 -45(1-25%)
= 900 – 33.75
= 866.25 million

(2 marks)

iii) Amount to earn annually for suppliers of funds:
Equity holders = 30% x 900 million = 270 million
Debt holders = 150 million (1 – 25%) = <u>112.5 million</u>
<u>382.5 million</u>

(2 marks)

iv) Weighted Average Cost of Capital (WACC)

$\dfrac{\text{EBIT}}{\text{Total value}} \times 100$

$= \dfrac{382.5}{900 + 600} \times 100 = 25.5\%$

(3 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

This question consisted of two parts. The a) part was theory-based and the b) was calculation based.

The a) part tested candidates understanding of the core objectives of public sector Institutions and the ability of the candidates to distinguish between financial and non-financial objectives of a firm. A number of candidates were able to correctly answer with reference to the 3Es of Economy, Efficiency and Effectiveness but candidates generally answered the question from the list of goods and services provided by the government or public sector Institutions, the ii) aspect on financial and non-financial objectives received good answers with a significant number of candidates obtaining the maximum marks.

The b) part of the question examined the candidates' ability to calculate the percentage cost of servicing bonds, calculation of amount to raise from issue of shares, amount to earn to achieve a particular return level, and finally the calculation of weighted average cost of capital all carrying 10 marks. Good answers were received from some candidates but the spread of the marks across a number of sub questions helped candidates to score some marks.

QUESTION TWO

a)

- **Agency problem:** The management of target companies are always apprehensive of losing their jobs after the takeover. They often spend a lot of time and energy to frustrate the deal even if it finally goes through. The infighting can cause a problem leading to failure
- **Unrealized economies of scale:** Over optimistic or wrong assessment of economies of scale eventually does not materialize in practice after the take over
- **Valuation problem:** Errors in valuing or wrong assumptions in valuing the target can lead to wrong values
- **Integration problems:** Poor integration of staff and management with different organizational cultures and attitudes can pose challenges to successful delivery of the desired outcome.

(Any 3 points @ 2 marks each = 6 marks)

b)

i) Gains from the acquisition:

Incremental Revenue	= 160 million
Incremental cost	= (40 million)
Net incremental revenue	120 million

Mako Ltd cost of capital = 15%

$$\text{Gains} = \frac{120 \text{ million}}{0.15} = 800 \text{ million cedis}$$

(4 marks)

ii) Cost of cash acquisition

Cash cost = Cash – the value of Jini Ltd

= 170 million - 80 million = **90 million**

(4 marks)

iii) Cost of Share acquisition:

Value of Mako Ltd	= 200 million
Value of Jini Ltd	= 80 million
Add gains	= 800 million
Combined value	**1,080 million**

Jini share of the combined value =25%

25% x 1,080 million = 270 million

Cost = combined share of Jini– Value of Jini ltd

= 270 Million – 80 million = **GH¢190 million**

(6 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

Question two which normally centres on valuations, mergers and acquisition generally poses a challenge to candidates. The a) part tested candidates' ability to explain the reasons which in some cases make mergers and acquisitions fail to achieve the intended objectives. This was well answered as most candidates were able to thoroughly explain the reasons thus scoring the maximum marks.

The b) part was calculation based on an acquisition where candidates were expected to calculate the gain of the acquisition to the acquirer and the cost of the acquisition to the acquirer if cash was paid in one scenario and the other scenario if the 25% of equity of the combined was paid to the acquiree as settlement. This attracted average responses but those who understood the question scored the maximum marks.

QUESTION THREE

a) **Jeanne Cosmetics Plc: Investment of idle funds**

i) With a maturity value of GH¢105,000 received for investing a principal of GH¢100,000, the company earned GH¢5,000 in interest over the 3 month investment period. Thus, the implied interest rate for the investment period is 5%:

$$Holding\ Period\ Interest = \frac{Periodic\ Interest}{Principal} \times 100\%$$

$$\text{Holding Period Interest} = \frac{\text{GH¢5,000}}{\text{GH¢100,000}} \times 100\% = 5\%$$

(2 marks)

ii) If only the principal is rolled over while the interest rate remains the same, the company will receive a cedi return of GH¢5,000 on the principal of GH¢100,000 at the end of each of the four investment periods (i.e., 3 months) in a year. The annual simple interest rate will be 20%:

$$Annual\ Simple\ Interest = \frac{Annual\ Interest}{Principal} \times 100\%$$

$$\text{Annual Simple Interest} = \frac{\text{GH¢20,000}}{\text{GH¢100,000}} \times 100\% = 20\%$$

(2 marks)

Alternatively, the annual simple interest may be calculated as the product of the holding period interest rate and the number of times it will be earned in a year:

$$\text{Annual Simple Interest} = 5\% \times 4 = 20\%$$

iii) If both the principal and interests are rolled over while the interest rate remains the same, the initial principal will effectively be compounded by a periodic interest factor of 1.05 (i.e., 1 + 5%) every 3 months for a year. The annual compound interest rate will be 21.55%:

$$Annual\ Compound\ Interest = \left(\frac{Terminal\ Value}{Principal} - 1\right) \times 100\%$$

$$\text{Annual Compound Interest} = \left(\frac{\text{GH¢100,000}(1.05 \times 1.05 \times 1.05 \times 1.05)}{\text{GH¢100,000}} - 1\right) \times 100\%$$

$$\text{Annual Compound Interest} = 21.55\%$$

Alternatively, the annual compound interest may be calculated as the effective annual rate:

$$Annual\ Compound\ Interest = (1 + Equivalent\ Period\ Rate)^m - 1$$

$$\text{Annual Compound Interest} = (1 + 5\%)^4 - 1 = 21.55\%$$

(2 marks)

b) **Apphia Fabrics Ltd: Sinking fund**

As the objective of the fund is to raise enough money to finance the acquisition of a newer version of its plant in three years' time, the future value of the fund (F) should be equal to the forecasted cost of the newer version of the plant in three years' time (Cost):

$$F_3 = \text{Cost}_3 = \text{GH¢12 million}$$

As the deposits are to be made at the beginning of each period, the case is that of an annuity due. And as the future value is known, the annual deposit can be calculated using the future value formula of an annuity due:

$$F_n = PMT\left[\frac{(1+i)^n - 1}{i}\right](1+i)$$

As there are annual deposits and multiple compounding in each year, the appropriate interest rate to use is the effective annual rate, and the period should be in years.

The effective annual interest rate is 17.2271%:

$$EAR = \left(1 + \frac{i}{m}\right)^m - 1$$

Annual interest, i = 16%
Frequency, m = 12

$$\text{EAR} = \left(1 + \frac{0.16}{12}\right)^{12} - 1 = 0.172271$$

The amount of each annual deposit is GH¢2,886,386.26:

$$F_n = PMT\left[\frac{(1+i)^n - 1}{i}\right](1+i)$$

The future value of the fund, F_3 = GH¢12,000,000
Annual interest, i = 17.2271%
Number of periods, n = 3 years

$$12{,}000{,}000 = \text{PMT}\left[\frac{(1 + 0.172271)^3 - 1}{0.172271}\right](1 + 0.172271)$$

$$PMT = \frac{12{,}000{,}000}{4.157447727} = 2{,}886{,}386.26$$

(Marks allocation: Identification of the appropriate fund balance = 0.5 marks; Computation of the instalment = 3 marks; Final answer = 0.5 marks = 4 Marks)

c)

i) Identification of the type of currency risk exposure the company is facing
Case 1: Transaction exposure to currency risk
Case 2: Translation exposure to currency risk

(1 mark for each case = 2 marks)

ii) **Internal strategies for dealing with currency risk exposure**
Case 1 is a transaction exposure to currency risk involving a pound sterling payable that is subject to the adverse effect of a probable depreciation in the local currency relative to the foreign currency in which it is denominated. The Treasury Department of the company may use any of the following internal strategies to deal with the currency risk exposure:

Invoice currency: A way of avoiding the currency risk exposure altogether is to invoice or be invoiced in the entity's local currency. This strategy effectively shifts the currency risk exposure to the counterparty. The Treasury Manager of Aduro Pharmaceuticals may renegotiate with the lender for the company to be allowed to settle the obligations related to the loan in its local currency.

Leading and lagging: To avoid a potential currency loss in the future, an entity may collect the underlying foreign currency receivable or pay the underlying foreign currency payable earlier (i.e., leading). And to enjoy a potential currency gain in the future, an entity may delay the collection of the underlying foreign currency receivable or the payment of the underlying foreign currency payable (i.e., lagging). In the case under review, the underlying exposure is a payable and the local currency is expected to deprecate against the foreign currency. That suggests a potential currency exchange loss. Thus, the Treasury Department may consider leading the settlement of the loan to avoid the potential currency exchange loss.

Matching: To reduce an entity's underlying exposure in a currency, its receivables and payables in that currency may be set off to a lower net receivable or payable. If the company has some receivables in the pound sterling, the Treasury Department should consider matching them. Otherwise, the company may consider exporting some of its output for the foreign currency to match the resulting receivables against the payables under the loan contract.

External strategies for dealing with currency risk exposure
As the currency risk exposure is that of transaction exposure, external strategies may be used to deal with it. Any of the following external strategies may be used:

Forward hedge: A forward hedge involves the use of forward contracts to lock the exchange rate at a certain rate to secure the outcome of the underlying exposure. The company may enter a forward contract to buy pound sterling forward at an agreed rate. That would effectively convert the underlying exposure, the outcome of which is uncertain due to potential changes in the exchange rate, to a certain outcome as the exchange rate is locked at the forward exchange rate.

Money market hedge: A money market hedge involves entering a couple of money market transactions (i.e., borrowing and investing) that effectively converts a foreign currency receivable or payable to a guaranteed local currency receivable or payable. To hedge the underlying pound sterling payable, the Treasury Department would borrow the local currency, buy pound sterling with that, and invest the pound sterling. The maturity value of the pound sterling investment will then be used to offset the pound sterling payable, leaving the maturity value of the local currency borrowing as the guaranteed outcome.

Futures hedge: A futures hedge involves buying or selling a futures contract for potential payoffs to offset actual losses from the underlying exposure. To hedge the underlying pound sterling payable, the Treasury Department would buy pound sterling futures now for settlement in the future. When the underlying exposure falls due, the Treasury department would then close the company's position by selling futures. Any gains from futures can be used to offset potential losses from the actual settlement of the underlying exposure.

Option hedge: An option hedge involves buying an option for the right to buy or sell the underlying asset at a given price. This provides the company with the opportunity to benefit from gains from the option to offset losses from the underlying exposure while avoiding downside risk. A non-refundable premium is paid for the right to buy or sell. To hedge the underlying exposure with an option, The Treasury Department would buy a call option on the pound sterling, so the company gets the right to buy pounds at the agreed strike price.

Currency swap: Hedging with a currency swap involves entering a swap arrangement with a counterparty to exchange periodic payments in different currencies over a period. A currency swap permits an entity to make payments in its preferred currency. To hedge with a currency swap, the Treasury Department would arrange with a swap counterparty to undertake to swap interest and principal payments in the local currency and pound sterling. Under that arrangement, the company would get to pay interest in cedis and the repay the principal in cedis.

(Any 2 points for each strategies @ 2 marks each = 8 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

This question was structured into three parts a) to c). The a) Part expected candidates to compute simple interest rate on an investment holding period and on annualised basis and compound interest rate on an annualised basis based on reinvestment of principal plus interest. The b) part was on sinking fund, testing the candidates' ability to calculate the annual deposits to be made to raise the expected amount in three years' time. Both parts generally received average answers but few candidates did extremely well and scored the maximum marks. Candidates generally struggled to identify and use the right formulas to calculate the simple and compound interest rates as well as the size of the sinking fund.

The c) i) was on currency risk management structured in case 1 and 2 scenarios where candidates were tested on their ability to identify the type of currency risks captured in each case on translation and transaction risks. This received some good answers. The ii) then tested candidates' knowledge on internal and external hedging strategies to manage the currency risk. This was also well answered and received varied but good responses.

QUESTION FOUR

a)

i) Reasons why leasing is preferred to buying

- Leasing prevents high initial cash outlay upfront compared to buying
- It helps to reduce the risks of holding obsolete equipment since it is owned by the lessor especially in fast changing assets
- Transfers the cost of maintenance to the lessor depending on the terms
- Provides better option to access and use assets or equipment if the company credit score is not good
- Any other relevant points acceptable

(Any 2 well explained points @ 2 marks each= 4 marks)

ii) BUYING OPTION

Computation of Capital Allowance @ 25%

Year	**1**	**2**	**3**	**4**	**5**	**6**
	GH¢	**GH¢**	**GH¢**	**GH¢**	**GH¢**	**GH¢**
Cost/WDV	1,000,000	750,000	562,500	421,875	316,406	237,306
Capita Allow.	(250,000)	(187,500)	(140,625)	(105,469)	(79,102)	(237,306)
	750,000	**562,500**	**421,875**	**316,406**	**237,306**	**-**

Tax benefits @ 25%

Year	1	2	3	4	5	6
	GH¢	**GH¢**	**GH¢**	**GH¢**	**GH¢**	**GH¢**
Capita Allow.	250,000	187,500	140,625	105,469	79,102	237,306
Repairs cost	18,000	18,000	18,000	18,000	18,000	18,000
	268,000	205,500	158,625	123,469	97,102	255,306
Tax shield	67,000	51,375	39,656	30,867	24,276	63,827

EVALUATION

Cost of borrowing 22%

Cost of borrowing net of tax benefit = 75% x22% = 16.5%

Year	0	1	2	3	4	5	6
	GH¢	**GH¢**	**GH¢**	**GH¢**	**GH¢**	**GH¢**	**GH¢**
V8 Cost	(1,000,000)						
Rep & Maint. cost		(18,000)	(18,000)	(18,000)	(18,000)	(18,000)	(18,000)
Tax shield		67,000	51,375	39,656	30,867	24,276	63,827

Net Cash	(1,000,000)	49,000	33,375	21,656	12,867	6,278	45,827
DCF	1	0.858	0.737	0.632	0.543	0.466	0.400
PV	(1,000,000)	42,042	24,597	13,686	6,987	2,926	18,331

NPV =(1,000,000)+42,042+24,597+13,686+6,987+2,926+18331
= (891,431)

(Marks are evenly spread = 5 marks)

iii) Leasing Option

Year	0	1	2	3	4	5	6
	GH¢	**GH¢**	**GH¢**	**GH¢**	**GH¢**	**GH¢**	**GH¢**
Rental	(250,000)	(250,000)	(250,000)	(250,000)	(250,000)	(250,000)	
Tax shield		62,500	62,500	62,500	62,500	62,500	62,500
Net Cash	(250,000)	(187,500)	(187,500)	(187,500)	(187,500)	(187,500)	62,500
DCF	1	0.858	0.737	0.632	0.543	0.466	0.400
PV	(250,000)	(160,875)	(138,187)	(118,500)	(101,813)	(87,375)	25,000

NPV= (250,000)+(160,875)+(138,188)+(118,500)+(101,813)+(87,375)+25000
= (831,750)

Alternative
Annuity factor for 5 years = 3.2365
Year 1-5 (187,500) x 3.236 = (606,750)
Year 6 62,500 x 0.400 = 25,000
Year 0 x 1 = (250,000)
(831,750)

(4 marks)

iv) Based on the analysis above the LEASE OPTION should be taken to provide the V8 for the CEO. **(2marks)**

c) Advantages of listing on the stock market:
- Access to long term capital
- Improvement in the financial position of the company due to the cash inflow from the listing which will eliminate any financing challenges
- Provision of incentives to employees and investing public
- Enhances the brand, status, prestige of the company. It exposes the company to the top investors and the elite's group
- Transferability of shares provides access to liquidity to the shares
- Realization of investment proceeds and public trading enhances valuation of shares
- Tax advantages to listed companies

(Any 4 points for 5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

Question four examined candidates on lease or buy options. The a) part was on reasons for leasing as against outright buy and followed by a decision making on case scenario for candidates to determine whether to lease or buy by calculating the Net Present Value (NPV) for each option and advising on which option which in total carried 15 marks. Candidates generally performed very well in this area with some scoring the maximum marks.

The b) Part tested candidate's knowledge on the benefits of getting a company listed on the Ghana stock exchange market, this part was also well answered. Question four was the best answered question in the paper.

QUESTION FIVE

a) **Adjei Departmental Stores' cash management plan**

iv) Compute the cash return point

The cash return point is estimated as under.

$$RP = L + \frac{1}{3} \times Cash\ spread$$

Lower cash limit, L = GH¢300,000

Cash spread = GH¢1,133,928.96, computed as under:

$$Cash\ spread = 3\left(\sqrt[3]{\frac{3\text{Fs}^2}{4k}}\right)$$

Trading cost, F = GH¢10,000
Standard deviation in daily cash usage, s = GH¢60,000
Daily interest rate, k = 18.25% / 365 = 0.05%

$$Cash\ spread = 3\left(\sqrt[3]{\frac{3 \times \text{GH¢}10{,}000 \times \text{GH¢}60{,}000^2}{4 \times 0.0005}}\right) = 3 \times 377{,}976.32$$

$$= \text{GH¢}1{,}133{,}928.96$$

$$RP = \text{GH¢}300{,}000 + \frac{1}{3} \times \text{GH¢}1{,}133{,}928.96 = \text{GH¢}677{,}976.32$$

Suggested marks allocation:
Computation of the cash spread = 2 marks
Computation of the cash return point = 2 marks

(4 marks)

v) Computation of the upper cash limit. (2 marks)

The upper cash level is computed as under.

$$U = L + Cash\ spread$$

$$U = \text{GHS}300{,}000 + \text{GH¢}1{,}133{,}928.96 = \text{GH¢}1{,}433{,}928.96$$

(2 marks)

vi) With the Miller-Orr cash management model, the cash balance is managed around three critical cash levels: the minimum cash limit, the cash return point, and the upper cash limit.

To implement the Miller-Orr model, Adjei Departmental Stores will begin with a cash balance equal to the cash return point (i.e., GH¢677,976.32). As the company uses and receives in its operations, the cash balance falls and rises. The cash balance is allowed to float around the cash return point but within the spread between the lower and upper cash limits. When the cash balance hits any of the cash limits, action would be taken to restore the balance to the cash return point.

When the cash balance hits or drops below the minimum cash limit (i.e., GH¢300,000), the cash balance would be considered too low. The company would then sell off some of its investments in marketable securities to raise additional cash to restore the cash balance to the cash return point.
When the cash balance hits or rises above the upper cash limit ((i.e., GH¢1,433,928.96), the cash balance would be considered too high. The company would then invest the excess cash in marketable securities and thus bring the cash balance down to the cash return point.

(3 marks)

Suggested marks allocation:
The essence of the cash return point = 1 mark
The essence of the lower limit and expected action when the cash balance hits it = 1 mark
The essence of the upper limit and expected action when the cash balance hits it = 1 mark

b) **Motives for holding cash**
Motives for holding cash refer to the reasons for keeping some amount of cash. Entities hold some amount of cash for certain reasons. The main motives for holding cash are transactions, precautionary, speculative, and compensating balance.

Transactions balance is the amount of cash that is kept to facilitate daily business operations. The amount of cash kept for transactions is influenced by several factors including the level of income, the volume of activities, and the time gap between receipts and payments.

Precautionary balance is a reserve of cash that is maintained to meet unforeseen cash demands. The level of precautionary cash balance is influenced by factors like the predictability of cash flows and access to loans at short notice. If an entity's cash flows are less predictable and it cannot access borrowed funds at short notice, it would have to keep more cash for speculative reasons.

Speculative balance is a reserve of cash held to take advantage of investment opportunities and other bargain purchases that might arise. Cash holdings for speculative purposes are influenced by several factors, including accessibility to borrowed funds. Entities that have limited access to loanable funds would have to reserve more cash for speculative reasons than those that can borrow funds at short notice.
Compensating balance is the amount of cash held in bank accounts usually on the bank's demand to meet cash requirements for things like cheque clearing, regular account maintenance charges, and loan repayments and interest deductions.

(6 marks)

Suggested marks allocation:

(Explanation of motives = 2 marks for each of three = 6 marks)

c) **Serwaa Home Décor Ltd**

The advantages of Serwaa Home Décor Ltd hedging its currency risk exposure with currency forward contracts as against currency futures contracts include the following:

- Under a forward arrangement, Serwaa Home Décor can arrange to trade the exact quantity of the foreign currency to achieve a perfect hedge. With futures contracts, however, the contract size cannot be tailored to the precise requirements of Serwaa Home Décor. In some cases, the company may have to buy more or fewer futures contracts than necessary, resulting in hedge inefficiency.
- Forward contracts would permit Serwaa Home Décor to arrange for a contract maturity date that coincides with the maturity of its underlying currency exposure. In the case of futures contracts, the contract maturity date cannot be tailored to synchronise with the maturity date of the underlying exposure.
- Hedging with a forward contract presents a guaranteed outcome as the forward exchange rate is locked when the contract is initiated. Basis risk is inherent in hedging with futures contracts. For futures contracts, there is the risk that the futures price may move by a different amount from the price of the underlying asset.
- Unlike futures contacts, taking a position in a forward contract does not require margin deposits. Thus, Serwaa Home Décor Ltd can invest the funds that otherwise would be locked with a futures contract clearinghouse to meet margin requirements.

(Any 2 points @ 2.5 marks each = 5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

The last question in the paper also emerged as the second-best answered question by candidates. The question was mainly on cash management. The a) part examined candidates on how to compute cash return point, upper cash limit and how minimum, maximum and return point will be used in prudent cash management process whilst the b) tested the candidates' knowledge on motives of holding cash. The candidates applied their knowledge generally well and provided good answers with few candidates doing extremely well and scoring the maximum marks. The c) part was straight forward and expected candidates to explain two advantages of currency forwards over currency futures which generally received good answers. Majority of candidates who attempted this question scored good marks.