APRIL 2022 PROFESSIONAL EXAMINATIONS
FINANCIAL MANAGEMENT (PAPER 2.4)
CHIEF EXAMINER'S REPORT, QUESTIONS AND MARKING SCHEME

STANDARD OF THE PAPER

The paper measured up to the required standard with the level of precision and unambiguity improving compared to prior sittings. The questions were generally specific, precise and requirements were straight to the point reflecting the level of emphasis to make questions unambiguous to candidates while maintaining the high standards.

The questions were in line with syllabus coverage and also tested candidates on all the required areas in the syllabus and ensuring that the spread of questions within each topic was well done over the various sittings.

The spread of questions between quantitative and theory was generally good as about 61% were quantitative and the 39% theory based. The trend expects candidates' to study and have a good understanding of the theoretical content as well as the calculation or quantitative based areas to build a well-rounded professional. Candidates are therefore expected to spend time covering both areas.

All questions were generally standard with questions carrying adequate information that were relevant to enable the candidates have all what was required to satisfactorily answer the questions. The allocations of marks were thoroughly done to ensure good spread of marks in line with the level of difficulty and work load.

PERFORMANCE OF CANDIDATES

The overall pass rate was 27%. This was below the higher past rate of 35% recorded in the previous sitting but better than the historical pass rates in some few years back which were around 10%. This sitting is the first of the three-diet annual programme for the Institute which commenced with this April sitting. Candidates had the least time in recent memory to prepare between one sitting and the other due to the start of the new examination programme. It should however be noted that some packs or centres had as high as 60% pass rate whilst others had as low as 10% pass rate.

Drivers of the good performance:
- General improvement in understanding and answering of the question in line with the requirements
- Candidates demonstrated improved understanding of the theory side as well which registered a good response rate
- Precise and straightforward nature of the questions also contributed to the performance

The candidates' performance varied across packs and centres ranging between 10% and 60% with 17% of the packs scoring over 40% pass rate and another 17% scoring between 30% and 40%. The team generally observed varied approaches and responses to the questions and did not notice any responses suggestive of copying.

NOTABLE STRENTHGS AND WEAKNESSES OF CANDIDATES
The following strengths were observed:
- Candidates generally were able to answer or attempt all questions within the stipulated time
- Ability of some candidates to think outside the box to provide answers was also remarkable
- Varied responses but good explanations to questions asked demonstrated candidates' wide range of research and study materials used during studies or preparations for the exams
- Improvement in the level of presentation was noted as well.

Observed reasons of the strengths:
- Some candidates had a better appreciation of the environment and useful lessons from previous sittings which immensely helped them
- Creative thinking and research abilities by some candidates enabled them answer the questions from their perspectives
- Further insights provided to candidates through the Institute's organised interaction series between the examiners and the students
- Availability and quality of tuition and study materials still played a role
- Examiners sessions with students provided a useful guide to students on the preparations and answering of questions

The strengths can be enhanced by:
- Students continuing to be abreast with developments in the local and the global space that are relevant to the subject
- Ensuring a complete and comprehensive coverage of the syllabus as questions are well spread across the syllabus and in both theory and calculations or quantitative.
- Candidates ensure, they study the texts very well and build a solid understanding of the subject including the various scenarios which will greatly assist the candidate to provide good answers irrespective of how the questions are being asked. Candidates should move away from studying only past questions which often makes it difficult for them to be flexible to answer questions that are asked differently from the past questions studied.

Observed weaknesses demonstrated by candidates
- Time constraint as adequate preparation from the last sitting was shortened as this is the first for the three diet per annum exams programme.
- Ability to understand the requirements of the questions and going straight to the answers without wasting a lot of precious time writing irrelevant lengthy answers.
- Candidates still use wrong formulas even though the formulas are provided in the paper leading to wrong answers and conclusions
- Disjointed thought process by candidates leading to provision of incoherent answers

Remedies for observed weaknesses

- Candidates should study and know the appropriate formulas to use in answering questions and make use of the formulas provided in the question paper
- Candidates should focus more time on understanding the requirements of the questions before starting to answer to avoid wasting precious time providing a lot of irrelevant answers
- Candidates must plan before starting to answer the questions to avoid providing confusing and incoherent thoughts in the answering process.

QUESTION ONE

a) Shareholder value maximisation is a core sustainable objective for shareholders than short term profit maximisation. Also important to management is social responsibility to the community which is delivered at a great cost to the organisation.

Required:

i) Is shareholder value maximisation inconsistent with social responsibility? Explain.

(4 marks)

ii) Explain why shareholders value maximisation is considered more appropriate than profit maximization. **(3 marks)**

iii) Explain **THREE (3)** non-financial objectives of an organisation. **(3 marks)**

b) Boom Ltd is into the provision of online conference call facilities which has become popular due to the rising trend in Covid-19 cases in Ghana. The company has 10 million issued shares currently at GH¢50 each, 3 million preference shares trading at GH¢25 each and 5,000 bonds also trading at GH¢600 each.

Required:

i) Calculate the Capital Structure of the Company. **(4 marks)**

ii) How much should the company earn annually to achieve a return of 25% per annum on capital employed for equity holders if dividend rate on preference shares per annum is 20% and coupon on the bonds is 18%? In Ghana, interest paid on debt is tax deductible and corporate tax is at 25%. **(6 marks)**

(Total: 20 marks)

QUESTION TWO

Blanco Ltd is listed on the Ghana Stock Exchange (GSE) and is also included in the Ghana club 500 companies. In its recently published accounts, the directors indicated that as part of their growth strategy, the company is negotiating to take over the business of Zinko Enterprise (Zinko), a start-up business in the industry.

Blanco Ltd has in issue 2,480,000 ordinary shares with each share earning approximately GH¢0.79 to give a Price-Earnings ratio of 8. Shareholders expected rate of return is 18%.

The books of Zinko also shows that the company has in issue 1,456,000 ordinary shares. The Company's earnings have increased significantly in the last 4 years from GH¢300,000 to GH¢455,000. The dividend pay-out ratio has been consistent at 45% as a strategy to pay enough funds to shareholders and generate internal resources for future expansion projects. Shareholders expected rate of return is 20%.

Blanco Ltd has estimated that upon completion of the acquisition, the Zinko line of business would generate annual cashflow of GH¢682,500 in the first year, and after that grow at an annual rate of 5% into perpetuity. The investment required for the acquisition will be

GH¢1,230,000. However, the funds for this investment would be raised at a cost of capital of 20%.

Required:
a) Use the following valuation methods to estimate the possible prices that Blanco Ltd can offer for the acquisition of Zinko:
i) Price-Earnings ratio
ii) Dividend growth model
iii) Discounted Cashflow **(12 marks)**

b) Discuss **TWO (2)** key issues that Zinko management may have with each of the valuation methods used above. **(6 marks)**

c) Discuss **FOUR (4)** possible benefits that will accrue to Blanco Ltd if it acquires Zinko. **(2 marks)**

(Total: 20marks)

QUESTION THREE

a) An online University is setting up an endowment fund for the financing of scholarship grants. A total of GH¢200 million has been raised through fundraising events. This amount will be invested continuously for 5 years before disbursements will be made from the fund. The Trustees of the Endowment Fund have received a tentative investment strategy from the appointed Investment Manager.

Below is an extract from the tentative investment strategy:
"*The seed money will be invested in fixed-income securities and negotiated short-term investments to secure the protection of the principal while earning stable returns over the 5-year gestation period. To achieve this objective, the seed money will be invested as follows: 60% in Government of Ghana 91-day Treasury Bills, 40% in 6-month fixed deposit accounts with top-class universal banks in Ghana.*
Over the 5-year gestation period, the maturity value of each round of investment will be rolled over as they mature."

Being the only Trustee with expertise in finance, your fellow Trustees have asked you to do some simulations to inform them about the growth of the fund in the gestation period based on the tentative investment strategy.

Required:
i) Suppose the annual nominal interest rate on the Government of Ghana 91-day Treasury bills will be 15.2514% in year 1, 15.4814% in year 2, 15.7565% in year 3, 15.9478% in year 4, and 16.2146% in year 5. Compute the terminal value of that component of the investment at the end of the fifth year. **(5 marks)**

ii) Suppose the average nominal interest rate on the fixed deposits will be 16.5% over the next five years. Compute the terminal value of that component of the investment at the end of the fifth year. **(3 marks)**

iii) Considering the proposed strategy that the maturity value of each round of investment is rolled over as they mature, explain whether the interest that would accrue on the investment over the entire investment period would effectively be a simple interest. **(2 marks)**

b) Healthy Beverages Ltd is a food processing company based in Accra, Ghana. It has imported raw soybeans from farmers in the United States for processing into soy milk. The shipment is invoiced at USD800,000, and the company is expected to make payment in three months' time. The exchange rate between the Ghanaian cedi and the U.S. dollar is currently quoted at GH¢5.8555 / USD1 bid and GH¢5.8585 / USD1 ask/offer. Considering that the Ghanaian cedi has been depreciating against the U.S. dollar in recent times, the managers of the company are worried that the exchange rate might rise further over the next three months.

The Finance Manager is considering two strategies for hedging the company's foreign exchange risk exposures: a forward market hedge and a money market hedge. Below are pieces of information from the forward foreign exchange market and the money markets:

Forward market FX rates:
3-month forward rate: bid rate = GH¢5.8755 / USD1; ask/offer rate = GH¢5.8785 / USD1
6-month forward rate: bid rate = GH¢5.8955 / USD1; ask/offer rate = GH¢5.8985 / USD1

Money market average interest rates:
Ghana money market: lending/investing rate = 16.5%; borrowing rate = 18.5%
U.S. money market: lending/investing rate = 6.5%; borrowing rate = 8.5%

Required:
i) Suppose the risk exposure is to be hedged using a forward foreign exchange contract, Calculate and comment on the outcome of the forward market hedge. **(4 marks)**
ii) Suppose the risk exposure is to be hedged using money market transactions, calculate and comment on the outcome of the money market hedge. **(6 marks)**

(Total: 20 marks)

QUESTION FOUR

a) In investment appraisal, many methods are available for use by Finance and project professionals. One of these methods is the *Payback period* but stakeholders have often raised questions on the usefulness of this method due to a number of limitations inherent in the use of the method.

Required:
Explain **FOUR (4)** limitations of using the **Payback period** method in investment appraisals. **(5 marks)**

b) SAKAMA Ghana Ltd uses the Accounting Rate of Return (ARR) as the basis of evaluating projects for investment of its scarce financial resources. It uses its predetermined expected return on capital as the basis for the choice of investment projects. The company's Finance team has provided the information below regarding various projects and their initial investments and net cash flows. The hurdle rate or target Accounting Rate of Return for SAKAMA Ghana Ltd is 25%.

Project	A	B	C
	GH¢	GH¢	GH¢
Initial Investment	1,000,000	1,600,000	2,000,000
Net Cash flows			
Year 1	600,000	700,000	800,000
Year 2	500,000	600,000	600,000
Year 3	400,000	500,000	500,000
Year 4	300,000	500,000	400,000
Year 5		400,000	

Required:
i) Calculate the Accounting Rate of Return for each project (Average Investment basis). **(7 marks)**
ii) Using the target return of 25% advice SAKAMA Ghana Ltd which projects should be undertaken. **(3 marks)**

c) Existing shareholders have some advantages available to them than potential shareholders interested in buying shares from the company. Some of those advantages are pre-emptive rights and rights issue

Required:
i) Explain the term *Pre-emptive rights*. **(2 marks)**
ii) Explain the concept *Rights issue* and explain **ONE (1)** advantage to a company for using rights issue to raise additional capital. **(3 marks)**

(Total: 20 marks)

QUESTION FIVE

a) Poh-Poh Electronics Ltd is a wholesale distributor of household electrical products of major electronic brands. The company currently sells on credit to all its customers. Although the credit term is net 20 days, the receivables turnover days has been 15 days. The company's annual credit sales revenue is GH¢80 million, and its contribution margin ratio is 30%. Bad debt is 2% of sales revenue, and credit collection cost is GH¢50,000 per annum.

Management is considering extending the credit period to net 30 days. It is expected that the implementation of this proposal would attract new customers, and the annual revenue would increase by 20%. It is also expected that both the existing and the new customers will probably take the full 30 days credit. To mitigate the probable lengthening in the receivables turnover days, management proposes that the extension in the credit period be combined with the introduction of a cash discount policy of 2% on all payments made within the first 10 days of the credit period. It is expected that 30% of all customers will pay their accounts early to take the discount. Consequently, the receivables turnover days would increase to 24 days. While the bad debt will remain at 2% of sales revenue, the annual credit collection cost will increase to GH¢65,000.

The company's cost of capital is 24%.

Required:
i) Evaluate the proposed change in the credit policy and recommend whether the proposed change should be implemented. **(9 marks)**
ii) Advise the management team on **THREE (3)** procedures for the collection of its receivables. **(6 marks)**

b) Exactly two years ago, JBL Plc took a 5-year US$ 20 million loan at a fixed interest of 12% from an investment bank to finance a plant expansion project. At the time the loan was taken, JBL was exporting a significant proportion of its output to a foreign market. Thus, it was sure that it would be able to earn U.S. dollars to make dollar payments on the loan.
For about a year now, JBL has not been able to export its output to its foreign market due to trade restrictions. It sells only to buyers in Ghana for the Ghana cedi. The company now prefers to have its interest obligation in Ghana cedi rather than U.S. dollar.

On the advice of the Treasury Manager, JBL has entered a currency swap arrangement with a bank to manage the underlying risk exposure. Per the terms of the swap, JBL will continue to honour its obligations under the actual loan. Under the swap, JBL and the bank will exchange interests and principals in the appropriate currencies. With a pre-arranged exchange rate of GH¢6.5000/USD1, the notional principals under the swap arrangement are agreed at US$20 million and GH¢130 million. The 12% interest rate on the existing dollar loan will continue to apply to both the original dollar loan and the dollar interest payments under the swap arrangement. The interest rate that will apply to the cedi notional principal is set to 15%.

Required:
Evaluate how JBL Plc can use the currency swap to manage the underlying risk exposure.
(5 marks)

(Total: 20 marks)

SOLUTION TO QUESTIONS

QUESTION ONE

a)

i) Shareholder value maximization and social responsibility ideally should complement each other. Shareholder value maximization is only sustainable in the long term where there is a good social responsibility role performed by the organization or company. This will bring positive brand and goodwill to the organization and enhance company survival. It will make the company be acceptable in the community in which it operates. Meeting shareholder value maximization and the needs of the community are linked

A company's existence in the community provides employment, quality goods and services for consumption, welfare of the community and also helps meet reasonable demands of the community. The company may find it difficult to survive when the community is hostile towards the company and its management. The two parties need each other for sustainability.

(4 marks)

ii) 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 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

(3 marks)

iii) Non-financial Objectives of companies or organizations include:
- Increase market share
- Improve product quality
- Employees welfare
- Environmental protection
- Lead in research and development
- Tax compliance
- Lead suppliers

(Any 2 points for 1.5 marks each = 3 marks)

b)

i)

Capital Structure:	Amount GHS (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**

(4 marks)

ii) The required annual return to satisfy providers of funds as follows:
Equity return x total equity/Total capital+ Preference share return x preference.
shares/Total Capita + (Bonds return x net tax) x Bonds/Total Capital

25% x 500m/578m + 20% x 75m/578m + (18% x 75%) x 3m/578m
= 21.62% + 2.85% +0.07%
= 24.28%
Annual Return in cedis = 24.28/100 x 578m
= 140.338 million

(6 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

This question was made up of sub-questions a) and b) with each carrying 10 marks.

The a) part consisted of i) to iii) with i) testing the candidates' knowledge and understanding of whether profit maximisation was inconsistent with social responsibility. The ii) and iii) had the objectives of ascertaining the level of the candidates' understanding and position on whether shareholder value maximisation was more appropriate than profit maximisation and five non-financial objectives of an organisation they were conversant with. They demonstrated good knowledge and understanding of the subject matter and advanced good reasons in support of their positions which earned them good marks.

The b) part was also tested the candidates' ability to accurately calculate the capital structure of Boom Ltd based on the information provided and the ii) determined the size of earnings needed to achieve a particular level of returns per annum for capital holders, preference shares holders and bond holders. This b) part again was well answered as majority of candidates largely performed the required calculations correctly.

In total 365 candidates representing 65% scored pass mark or better in this question. This was the best answered question in the paper.

QUESTION TWO
a) <u>**Estimation of price of Zinko**</u>

i) **Value based on P/E ratio of Blanco**
Market Value = P/E ratio times Earnings = $8 \times 455{,}000 = 3{,}640{,}000.00$
Price per share is therefore $3{,}640{,}000.00 \div 1{,}456{,}000.00 = GHS2.50$
Any assumption of P/E ratio below 8 should be considered

(3 marks)

ii) **Gordon's growth model**
Growth rate $\left(\sqrt[4-1]{\dfrac{(455{,}000 \times 0.45)}{(300{,}000 \times 0.45)}}\right) - 1 = 15\%$ **(2 marks)**
Market Value is therefore $\dfrac{d_1}{r-g} = \dfrac{455{,}000 \times 0.45 \times 1.15}{(0.2 - 0.15)} = GHS\ 4{,}722{,}458.18$
Price per share is therefore $4{,}722{,}458.18 \div 1{,}456{,}000.00 = GHS3.24$
If a candidate uses the expected return rate of Blanco of 18% and also 4 years it should be considered

(3 marks)

iii) **Discounted Cash flow**

Years	CF	DF (20%)	PV
Investment (year 0)	-1,230,000.00	1	-1,230,000.00
Cashflow (year 1)	682,500.00	6.667	4,550,000.00
Market Value			**3,320,000.00**

Price per share is therefore $3{,}320{,}000.00 \div 1{,}456{,}000.00 = GHS2.28$

(4 marks)

b) <u>**Problems with the various valuation methods**</u>
P/E ratio
- The use of another company's PE ratio suggest that the two companies have similar characteristics. If Zinko management is not satisfied with the price that can raise objection to this.
- Also, the PE ratio does not take into account the growth prospects of the company. The use of past earnings can be objected to by the management.
- The method is not scientific and hence subjective.

Dividend growth model
- The estimation of growth is based on past records, suggesting that the future of the company will be the same as its past, which may be inaccurate;
- The discount factor (expected returns) must be greater than the growth rate for the model to work, otherwise the results would be negative or zero.
- Non-dividend related factors are not taken into consideration. This means a company trying to generate internal cash flow to undertake a project that would generate substantial earnings would have lower value of dividends are not paid.

Discounted cashflow model
- Management can raise concerns about how the future cash flows were estimated
- The growth rate estimate and the fact that it remains constant into perpetuity raises concerns about the objectivity of the method
- The use of a new cost of capital can be challenged since it may not reflect the risk profile of the operations of Zinko
- The method is not scientific and hence subjective.

(2 points @ 1 mark each for each model = 6 marks)

c) <u>Reasons for acquisition of another company</u>
- Growth from this transaction is much faster than internally developed growth.
- The companies would have access to new products, markets and customers, which would have been difficult to achieve by a single company.
- Acquisitions enable companies to break through into other parts of the industry even when there were entry restrictions.
- Acquisition help to take advantage of the competition especially where keen competitors had plans of acquiring the target for competitive purposes.
- Acquisitions lead to economies of scale, which means cost savings, higher profits and higher market value.
- Acquisitions helps to access some technical expertise and technologies that may not be readily available on the market.

(4 points @ 0.5 marks = 2 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS
The a) part of this question tested candidates' ability to do a proper valuation of Zinko (acquiree) for take over purposes by Blanco (acquirer) under three valuation methods namely: price earnings ratio method, dividend growth model and discounted cashflow method to come out with the price Blanco should offer to acquire Zinko. This part was not well answered as candidates struggled to do the valuations. The price earning method was better done than the dividend growth model as candidates struggled to compute the growth and then apply that. The discounted cashflow method was equally poorly answered and showed weaknesses of candidates' in performing company valuations for takeover purposes. Some few candidates were however able to demonstrate their competence in this area and score good marks

The b) part expected candidates to discuss two issues Zinko Ltd will have with the various valuation methods highlighted above received average answers from the candidates.

The c) which tested the ability of candidates to identify four benefits of the acquisition to the acquirer (Blanco Ltd) received some good answers.
Overall, only 86 candidates representing 15% obtained a pass or better in this question. This was the second worst answered question demonstrating candidates' weakness on this subject.

QUESTION THREE

a)

i) **The terminal value of the investment in the 91-day GoG Treasury bills**

Approximating the 91-day investment holding period to a quarter of a year, it can be concluded that the maturity value of the allocation to the 91-day GoG Treasury bills will be reinvested at the end of every quarter in each of the five years. Effectively, the allocated amount will be compounded quarterly over the next five years. The terminal value at the end of the fifth year may be calculated as under:

$$FV_n = P_0 \left[\left(1 + \frac{i_1}{m}\right)^m \times \left(1 + \frac{i_2}{m}\right)^m \times \left(1 + \frac{i_3}{m}\right)^m \times \left(1 + \frac{i_4}{m}\right)^m \times \left(1 + \frac{i_5}{m}\right)^m \right]$$

$FV_5 = $ GH¢120,000

$$\times \left[\left(1 + \frac{0.152514}{4}\right)^4 \times \left(1 + \frac{0.154814}{4}\right)^4 \right.$$
$$\left. \times \left(1 + \frac{0.157565}{4}\right)^4 \times \left(1 + \frac{0.159478}{4}\right)^4 \times \left(1 + \frac{0.162146}{4}\right)^4 \right]$$

$FV_5 = $ GH¢120,000,000 × 2.162876386 = GH¢259,545166.3

[Marks allocation: Amount allocated = 1; Computation of future value = 3; Final answer = 1]

ii) **The terminal value of the investment in the 6-month fixed deposit**

The maturity value of the allocation to the fixed deposits will be reinvested at the end of every half in each of the five years. Effectively, the allocated amount will be compounded semi-annually over the next five years. The terminal value at the end of the fifth year may be calculated as under:

$$FV_n = P_0 \times \left(1 + \frac{i}{m}\right)^m$$

$$FV_5 = \text{GH¢80,000,000} \times \left(1 + \frac{0.165}{2}\right)^{5 \times 2}$$

$$FV_5 = \text{GH¢80,000,000} \times 2.209423914$$

$$FV_5 = \text{GH¢176,753,913.1}$$

[Marks allocation: Computation of future value = 2 marks; final answer = 1 mark]

iii) No. If the maturity value is reinvested, then it is both the principal and interests that are reinvested. Effectively, interest is earned on both principal and interest. In the case of simple interest, interest is earned on only the principal.

[Marks allocation: Conclusion = 1 mark; Explanation = 1 mark]

b)

i) Setup and Evaluation of the forward market hedge

Setup

The underlying exposure is a USD payable (i.e., short). Thus, the forward hedge will be set up as under:

Position = Buy dollars forward (long)
Maturity = 3 months
Contract size = USD800,000

Evaluation

With the forward contract, the entity will buy dollars from the dealer at the 3-month forward ask price of GHS5.8785/USD1

$$\text{Outcome} = \text{Underlying exposure @ Forward ask rate}$$

$$\text{USD800,000 x} \frac{\text{GHS5.8785}}{\text{USD}} = \text{GHS4,702,800}$$

Thus, the outcome of the forward market hedge for the dollar payable will be locked at GHS4,702,800.

[Marks allocation: Setup = 1; Evaluation of the outcome = 3]

ii) Setup and Evaluation of the money market hedge

Setup

The underlying exposure is a USD payable (i.e., a liability). Thus, the money market hedge will be set up as under:

Position in the domestic money market: Borrow cedis (liability) @ the cedi borrowing rate
Position in the international money market: Invest dollars (asset) @ the dollar investing rate.

Evaluation

Now

Step 1: Determine the cedi loan

The cedi loan is the cedi equivalent of the present value of the dollar payable:

$$\text{PV of dollar payable} = \frac{\text{USD800,000}}{(1 + \frac{6.5\%}{12} \times 3)} = \frac{\text{USD800,000}}{(1 + 0.01625)} = \text{USD787,207.87}$$

As pounds would be bought at the ask rate, convert the PV of the dollar payable at current spot ask rate to obtain the cedi amount to borrow:

$$\text{Cedi amount to borrow} = \text{USD787,207.87} \times \frac{\text{GHS5.8585}}{\text{USD}} = \text{GHS4,611,857.32}$$

Step 2: Buy dollars with the cedi loan at the current spot ask rate

Step 3: Invest dollars at dollar annual investing rate of 6.5%

At maturity
Step 4: Collect the proceeds of the dollar investment

Maturity value of dollar investment = USD787,207.87 × (1 + 0.01625) = USD800,000

Step 5: Use the proceeds from the dollar investment to settle the dollar payable.

Step 6: Pay maturity value of cedi loan as the guaranteed domestic currency cost of the dollar payable:
$$GH¢4,611,857.32 \text{ x } \left(1 + \frac{18.5\%}{12} \times 3\right) = GH¢4,825,155.72$$

The maturity value of the dollar investment and the dollar payable cancel out. Thus, the outcome of the money market hedge is the maturity value of the cedi borrowing, GH¢4,825,155.72.

[Marks allocation: Setup = 1; Evaluation of the outcome = 5]

(Total: 20 marks)

EXAMINER'S COMMENTS
The a) part of this question tested the ability of candidates to correctly compute future value of a five-year investment where interest was expected to be compounded on quarterly basis to get the terminal value at the end of the fifth year. A good number of the candidates did an excellent job in the computations and scored the maximum marks but some failed to do so and used a simple interest approach and with no clue on the right formulas to use thereby losing valuable marks.
The ii) aspect also required a straight calculation of terminal value of a fixed deposit at the end of the fifth year with the annual interest rate provided. Most candidates were able to answer this satisfactorily and scored the maximum marks. The iii) aspect tested the candidates' ability to identify whether the computations made were simple interest or compound basis which again received good answers.

The b) i) which was on foreign exchange risk management tested candidates' ability to use forwards exchange rates provided to provide a hedging solution and appropriately provide the needed commentary on the outcome of the hedge.
The ii) tested the ability of the candidate to provide a hedging solution using money markets hedge strategy with the relevant calculation and provide the necessary comments. The b) part of the question posed a challenge to a good number of candidates resulting in a very poor pass rate. Those who understood the requirement were able to obtain some good marks.
The b) part therefore contributed to this question obtaining the worst pass rate in the paper. Only 70 candidates representing 12% of the candidates were able to perform the required task to obtain a pass or better.

QUESTION FOUR

a) Limitations or disadvantages of Payback period
- It ignores the time value of money
- It does not measure the profitability of the project
- The choice of method is arbitrary
- It ignores the cash flows after the payback period
- It also ignores when the cash flow is received or the timing of the cashflow.
- May not be able to deal with unconventional cash flows

(Any 4 points @ 1.25 = 5 marks)

b)
i)
Project A
Average Annual Accounting profit = (Total accounting profit for 4 years/ 4 years less Initial investment
= (600,000+500,000+400,000+300,000) – 1,000,000/4
= (1,800,000-1000,000)/4 = 200,000

Average annual investment = Initial investment /2 = 1,000,000/2 = 500,000
ARR = Average Accounting profit/Average annual investment x 100
200,000/500,000 x100 = 40%

(2 marks)

Project B
Average Annual Accounting profit = (Total accounting profit for 4 years/ w4 years less Initial investment
= (700,000+600,000+500,000+500,000+400,000) – 1,600,000/4
= (2,700,000-1600,000)/5 = 220,000

Average annual investment = Initial investment /2 = 1,600,000/2 = 800,000
ARR= Average Accounting profit/Average annual investment x 100
 220,000/800,000 x100 = 27.5%

(3 marks)

Project C
Average Annual Accounting profit = (Total accounting profit for 4 years/ w4 years less Initial investment
= (800,000+600,000+500,000+400,000) – 2,000,000/4
= (2,300,000-2000,000)/4 = 75,000

Average annual investment = Initial investment /2 = 2,000,000/2 = 1000,000
ARR = Average Accounting profit/Average annual investment x 100
 75,000/1,000,000 x100 = 7.5%

(2 marks)

ii) Since the target ARR is 25% Projects A and B will be the only projects that will be accepted. **(3 marks)**

c)

i) Pre-emptive rights refer to the obligation on the company to offer any new issue of shares to existing shareholders before proceeding to make the offer to the general public. The importance of this pre-emptive rights to shareholders is that it prevents significant changes to the structure of ownership and control of the company since the shares are offered to existing shareholders even though it might not necessarily be taken on in proportion to existing holdings. **(2 marks)**

ii) Right issues are subscription rights made to only existing shareholders .to buy additional shares in the company. **(2 marks)**

The key advantage of using right issues by the company is that it is cheaper and the most cost effective on the issuer side than public depending on the market condition

To shareholders it offers them the opportunity to maintain proportion of their shareholding in the company.

(1 mark)

(Total: 20 marks)

EXAMINER'S COMMENTS

The question four which was a blend of theory and calculation tested the candidates' knowledge on investment appraisal literature and also their ability to do a good investment appraisal calculation using Accounting Rate of Return methodology for decision making. This was generally well answered as candidates demonstrated their sound knowledge on both the literature and the computations earning them good marks. A good number were able to provide sound advice after comparing their computed Accounting Rate of Return for each project to the benchmark required return. A number of candidates however could not understand and deducted the initial investment cost from the net cash flows provided in the question for each project which affected the outcome of their calculations and decisions.

Overall, this was the second-best answered question with 45% pass rate. 252 candidates out of 563 obtained a pass or better.

QUESTION FIVE

a)

i) Evaluation of proposed credit policy change

The evaluation of a proposed credit policy change requires the estimation of the value of benefits and costs associated with the policy change.

Benefit from the proposed policy change:

The benefit from the proposed policy change will be increment in contribution margin.

Additional sales = 20% x GH¢80,000,000 = GH¢16,000,000

Additional CM = 30% x GH¢16,000,000 = GH¢4,800,000

Cost of the proposed policy change:

The cost of the proposed policy change will be the increment in credit-related costs.

Additional collection costs = GH¢65,000 – GH¢50,000 = GH¢15,000

Additional bad debt loss = 2% x GH¢16,000,000 = GH¢320,000

Additional cost of receivables:

Receivables under existing policy = 15/365 x GH¢80,000,000 = GH¢3,287,671

Receivables under proposed policy = 24/365 x GH¢96,000,000 = GH¢6,312,329

Additional receivables = GH¢6,312,329 – GH¢3,287,671 = GH¢3,024,658

Additional cost of receivables = GH¢3,024,658 x 24% = GH¢725,918

Total additional credit-related costs = GH¢15,000 + GH¢320,000 + GH¢725,918 = GH¢1,060,918

Net benefit = GH¢4,800,000 – GH¢1,060,918 = GH¢3,739,082

Recommendation:

The policy change should be implemented as it will increase the profit of the company.

[Marks allocation: Computation of incremental contribution = 2; Computation of incremental credit related costs = 6; Incremental net income and recommendation = 1]

ALTERNATIVE

	OLD POLICY	NEW POLICY	CHANGE
Sales	80,000,000	96,000,000	16,000,000
Contribution Margin (30%)	**24,000,000**	**28,800,000**	**4,800,000**
Less Cost:			
Collection cost	50,000	65,000	15,000
Bad debt (2%)	1,600,000	1,920,000	320,000
Receivable cost (15/365 x 80m)			
(3,287,671 debtors x 24%)	789,041	1,514,959	725,918
(24/365x96m =6,312,329 x24%)			
Net benefit	**21,560,959**	**25,300,041**	**3,739,082**

Recommendation:
The policy change should be implemented as it will increase the profit of the company.

[Marks allocation: Computation of incremental contribution = 2; Computation of incremental credit related costs = 6; Incremental net income and recommendation = 1]

ii) **Procedures for debt collection**
The management team can employ several procedures to effectively and efficiently collect its receivables to enhance cash flows while reducing the incidence of default. The collection procedures may include the following:

- Early billing: Invoices must be generated and sent to customers promptly as soon as goods have been supplied.
- Prompt notice of balance: Statements of account should be sent to customers regularly to inform them of how much they owe and what portion is currently due for payment.
- Prompt reminders: Reminders in a variety of forms (e.g., telephone calls, letters) should be send to customers whose accounts are overdue.
- Debt collection agency: in the case of difficult-to-collect debts, the company may use the services of a debt collection agency.
- Legal action: As a procedure of last resort, the company may send an official letter from its lawyers to threaten legal action or go to court to obtain a judgement against the customer to force payment.

[Marks allocation: 2 marks for each of 3 procedures = 6 marks]

b) How JBL Plc can use currency swap to manage its underlying currency coupon exposure:
The currency swap will permit JBL Plc to pay the obligations relating to the outstanding loan in its preferred currency. Thus, whenever interest payment is due, JBL gets to pay interest to the swap counterparty in cedis while it receives interest in dollars from the swap counterparty under the swap arrangement. JBL then forwards the dollar interest to the lender.

At maturity, JBL gets to pay the principal in cedis to the swap counterparty while it receives the dollar principal from the swap counterparty. JBL then forwards the dollar principal received to the lender.

The details of the cash flows are presented in the table below:

Notional principal (USD)	USD 20,000,000
Exchange rate	GHS 6.5 / USD1
Notional principal (GHS)	GHS 130,000,000
Dollar interest rate	12%
Cedi interest rate	15%

Whenever interest payment is due:

JBL pays to the lender	USD	(2,400,000)
JBL receives from the counterparty	USD	2,400,000
JBL pays to the counterparty	GHS	(19,500,000)
Net interest	GHS	(19,500,000)

When principal payment is due:

JBL pays to the lender	USD	(20,000,000)
JBL receives from the counterparty	USD	10,000,000
JBL pays to the counterparty	GHS	(130,000,000)
Net principal repayment	GHS	(130,000,000)

[Marks allocation: The payment flows relating to interest = 2.5 marks; the payment flows relating to the principal repayment = 2.5 marks]

(5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

The a) part of the question examined candidates' ability to provide sound advice on new credit policy decision on debtors' management and were expected to compute the incremental benefit between the old and the new credit policies based on the information provided and also give a professional advice. This received good answers from the candidates. Generally, a good number of candidates got goods marks for getting a lot of the computations right and offering the right advice. Additionally, the ii) part of the a) required candidates to advise management on three procedures for the collections of its receivables for 6 marks which was also well answered.

The b) part which was on currency swaps to manage currency risk received marginal performance and again brought to fore poor candidates' knowledge on risk management and hedging strategies in the exams.
The pass rate was 45% the same as question four.