MAY 2019 PROFESSIONAL EXAMINATIONS
FINANCIAL MANAGEMENT (PAPER 2.4)
CHIEF EXAMINER'S REPORT, QUESTIONS AND MARKING SCHEME

STANDARD OF PAPER

The standard and quality of the paper was generally normal consistent with requirement and expectation. The distribution of the questions across the syllabus was satisfactory with a balanced distribution between the quantitative and qualitative or essay part of the syllabus with quantitative questions taking 57% and qualitative taking the remaining 43%.The questions appeared easy to understand and apply based on the standard expected of students at that level with no any major ambiguous questions in the paper.

It was also generally observed that no sub-standard questions were set and quality of questions considered good for that level. Mark allocations generally appeared fair and satisfactory relative to the nature of questions depending on the level of difficulty and extent of work expected of students.

The marking scheme was realigned in line with the questions on the question paper and alternative solutions provided where necessary to accommodate varying approaches to answering the questions.

PERFORMANCE OF CANDIDATES

The performance of the students was one of the worst in recent times with an average pass rate of about 7% far lower than the remarkable improved performance in recent times averaging over 25%. This requires vigorous and better preparation by the students in generally and specifically on essay type questions and application questions. With essay type questions taking 43% of the marks and a better preparation on that side together with the quantitative side would have produced much better performance the exams.

The possible reasons for the poor performance were as follows:

- Generally poor preparations by students for this sitting.
- Poor preparation on the basic theoretical concepts in Finance and poor time and attention given to studying and understanding the essay area or non-quantitative aspect of the course content.
- Complacency on the part of students possibly due to the recent improved performance in the paper.
- Poor knowledge in answering applied questions.
- Student's concentration on direct questions answering.

NOTABLE STRENTHGS AND PERFORMANCE OF STUDENTS

About 7% of students who did well exhibited the following strengths:

- Reading and understanding of the questions.
- Good preparations and understanding of the essay areas of the course content.
- Ability to understand and apply what was studied.

- Better understanding of the requirements quantitative aspect of the questions.
- Ability to think broadly manifesting the level of thorough research in the study.

Observed reasons of the strengths:
The following were still considered valid for the strengths:
- Improvement in preparation for the paper
- Improvement in the Knowledge of how to answer questions
- Sufficient study of the entire syllabus and covering both quantitative and essay areas of the syllabus
- Good background knowledge and experience in Finance
- Proper tuition, adequate study materials, research, reading and practice towards the exams.

The strengths can be enhanced by:
- By continuous update of the study materials relevant to the syllabus.
- By focusing tuition on not only the quantitative aspect of the syllabus but the essay type areas as well.
- Providing more digital channels of study.
- Teaching and coaching students how to think outside the box in difficult situations and in questions that require general application of knowledge.

Observed weaknesses demonstrated by students
- Poor understanding of Finance principles
- Poor knowledge and preparation on non-quantitative aspect
- Failure to comprehend the requirements of the questions
- Continuous poor numbering of answers to questions making it difficult for examiners
- Poor arrangement of answers to questions with answers to some questions scattered across different pages haphazardly
- Poor handwriting and faded pens making reading and marking difficult for examiners

Remedies for observed weaknesses
- Preparation of students by Tutors must go beyond the quantitative aspect a lone and cover comprehensively the entire syllabus as over 40% of comes from the essay type and concepts areas.
- Minimum period should be allowed by ICA before a student sit for the exams depending on the background of the student.
- More practice on pass questions to broaden knowledge, experience and exposure on handling or answering questions.
- Re-evaluation of the quality of the students and admission requirements for the Institute.

QUESTION ONE

a) Adenta Municipal Assembly (AdMA) has established an ultra-modern library and internet facility for its inhabitants. It intends to subsidise the costs of using this facility for its inhabitants. This facility is to be evaluated by the local assembly (AdMA) to assess amongst other things, whether it is financially sound and offers ***value for money***.

Required:
Suggest **THREE (3)** appropriate measures each of ***Financial, Economy, Efficiency and Effectiveness*** that could be set for the facility based on targets. **(12 marks)**

b) The money market is the arena in which financial institutions make available to a broad range of borrowers and investors the opportunity to buy and sell various forms of short-term securities. The short-term debts and securities sold on the money markets which are known as money market instruments have maturities ranging from one day to one year and are extremely liquid.

Required:
Explain the following short term market instruments:

i) Bankers' acceptance **(2 marks)**
ii) Commercial Paper **(2 marks)**
iii) Repurchase Agreement (Repo) **(2 marks)**
iv) Term deposit **(2 marks)**

(Total: 20 marks)

QUESTION TWO

a) M&E Ltd, recognised as the leader in steel manufacturing, has received an invitation to supply steel for the construction of rail lines to connect the ECOWAS countries, starting from Nigeria. The contract will be for 10 years, and management is considering appraising the investment to enable them present their proposals for the contract. The following information was extracted from the recently published accounts of M&E Ltd.

	GH₵ '000
Equity Shares (1,000,000 shares)	70,000
15% Preference shares	50,000
10% (Bonds irredeemable)	30,000
Total	**150,000**

The Treasury unit of M&E Ltd has estimated that it will require GH₵ 10 million to finance the new project. The total amount would be raised through 10% Irredeemable bonds at the current market price. The cost of Preference shares and Bonds will not change but equity shareholders will demand an increase of 20% on the current cost of equity.

M&E Ltd has a beta of 0.8, the market risk premium for the steel industry is 6.25%, and the Government of Ghana Bond rate is 20%. The current market price for Irredeemable Bonds of GH₵1,000 nominal value is GH₵850.

M&E Ltd's dividend policy is to pay constant dividend and this policy will not change into the foreseeable future. The recent dividend paid was GH¢20 per share. M&E Ltd is a Free Zones Company and therefore pays tax at a rate of 8%.

Required:

i) Calculate the current market capitalization of M&E Ltd. **(5 marks)**

ii) Calculate the Weighted Average Cost of Capital (WACC) prior to the consideration of the finance for the proposed project. **(9 marks)**

b) At a recent Board meeting, the Board Chair of Mempeasem Ltd suggested the need to restructure the capital of their company. The Chair proposed shares repurchase as the option to consider but majority of the Board members were hearing this term for the first time. As the Finance Manager, you have been directed to help the Board members to understand this option for decision making.

Required:

i) Explain the term ***share repurchase*** to a non-finance person. **(1 mark)**

ii) Identify **FOUR (4)** situations under which share repurchase will be useful for Mempeasem Ltd. (**5 marks)**

c) If an existing public company chooses to issue shares, the financial market usually interprets this as a sign that the company's share price is somewhat overvalued. To avoid this negative impression, a company may choose to issue convertible bonds, which bondholders are likely to convert to equity anyway should the company continue to do well.

Required:

Explain ***convertible debt*** and identify **FOUR (4)** attractions to a company of convertible debt compared to a bank loan of a similar maturity as a source of finance. (**5 marks)**

(Total: 25 marks)

QUESTION THREE

a) ASANTA Ghana Ltd is considering investing in the following projects which are considered mutually exclusive:

	PROJECT GO	**PROJECT COME**
	GH¢	**GH¢**
Annual cash inflows	1,000,000	2,000,000
Cost of Machine	2,500,000	6,000,000
Scrap value of Machine	250,000	1,000,000
Expected life of the Project	5 years	5 years

ASANTA Ghana Ltd uses the straight line method of depreciation. However, tax-allowable depreciation is 30% on straight line basis. The cost of capital for the company is 20% per annum.

Required:

i) Calculate the Accounting Rate of Return for each project. **(4 marks)**
ii) Calculate the Net Present Value (NPV) for each project. **(4 marks)**
iii) Compute the Internal Rate of Return (IRR) for each project. **(4 marks)**
iv) Compute the Payback period for each project. **(3 marks)**

(Note: In each of the above, advise the Company on which of the projects to implement or undertake.)

b) Universal Plastics Ghana Ltd imported raw materials from U.S.A. and Europe for the manufacture of plastic products. The company entered into option contracts with ZAA Bank Ghana Ltd to hedge its six months' currency risk or exposure.

The details of the option contracts are as follows:

	Details	**Transaction Amount**	**Strike Price/ exchange Rate**	**Spot Rate on Maturity Date**	**Option premium paid to the Bank**
OPTION A	Bought Call option to buy USD against GH¢	US$10m	USD/GH¢ 4.7	USD/GH¢ 4.5	GH¢ 1.4m
OPTION B	Bought Call option to buy EURO against GH¢	EUR 8m	EUR/GH¢ 5.9	EUR/GH¢ 6.3	GH¢ 1.2m

Required:

i) Calculate the profit or loss of OPTION A and advise Universal Plastics Ghana Ltd whether to exercise or not. **(4 marks)**
ii) Calculate the profit or loss of OPTION B and advise Universal Plastics Ghana Ltd whether to exercise or not. **(4 marks)**
iii) Calculate the overall profit or loss on the decision to hedge based on (i) and (ii) above. **(2 marks)**

(Total: 25 marks)

QUESTION FOUR

a) Lisa-Joys Company has annual credit sales of GH¢1,000,000. Credit customers take 45 days to pay. Bad debts are 2% of sales. The company finances its trade receivables with a bank overdraft, on which interest is payable at an annual rate of 15%.

A factor has offered to take over administration of the receivables ledger and collections for a fee of 2.5% of the credit sales. This will be a non-recourse factoring service. It has also guaranteed to reduce the payment period to 30 days. It will provide finance for 80% of the trade receivables, at an interest cost of 8% per year.

Lisa-Joys Company estimates that by using the factor, it will save administration costs of GH¢8,000 per year.

Required
What would be the effect on annual profits if Lisa-Joys Company decides to use the factor's services? (Assume a 365-day year). **(9 marks)**

b) The need for working capital management vary from industry to industry, and they can even vary among similar companies. This is due to several factors, including differences in collection and payment policies, the timing of asset purchases, the likelihood of a company writing off some of its past-due accounts receivable, and in some instances, capital-raising efforts a company is undertaking. Proper management of working capital is essential to a company's fundamental financial health and operational success as a business.

Required:
Explain **FOUR (4)** advantages a company may derive from proper working capital management. **(6 marks)**

(Total: 15 marks)

QUESTION FIVE

a) Anape Ltd is considering issuing a new 10-year bond in the domestic market. The interest rate on the bond is 20%. Interest will be paid semi-annually. The directors are considering the appropriate price at which the new bonds should be sold. The market required return is 25%.

Required:

i) Compute the price investors would be willing to pay for each GH¢100 face value bond. **(5 marks)**

ii) Explain how changes in average interest rate affect the value of bonds. **(4 marks)**

b) The dividend growth model also has its fair share of criticism. While some have hailed it as being indisputable and being not subjective, recent academicians and practitioners have come up with arguments that make you believe the exact opposite. Recent studies have unearthed some glaring flaws in what was considered to be a perfect valuation model.

Required:

Identify and explain **THREE (3)** weaknesses of the dividend growth model as a way of valuing a company with shares. **(6 marks)**

(Total: 15 marks)

SOLUTIONS TO QUESTIONS

QUESTION ONE

a) Financial measures:

- Proportion of overall funds spent on administration costs
- Ability to stay within budget/break even
- Revenue targets met.

(3 points for 3 marks)

Economy targets:

- Costs of purchasing books of suitable quality
- Costs of negotiating for and purchasing equipment.
- Negotiation of bulk discounts
- Pay rates for staff of appropriate levels of qualification.

(3 points for 3 marks)

Efficiency targets:

- Levels of wastage of outdated books
- Staff utilisation
- Equipment life.

(3 points for 3 marks)

Effectiveness targets:

- Numbers using the library
- Customer satisfaction ratings
- Quality of books and speed of internet served

(3 points for 3 marks)

b)

i) **Bankers' Acceptances**

A banker's acceptance is an instruments produced by a nonfinancial corporation but in the name of a bank. It is document indicating that such-and-such bank shall pay the face amount of the instrument at some future time. The bank accepts this instrument, in effect acting as a guarantor. To be sure the bank does so because it considers the writer to be credit-worthy. Bankers' acceptances are generally used to finance foreign trade, although they also arise when companies purchase goods on credit or need to finance inventory. The maturity of acceptances ranges from one to six months.

ii) **Commercial Paper**

Commercial paper refers to unsecured short-term promissory notes issued by financial and nonfinancial corporations. Commercial paper has maturities of up to 270 days (the maximum allowed without SEC registration requirement). Dollar volume for commercial paper exceeds the amount of any money market instrument other than T-bills. It is typically issued by large, credit-worthy corporations with unused lines of bank credit and therefore carries low default risk.

Unlike some other types of money-market instruments, in which banks act as intermediaries between buyers and sellers, commercial paper is issued directly by well-established companies, as well as by financial institutions. Banks may act as agents in the transaction, but they assume no principal position and are in no way obligated with respect to repayment of the commercial paper. Companies may also sell commercial paper through dealers who charge a fee and arrange for the transfer of the funds from the lender to the borrower.

iii) **Repos-Repurchase Agreements**

Repurchase agreements—also known as repos or buybacks—are Treasury securities that are purchased from a dealer with the agreement that they will be sold back at a future date for a higher price. These agreements are the most liquid of all money market investments, ranging from 24 hours to several months. In fact, they are very similar to bank deposit accounts, and many corporations arrange for their banks to transfer excess cash to such funds automatically.

iv) **Term deposit**

A term deposit is a cash investment held at a financial institution. Your money is invested for an agreed rate of interest over a fixed amount of time, or term. Term deposits can be invested into a bank, building society or credit union. When the money is deposited, the customer understands that the money is there for the pre-determined period which usually ranges from 1 month to 5 years and the interest rate is guaranteed not to change for that nominated period of time. Typically, the money can only be withdrawn at the end of the period – or earlier with a penalty attached.

Term deposits are popular with investors who prefer capital security and a set return as opposed to the fluctuations of, say, the share market. Many investors also use term deposits as a part of their investment mix**.**

(4 points well explained @ 2 marks each = 8 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

The question covered (a) and (b) which carried 20 marks. The (a) part covering the concepts of Financial, Economy, Efficiency and Effectiveness as they apply to Adentan Municipal Assembly on a library project on value for money analysis. This was an application of the 3Es but the students generally struggled to apply these principles to the question which attracted low to medium marks.

The (b) part covered basic Finance concepts of Bankers Acceptance, Commercial Paper, Repurchase Agreement and term deposit which were well answered by students.

Overall this was the best answered question in the paper. Almost 30 percent of all those who answered this question got a pass or better for that question.

QUESTION TWO

a)

i) M&E Market capitalization

Workings

Market price per equity

$r = rf + \beta(rm - rf);$

$rm - rf = 6.25\%;\ \beta = 0.8; and\ rf = 20\%$

$r = 20 + (0.8 \times 6.25) = 25\%$ **(2 marks)**

Dividend paid is GH¢ 20 per share

$p = \frac{20}{0.25} = GHS\ 80$ **(1 mark)**

Capitalisation		**GH¢ '000**	
Equity Shares (1,000,000)	(1,000,000x80)	80,000	0.5 mark
15% Preference shares		50,000	0.5 mark
10% Bonds – Irredeemable	$(\frac{850}{1,000} \times 30,000)$	25,500	1 mark
Total		155,500	

(2 marks)

ii) WACC = 16.89%

	Capital '000	**Cost**	**Amount'000**	
Equity Shares	80,000	20.00%	16,000.00	**(2 marks)**
15% Preference shares	50,000	15.00%	7,500.00	**(2 marks)**
10% Bonds – Irredeemable	25,500	10.82%	2,759.10	**(2 marks)**
Total	**155,500**	**16.89%**	**26,259.10**	**(2 marks)**

Cost of bonds is $\frac{0.1 \times 1000}{850} \times (1 - 0.08) = 10.82\%$ **(1 mark)**

b)

i) Share repurchase

Share repurchase is the process where a company buys back its own share from investors or from the stock market. **(1 mark)**

ii) Companies may purchase their own shares for the following reasons

- **Discourage unfriendly takeover**
- Shares repurchased can be used to enhance shareholder value or discourage an unfriendly takeover.
- **Acquire another business**
- Companies can repurchase their own shares to be used for acquisition of another company.

- **For employees share options**
  Where shares are used as part of employee salary package, a company can purchase its own shares for that purpose.
- **For retirement**
  Companies can buy their own shares and retire the shares.
- **Redistribution of excess cash**
  Companies with excess cash as a result of excessive retained earnings can redistribute the excess cash to shareholders through purchase of own shares.
- **As part of agreement with investors (Share repurchase agreement)**
  Where there is an agreement with an investor that the company will buy its shares from the investor after a given period, the company will have to comply with this agreement by purchasing its own shares from the investor. This is also referred to as share repurchase agreement.

(1 mark for any 1 point up to a maximum of 5 marks)

c) **Convertible loan notes** are bonds that, at the option of the holder, can be converted into ordinary shares. If not converted, it will be redeemed like ordinary or straight debt on maturity. **(1 mark)**

Convertible debt has a number of attractions compared with a bank loan of similar maturity, as follows:

- **Self-liquidating**
  Provided that the conversion terms are pitched correctly and expected share price growth occurs, conversion will be an attractive choice for bond holders as it offers more wealth than redemption. This occurs when the conversion value is greater than the redemption value, or when the conversion value is greater than the floor value on the conversion date. If the debt is converted into ordinary shares, it will not need to be redeemed. A bank loan of a similar maturity will need to have all of the capital repaid.

- **Lower interest rate**
  It will be lower than the interest rate on ordinary debt such as a bank loan because of the value of the option to convert. The returns on fixed-interest debt will not increase with corporate profitability, so debt providers will have a limited share of the benefits from the investment of the funds they have provided. When debt has been converted, however, bond holders become shareholders and will potentially have unlimited returns, or at least returns that are higher than the returns on debt finance.

- **Increase in debt capacity on conversion**
  Gearing increases when convertible debt is issued, but if conversion occurs, the gearing will fall not only because the debt has been removed, but will fall even further because equity has replaced the debt. The debt capacity of the company will therefore be enhanced by conversion, compared to redemption of a bank loan of a similar maturity.

- **More attractive than ordinary debt**
  It may be possible to issue convertible debt even when ordinary debt such as a bank loan is not attractive to lenders, since the option to convert offers a little extra that ordinary debt does not. This is the option to convert in the future, which can be attractive to optimists, even when the short- and medium-term economic outlook may be poor.
  - Stable and long term funding source
  - Converted at a premium usually

(4 points well explained for 4 marks)

(Total: 25 marks)

EXAMINER'S COMMENTS

Question 2 was one of the most comprehensive question covering (a) to (c) with a total of 25 marks.

The (a) portion of the question which covered calculation of market capitalisation and determination of weighted average cost of Capital was the worst answered part of the questions as students struggled to calculate the price of the share and the cost of the bonds which were very key in answering the question which 14 marks out of the total 25 marks. This negatively impacted the overall score of the candidates in the question. The (b) portion which was on share repurchase and situations under which that will be useful had good performance generally from students but carried only a total of 5 marks.

The (c) part which covered convertible debt and attraction to issuing convertible debt compared to bank loan also had good responses from the students but carried only 5 marks.

Overall question 2 was the second worst answered in the paper driven mainly by the (a) part which carried almost 60% of the marks in the question. Only about 4% of the students who answered this question got a pass mark.

QUESTION THREE

a)

i)

	PROJECT GO	PROJECT COME
Accounting Profit:	**GH¢**	**GH¢**
Cash inflow	1,000,000	2,000,000
Depreciation:		
(2,500,000 - 250,000)/5 years	(450,000)	
(6,000,000 – 1,000,000)/ 5years		(1,000,000)
Annual Profit	**550,000**	**1,000,000**

Average Book Value:

PROJECT GO (2,500,000 + 250,000)/2 = 1,375,000)

PROJECT COME (6,000,000 + 1,000,000)/2 = 3,500,000)

Accounting Rate of Return =	550,000 * 100	1,000,000 *100
	1,375,000	3,500,000
	= 40%	**29%**

Alternatively: (Using cost of Machine or investment)

550,000 x 100	**1,000,000 x 100**
2,500,000	**6,000,000**
= 22%	**= 17%**

Decision:

PROJECT GO gives the highest Rate of return and should be selected

(4 marks)

ii) Net Present Value (NPV) method

NPV @ 20%

		PROJECT GO	PROJECT COME
		GH¢	**GH¢**
Year 0 Cost		(2,500,000)	(6,000,000)
Year 1 – 5 cash flows:			
Annuity factor (2.991)			
1,000,000 x 2.991	=	2,991,000	
2,000,000 x 2.991	=		5,982,000
Year 5 Scrap value:			
250,000 x 0.402	=	100,500	
1,000,000 x 0.402	=		402,000
NPV		**591,500**	**384,000**

Decision

Both projects produced positive NPVs but project GO has the highest NPV and should be selected since both projects are mutually exclusive.

(4 marks)

iii) Internal Rate of Returns (IRR)

@ 20% NPV was at positive.

Using 40%

		PROJECT GO GH¢	PROJECT COME GH¢
Year 0 Cost		(2,500,000)	(6,000,000)
Year 1 – 5 cash flows:			
Annuity factor (2.035)			
1,000,000 x 2.035	=	2,035,000	
2,000,000 x 2.035	=		4,070,000
Year 5 Scrap value:			
250,000 x 0.186	=	46,500	
1,000,000 x 0.186	=		186,000
NPV		**(418,500)**	**(1,744,000)**

IRR

PROJECT GO = 20% + $\frac{591,500}{(591,500+418,500)}$ X (40% -20%)

= 20% + (591,500/1,010,000) X (20%)

= 20% + (0.5856) X 20%

= 20% + 11.71%

= 31.71% 0R 32%

PROJECT COME = 20%+ $\frac{382,000}{(384,000+1,744.000)}$ X (40% -20%)

= 20% + (382,000/2,128,000) X (20%)

= 20% + (0.1795) X 20%

= 20% + 3.59%

= 23.6% 0R 24%

Decision

Both projects give IRR above the 20% cost of Capital, Project GO gives the highest 32% and should be taken since the two projects are mutually exclusive

(4 marks)

iv) Payback Period

	PROJECT GO GH¢	PROJECT COME GH¢
Cost of Machine	2,500,000	6,000,000
Cash inflow	1,000,000	2,000,000
Payback period =	**2.5 years**	**3 years**

Decision:
Project GO gives the lowest payback period and should be selected. **(3 marks)**

b)

i) **Profit/Loss of exercising : (OPTION A**)

Cost of exercising

		GH¢
$10m @ 4.7	=	47,000,000
Premium paid	=	1,400,000
TOTAL		**48,400,000**

Cost of not Exercising and buying from the spot market

		GH¢
$10m @ 4.5	=	45,000,000
TOTAL		**45,000,000**

Difference (LOSS): 48,400,000 - 45,000,000 = 3,400,000

- By exercising the total cost is GHS 48,400,000 (inclusive of premium paid)
- By Not exercising and buying from the spot market the total cost is GHS 45,000,000
- The LOSS will be 3,400,000 for exercising option A.

Decision:
Universal Plastics should not exercise the option but buy from the spot market That will be cheaper not withstanding option premium already paid for the he

Alternatively:
The option is out of the money since the spot rate was lower than the option rate and should not be exercised. The maximum loss is the option premium of 1,400,000 cedis. **(4 marks)**

ii) Profit / Loss of exercising (OPTION B):

Cost of exercising

		GH¢
EUR 8m @ 5.9	=	47,200,000
Option premium paid	=	1,200,000
Total		48,400,000

Cost of not exercising by buying from the spot market:

	GH¢
EUR 8m@ 6.3	= 50,400,000
Option premium paid	= 1,200,000
Total	51,600,000

Profit/Gain for exercising = Rate Differentials less premium paid in buying protection
= 51,600,000 – 48,400,000 = 3,200,000 -1,200,000
= 2,000,000

OR 50,400,000 – 47,200,000 = 3,200,000 – 1,200,000
= 2,000,000

OR (6.3 -5.9) X EUR 8m = 3,200,000 – 1,200,000
= 2,000,000

Decision:

Universal Plastics should exercise option B as it will Profit or gain
= GHS 2,000,000

(4 marks)

iii) The overall effect as follows:

	GH¢
OPTION A: LOSS (If exercised)	= (3,400,000)
OPTION B Profit or gain for Exercising	= 2,000,000
Overall Net profit (LOSS)for the hedge	**(1, 400,000)**

Alternatively

OPTION A: Option premium loss (Not exercised)	= (1,400,000)
OPTION B Profit or gain for Exercising	= 2,000,000
Overall Net profit (LOSS) for the hedge	**600,000**

(2 marks)

(Total: 25 marks)

EXAMINER'S COMMENTS
This question had (a) and (b) parts and carried a total of 25 marks.

The (a) portion tested students' knowledge on Accounting Rate of Return, Net Present Value, Internal Rate of Return and Payback period and carried a total marks 16 marks. This part had good answers from students and contributed to pass rates of the students who passed. Students generally did well but some students failed to use the annuity factor but went through a detailed approach.

The (b) portion which was an application side of using options to hedge a currency risk and making decision to exercise or not to exercise on the due date. Students generally did well in computing the market values and hedge values to make the decision which were generally ok but some of the decisions from the students to exercise or not exercise were at variance with their calculation but on overall basis over 13% of student who answered this question passed and good number slightly below the pass mark

QUESTION FOUR

a)

	GH¢
Current average trade receivables 45/365 × GH¢1 million	123,288
Average receivables with the factor 30/365 × GH¢1 million	82,192

It is assumed that if the factor's services are used, 80% will be financed by the factor at 8% and the remaining 20% will be financed by bank overdraft at 15%.

Annual interest costs	**GH¢**
Current situation GH¢123,288 × 15%	18,493
With the factor (80% × GH¢82,192 × 8%) + (20% × GH¢82,192 × 15%)	(7,726)
Saving in annual interest costs	**10,767**

Summary of comparative costs	GH¢
Saving in annual interest costs	10,767
Annual saving in bad debts (2% of GH¢1 million)	20,000
Annual saving in administration costs	8,000
	38,767
Annual costs of factor's services (2.5% of GH¢1 million)	(25,000)
Net increase in profit by using the factor	**13,767**

(9 marks evenly spread using ticks)

Alternatively:

Before Factor Service:

Bad Debts (2% x 1,000,000)	**=**	**(20,000)**
Admin Cost	**=**	**(8,000)**
Debtors Financing:		
45/365 x 1,000,000 = 123,287 x 15%	**=**	**(18,493)**
		(46,493)

After Factor Service:

Factor Fee (2.5% x 1,000,000)	**=**	**(25,000)**
Debtor Financing:		
30/365 x 1,000,000 =(82,192		
Factor (80% x 82,192) x 8% **= 5,260**		
Company (20% x 82,192) x15% = 2,466		
		(7,726)
Total Cost taking factor		**(32,726)**
Difference = (46,493- 32,726)	**=**	**13,767**

b) Working capital is a vital part of a business and can provide the following advantages to a business:

- **Higher Return on Capital**
  Firms with lower working capital will post a higher return on capital. Therefore, shareholders will benefit from a higher return for every dollar invested in the business.

- **Improved Credit Profile and Solvency**
  The ability to meet short-term obligations is a pre-requisite to long-term solvency. And it is often a good indication of counterparty's credit risk. Adequate working capital management will allow a business to pay on time its short-term obligations. This could include payment for a purchase of raw materials, payment of salaries, and other operating expenses.

- **Higher Profitability**
  The management of account payables and receivables is an important driver of small businesses' profitability.

- **Higher Liquidity**
  A large amount of cash can be tied up in working capital, so a company managing it efficiently could benefit from additional liquidity and be less dependent on external financing. This is especially important for smaller businesses as they typically have limited access to external funding sources. Also, small businesses often pay their bills in cash from earnings so efficient working capital management will allow a business to better allocate its resources and improve its cash management.

- **Increased Business Value**
  Firms with more efficient working capital management will generate more free cash flows which will result in higher business valuation and enterprise value.

- **Favourable Financing Conditions**
  A firm with a good relationship with its trade partners and paying its suppliers on time will benefit from favourable financing terms such as discount payments from its suppliers and banking partners.

- **Uninterrupted Production**
  A firm paying its suppliers on time will also benefit from a regular flow of raw materials, ensuring that the production remains uninterrupted and clients receive their goods on time.

- **Ability to face shocks and peak demand**
  Efficient working capital management will help a firm to survive through a crisis or ramp up production in case of an unexpectedly large order.

- **Competitive Advantage**
  Firms with an efficient supply chain will often be able to sell their products at a discount versus similar firms with inefficient sourcing.

(4 points @ 1.5 marks each = 6 marks)
(Total: 15 marks)

EXAMINER'S COMMENTS

Question four was a 15-mark question and was on working capital management combining both calculation for decision making and essay type. The (a) portion was on the use of a factor and the impact of that in the results of debts management which was well answered but some students did well in the calculation of the various numbers but had challenges in the presentation of the numbers in a consolidated format for clear difference in the status co and using a factor.

The (b) portion which was on advantages of proper working capital management received good and out of box thinking answers from the students.

Overall, this was the second best answered question even though it was carrying 15 marks with over 23% pass rate

QUESTION FIVE

a)

i) Price investors would be willing to pay

Face value= GH¢ 100
Coupon rate = 20%, paid semi-annually
Required return= 25%

$$V_0 = I\left(\frac{1-\frac{1}{(1+k_d)^n}}{k_d}\right)+\frac{RV}{(1+k_d)^n}$$

I= 0.2 * GH¢ 100 = GH¢ 20 **(0.5 marks)**
RV= Face value = GH¢ 100 **(0.5 marks)**

$$V_0 = 20/2\left(\frac{1-\frac{1}{(1+(\frac{0.25}{2}))^{2*10}}}{0.25/2}\right)+\frac{100}{(1+(\frac{0.25}{2}))^{2*10}}$$

= 72.41 + 9.48
=81.89

(4 marks)

ii) There is an inverse relationship between interest rates and price of bonds. As interest rates rise, bond prices drop. Conversely, as interest rates decline, bond prices rise. Interest rate movements reflect the value of money or safety of investment at a given time. The movement of interest rates affects the price of bonds because the coupon rate of interest, the money the issuer pays semi-annually to the owners of its bonds, remains fixed until the bond matures and pays the GH¢1,000 principal. The fixed semi-annual interest payments and the fixed repayment of principal at maturity are why bonds are called fixed income investments.

(4 marks)

b) The dividend growth model (DGM) is used widely in valuing ordinary shares and hence in valuing companies, but there are a number of weaknesses associated with its use.

- **The future dividend growth rate**
  The DGM is based on the assumption that the future dividend growth rate is constant, but experience shows that a constant dividend growth rate is, in reality, very rare. This may be seen as less of a problem if the future dividend growth rate is regarded as an average growth rate. Estimating the future dividend growth rate is very difficult in practice and the DGM is very sensitive to small changes in this

key variable. It is common practice to estimate the future dividend growth rate by calculating the historical dividend growth, but the assumption that the future will reflect the past is an easy one to challenge.

- **The cost of equity**
  The DGM assumes that the future cost of equity is constant, when in reality it changes quite frequently. The cost of equity can be calculated using the capital asset pricing model, but this model usually employs historical information, which may not reflect accurately expectations about the future.

- **Zero dividends**
  It is sometimes claimed that the DGM cannot be used when no dividends are paid, but this depends on whether dividends are expected in the future. If dividends are forecast to be paid from a future date, the dividend growth model can be applied at that point to calculate a share price, which can then be discounted to give the current ex dividend share price. Only in the case where no dividends are paid and no dividends are expected to be paid will the DGM have no application.

(3 points well explained @ 2 marks each = 6 marks)
(Total: 15 marks)

EXAMINER'S COMMENTS

Question 5 was worst answered in the paper. The (a) part of the question was on the determination of the price of a bond and how average interest rates affects the value of the bond. Even though the question appeared straight and required straight calculation students found it difficult to comprehend and also lacked knowledge and appreciation of the relationship between interest rate and the value of bonds.

The (b) portion was on weaknesses of the dividend growth model as a method of valuing a company. This was poorly answered and appeared as an unexpected or strange question to students based on their responses and carried 6 marks.
Overall the pass rate in this question was about 3%

On overall, general performance in the paper was poor and driven to a larger extent by Questions 2 and 5 totalling 40 marks which had poor pass rates.