NOVEMBER 2017 PROFESSIONAL EXAMINATIONS
FINANCIAL MANAGEMENT (PAPER 2.4)
CHIEF EXAMINER'S REPORT, QUESTIONS AND MARKING SCHEME

STANDARD OF THE PAPER

The standard and quality of the Financial Management paper appeared normal for that level. The questions were well distributed in terms of syllabus coverage as well as the quantitative and theory aspects. The questions were well spread across the subject areas and also covered well both quantitative and non-quantitative aspects of the syllabus
The questions also appeared straight forward for students to understand and answer. No ambiguous questions were noticed to pose challenges to well-prepared students understanding. It was also observed that generally no sub-standard questions were set in the paper and all questions were considered normal and standard for that level.

Mark allocations appeared generally fair relative to the nature of questions and expected answers. Where questions set had alternative approaches to answering the questions, alternative solutions were provided through the coordination process to cover students answering from alternative approaches.

PERFORMANCE OF CANDIDATES

The performance of the students in the paper was generally below expectation relative to the nature of the questions and below the average pass rate in the May examination. The overall pass rate was 28.21% compared to the over 30% pass rate in the previous sitting. This was however still better than the general historical pass rate of below 10%
The possible reasons for the below expectation performance were still valid:

- Poor preparations by students as answers provided clearly showed lack of or inadequate knowledge of the subject area in some cases
- Poor tuition services provided especially out of Accra centres
- Failure of students to thoroughly study and use ICA syllabus and content manuals
- Poor quality and background of students who wrote the paper vis a vis the very high standard of the questions and expected standard at that level
- Poor knowledge by students on exam preparation and questions answering techniques
- Limited access to study materials especially the out of Accra centres
- The below expectation performance were still noticed to be more visible in centres outside Accra

NOTABLE STRENGTHS & WEAKNESS OF CANDIDATES

The 28.21% students who did well exhibited the following strengths:

- Reading and understanding of the questions
- Well planned responses to the questions in line with the requirements of questions
- Very legible handwriting making reading and marking easier and better
- Well prepared and showed strengths in both quantitative and written questions

- Avoidance of mixing different answers to different questions and scattering of answers across difference pages mixed with answers of different questions.
- The strengths were noticed to be improving compared to the historical rates
- 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 updating and improving quality of study materials
- By enhancing the quality of tuition
- By teaching exams questions and answering techniques as part of the revision process prior to the exams after tuition
- Providing more tuition centres across the country
- 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 exam preparation
- Failure to comprehend the requirements of the questions
- Wrong numbering of answers to questions making it difficult for examiners
- Writing on areas not required by the questions
- 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.

QUESTION ONE

a) Directors usually want to focus on factual matters and concrete actions. They deal with rules, regulations, and compliance standards to ensure adherence to the law. They mostly measure company's performance in financial terms with secondary consideration of other metrics.

Required:

i) Briefly explain and identify **FOUR** examples of ***non-financial objectives*** of private companies. **(6 marks)**

ii) Discuss and identify examples of the effect of these non-financial objectives on the achievement of the ***financial objectives*** of companies. **(4 marks)**

b) A private company is desirous of obtaining quotation on the Ghana Stock Exchange.

Required:

Set out;

i) The likely reasons for seeking quotation **(4 marks)**

ii) The prior considerations, and **(3 marks)**

iii) The methods of marketing the security **(3 marks)**

(Total: 20 marks)

QUESTION TWO

a) One of your clients has seen many references to the "Cost of Capital" in the Business and Financial Times and has asked you to give him some guidance on what would be an appropriate figure for his organization-Zaytuna Ltd. The following information are available for Zaytuna Ltd.

Existing capital structure

	GH¢'000
Issued ordinary shares- - 12,000,000	12,000
Retained earnings	4,000
6% Preference shares	2,000
9% Debenture repayable 2018	6,000
	24,000

i) **9% Debenture**

Issued in 2008 at par

Current price GH¢ 92

A similar issue if made now would require to be at GH¢ 90

ii) **Preference Shares**

Preference shares have a par value of GH¢1 and were originally issued at 92p per share

Current price 43p

A similar issue if made now would require to be 40p per share

iii) **Ordinary Share**

The market price of an ordinary share is GH¢7.00
GH¢ 6 million in dividends were paid this year which represented 75% of earnings
Earnings are expected to grow at an annual rate of 5%
If new ordinary shares were issued now, costs incurred would represent 25p per share and a reduction below market value of 50p per share would also be made.

iv) **Corporate tax rate is 25%**

Required:
Calculate Zaytuna Ltd Weighted Average cost of capital. **(15 marks)**

b) Many small firms encounter a lot of problems in obtaining funds from the entire financial market to run their businesses. This problem has always accounted for their low performance in business.

Required:
What problems do small firms encounter in their efforts to raise capital in the Ghanaian financial markets? **(10 marks)**

(Total: 25 marks)

QUESTION THREE

a) Wax Ltd is a very large company employing over 20,000 people. Its business covers ten activities including food processing, warehousing, clearing and forwarding. Each activity is run as a division. Performance and hence the rewarding of management is based on divisional Returns on Investment (ROI).

Required:

i) Explain **FOUR** advantages that may accrue to Wax Ltd for using ROI to measure performance. **(4 marks)**

ii) Explain **THREE** problems under the use of ROI and what ***safeguards*** can be applied to minimize such problems. **(6 marks)**

b) The Gomoa Chemical Limited has a capital budget for 2018 of GH¢1,000,000
The following capital investment proposals are submitted to the capital budget committee.

PROJECT	PROFITABILITY INDEX	OUTLAY
1	1.2	200,000
2	1.18	200,000
3	1.17	100,000
4	1.10	300,000
5	1.15	200,000
6	1.13	200,000

7	1.19	400,000
8	1.21	100,000
9	1.22	100,000
10	1.16	100,000

The company's cost of capital is 5%
Projects 2 and 8 are mutually exclusive: Projects 1 and 5 are mutually dependent

Required:
As the chairman of the budget committee, which projects should the committee choose?
(15 marks)

(Total: 25 marks)

QUESTION FOUR

a) "Before the credit crunch tenanted-pub, firms borrowed cheaply in order to buy up back street boozers. But the debt crisis and the resulting slowdown have left the tenanted-pub industry nursing the hangover from hell." Financial times November 27/28 2010.

Required:
Explain the term ***"overtrading"*** and in your answer show how the financial backers could diagnose (or misdiagnose) the ***main symptoms*** of this condition, the ***various possible causes*** of such symptoms, and how firms could ***overcome*** this situation. **(8 marks)**

b) Asuo Ltd manufactures only one product, planks. The single raw material used in making planks is the dint. For each plank manufactured, twelve dints are required. The company manufactures 150,000 planks per year and that demand for planks is perfectly steady throughout the year. It costs GH¢ 200 each time dints are ordered, and that carrying costs are GH¢8 per dint per year

Required:
i) Determine the ***economic order quantity*** of dints. **(3 marks)**
ii) What are ***total inventory costs*** for Asuo (carrying costs plus ordering costs)? **(2 marks)**
iii) How ***many times per year*** would inventory be ordered? **(2 marks)**

(Total: 15 marks)

QUESTION FIVE

Paul and Tony Reid are the owners of LHW Ltd., publishers of "Luxury Homes of the World". As with similar pushers they are currently experiencing difficult market conditions. Paul wishes to sell his share of the business to Tony to pursue other interests. Paul feels their business has a "long term value" not captured by current market values. Paul and Tony wish to have their business "property valued" so a "fair" buyout price can be agreed.

LHW Ltd: Balance Sheet as at 31 December 2016

Fixed Assets	**GH¢ million**	**GH¢ million**
Land and Buildings		2.5
Plant and Machinery		4.5
Fixtures and Fittings		1.5
Motor Vehicles		0.5
		9.0
Current Assets		
Stocks	1.1	
Debtors	2.5	
Cash	0.2	
Prepayments	0.1	
	3.9	
Creditors: amount payable within one year		
Creditors	2.4	
Taxation	1.5	
Bank Overdraft	0.1	
	4.0	
Net current assets		(0.1)
Total Assets less current liabilities		8.9
Creditors: amount payable after one year		
10% Debentures 2022		(5.0)
Deferred Taxation		(1.3)
		2.6
Financed By:		
Ordinary shares of 10 pesewas		1.0
Share Premium		1.0
Retained profits		0.6
		2.6

Net profit after tax and interest payments but before dividends was GH¢250,000 and the annual dividend was GH¢100,000 for the year ended December 31 2016.

Covenants in the debentures require that a change in ownership of LWH would result in the redeeming of its debentures. They must be redeemed at "fair market value" based on the yield on comparable bonds, which is currently 8% p.a. The semi-annual coupon has just been paid with 10 more due before the bond would mature in 2022.

Paul and Tony estimate that 20% of LWH's debtors are likely to be irrecoverable but feel that current market conditions will improve and that over the next three years earnings should increase by 5% per annum.

Independent valuations state that the current realisable values of the company's fixed assets are:

	GH¢ million
Land and Buildings	2.0
Plant and Machinery	4.0
Fixtures and Fittings	1.2
Motor Vehicles	0.35
	7.55

For a firm similar to LHW Ltd with similar growth expectations but which is quoted on the stock exchange, the Price Earnings (P/E) ratio was 14 times and its gross dividend yield was 10%.

Required:

a) Given the above information, estimate the ***value per share*** of LHW Ltd. using:

i) The net asset (liquidation) basis

ii) The P/E basis

iii) The dividend yield basis (assume with no growth) and

iv) The dividend yield basis (assume with growth)

(12 marks)

b) Explain the differences between ***standard deviation*** and ***beta*** and when each is an appropriate measure of risk in a portfolio. **(3 marks)**

(Total: 15 marks)

SOLUTION TO QUESTIONS

QUESTION ONE

a)

i) Non-financial objectives of private companies

The maximisation of long term shareholder wealth should be the objective of all profit seeking private companies. Often companies try to achieve this through a series of primary financial objectives. In addition to these primary financial targets even profit seeking private companies often have other secondary non-financial targets.

Non-financial objectives could be aimed at:

- **The welfare of employees.** Examples of this could be health and safety in the work place, social and recreational services, the provision of accommodation or other services and pay and perquisites beyond what might be deemed necessary to attract and hold the appropriate staff.
- **The welfare of management.** Examples of this could be excessive pay and perquisites, "empire building" or increasing market share by either organic growth or through mergers and acquisition beyond what is in the best interests of shareholders for the benefit of management or not taking on risks that would be in the interests of shareholders but could jeopardise the survival of the firm and hence the welfare of the management.
- **The welfare of society.** Examples of this could be acting in an environmentally sustainable way, not testing products on animals, respecting human rights, being a "good neighbour" and contributing to the local economy / community.
- **The provision of a service.** Examples of this could be providing a service which could not be justified on purely profit grounds such as assisting access to their products for the disabled or those in remote areas.
- **The fulfilment of responsibilities towards customers and suppliers.** Examples of this could be excellent customer service or only dealing with "Fair Trade" suppliers.
- **Technology / quality improvements.** Many technology and engineering companies are said to spend more time and effort on improving the technical aspects of their product or service than in maximising their commercial value.
- **Market leadership**
- **Growth**

(1.5 marks for each non-financial objectives= 6 marks)

ii) The effect of non-financial objectives on the achievement of the financial objectives of companies can include:

- By trying to improve health and safety in the work place, social and recreational services, the provision of accommodation or other services and pay and perquisites beyond what might be deemed necessary to attract and hold the appropriate staff will increase costs and hence could reduce profit and dividend growth. However the contrary is not always advisable either. Not following acceptable health and safety standards or paying below minimum acceptable or legal standards either in the customers markets or even where the product / service is sourced in for example a third world country can be advantageous in the short term. However it is possible that this could lead to de-motivated employees and angry customers. If the company's reputation suffers attracting and keeping customers will be more difficult. Thus in the longer term this could hinder achieving the financial objectives of companies.

- It would be hard to imagine how excessive pay and perquisites could be in the best interests of shareholders. Thus this would be expected to reduce profit and dividend growth. Similarly while management might argue that increasing market share or increasing the size of the company by either organic growth or through mergers and acquisition might be good for the shareholders this is often not the case, (as often witnessed by the fall in the share price of a predator firm when it announces it intends to engage in the takeover of another firm). This can lead to earnings per share and dividends per share falls even though total profit and dividends may rise.

- Not taking on risks would be expected to reduce profit and dividend growth and would not be in the interests of shareholders unless it was argued that financial distress costs are higher than is usually estimated in finance theory.

- Most firms now accept that they everyone has a part to play in ensuring sustainable development and reducing their impact on the environment. Also many firms choose to help society in many other ways too such as contributing to the local economy / community not engaging in illegal activities such as illegal pollution or bribing local and national officials. This could increase costs, particularly in the short term. Hence it could reduce profit and dividend growth. However it is possible that this could lead to increasing the reputation of the company. This could lead to better motivated employees and again attracting and keeping customers could be easier. Thus in the longer term this could be good for the achieving the financial objectives of companies.

- Often firm provide a service such as assisting access to their products for the disabled or those in remote areas. In many cases this is done purely to fulfil statutory obligations but often it is done for "humanitarian" reasons too. This would be expected to reduce profit and dividend growth.

- While in the short term getting around these regulations might appear to be a good idea, should this be exposed, this legal but "unethical" behaviour might do irreversible damage to a company's reputation. Hence providing such services could be interest of achieving the financial objectives of companies.

- Offering excellent customer service or only dealing with "Fair Trade" suppliers and other form of "ethical behaviour" can increase costs and hence could reduce profit and dividend growth.

- However a reputation for always acting ethically could also lead to better motivated employees. And if the company's reputation improves, attracting and keeping customers will be easier. Thus in the longer term this could be good for the achieving the financial objectives of companies.

- Perhaps some technology and engineering companies might be spending more time and effort on improving the technical aspects of their product or develop new technologies that will improve the environment rather than spending time in maximising shareholder wealth. However once again it is possible that this could also lead to better motivated employees. And if the company's reputation improves, attracting and keeping customers will be easier. Thus in the longer term this could be good for the achieving the financial objectives of companies

(Any 4 points for 4 marks)

b)

i) The likely reasons for seeking a quotation are listed below:

- To provide an immediate basis of valuation for the share and a market in which they can be readily exchanged for cash.

- A quotation gives access to the savings of the public, when a company wishes to recruit further capital for expansion.

- Amalgamation between companies is easier if part of the price to be paid is in shares, quoted in a stock exchange. The fact that shares of the enlarged company are marketable will facilitate the merger.

- After a quotation, the shareholders have a ready market for their shares. They can exchange them for cash or use them more easily as a form of security.

(4 points for 4 marks)

ii) The prior considerations to obtaining a stock exchange quotation are as follows:

- The company must meet the requirements of the Ghanaian Stock Exchange. Depreciation must have been sufficient in the past, and the accounts must have been drawn up in a proper manner.
- The records of the past profits must be such that the public will be eager to invest in the company. There must be a degree of certainty that profits will continue at or above this level into the future. Consideration must be given to the fact that a more generous dividend policy will have to be pursued in the future.

- Before obtaining a quotation the board must consider the best method to bring the Firm to the market, how much money to raise by the issue, the price at which the offer is made to the public, and whether the offer is to be underwritten.
- The interest of the present shareholders must be considered. Thought must be given as to whether they can maintain control after the issue. The assets of the company must be revalued, and the surplus distributed as bonus shares.
- The type of new capital to be raised. The pros and cons of debentures, preference and ordinary shares must be considered.

(Any 3 points for 3 marks)

iii) **The methods of marketing a company are as follows:**

- **Public issue by prospectus:** This is a direct issue to the public by means of prospectus and advertisements detailing the number, class and price of the shares offered.
- **An offer for sale**: This is made by an issuing house to the public, of the shares which it has previously bought from the owner of the business. Sometimes the owner offers the shares on his own behalf.
- **Offer for sale by tender:** This method, which has been used on a number of occasions in recent years for the issue of ordinary shares is similar to the offer for sale, except that the issuing house (instead of offering the shares at a fixed price) invites the public to send in tenders at a fixed price) invites the public to send tenders for the shares at or above a minimum price, stating the maximum number of shares they would take. In the light of the tenders received, the issuing house then fixes a price (the striking price) at which the shares will be allotted.
- **A Placing:** This occurs when shares brought onto a Stock Exchange for the first time are sold privately. A stock broker or issuing house may arrange for the issue to be taken up by the clients or contracts.
- **An Introduction:** This is not a method of raising new capital, but of getting permission to deal, i.e. introducing the shares of a small company to the market.

(Any 3 points for 3 marks)

(Total: 20 marks)

EXAMINER’S COMMENTS

This was an easy or theory question for (a) and (b) with sub questions under each. Students were expected to explain only 4 non-financial objectives and their effects on the financial objectives on the (a) part and the (b) part centred on the listing on the stock exchange market.

This was straight forward question requiring straight forward answers.

Almost every student answered this question and the general performance of students appeared satisfactory. This question contributed to the pass rate of the students who passed the paper.

QUESTION TWO

a) Note: Students will be awarded marks based on the cost of capital as determined by them. The following calculations will be relevant to this.

Debentures

Marginal cost after tax $= \frac{\text{coupon rate}}{\text{proceeds of current issue}}$ (I - tax rate)

$= \frac{9}{90}$ (1 – 0.25)

$=$ 7.50%

ALTERNATIVE SOLUTION

$\frac{540{,}000\ (1-0.25)}{5{,}400{,}000} \times 100$

$= 0.075 \times 100$

$= 7.5\%$

(3 marks)

Preference shares

Marginal cost $= \frac{\text{coupon rate}}{\text{proceeds of current issue}}$

$= \frac{6}{40}$

$=$ 15%

ALTERNATIVE SOLUTION

$= \frac{120{,}000}{800{,}000} \times 100$

$= 15\%$

(3 marks)

Issue of ordinary shares

Marginal cost $= \frac{\text{Dividend per share}}{\text{net proceeds of issue}}$ + growth rate

$= \frac{50}{625} + 0.05$

$=$ 13%

ALTERNATIVE

$\frac{50}{700-(50+25)} + 0.05$

= 13%

(3 marks)

Cost of retained earnings = dividend yield + growth rate

$= \frac{50}{700} + 0.05$

$= 12.1\%$

Weighted average marginal cost of capital

Source of finance	Capital structure GHȻ 1 million	Weight	Component Cost %	Weighted cost
Ordinary shares	12	0.50	13.0	6.50
Retained earnings	4	0.17	12.1	2.06
Debentures	6	0.25	7.5	1.88
Preference shares	2	0.08	15.0	1.20
	24	1.00		11.64

(3 marks)

ALTERNATIVE SOLUTION
WACC

Source of finance	Capital structure GHȻ 1 million	Weight	Component Cost %	Weighted cost
Ordinary shares (6.25@12m)	75	0.923	13.0	12.0
Debentures (0.9 @ 6m)	5.4	0.067	7.5	0.50
Preference shares (0.4 @2m)	0.8	0.01	15	0.15
TOTAL	81.2	1.00		12.65

WACC formula can also be used to arrive at the 12.65%

b) Small firms encounter the following problems in their efforts to raise capital in the Ghanaian financial market.

- The high cost of obtaining a quotation on the stock market. For most small forms a quotation has become impracticable.

- Large firms are better known and provide more financial information than smaller firms.
- The accounting system in large firms are more sophisticated and are able to provide a greater quantity of more reliable information which can be incorporated into annual reports or profit forecast.
- Investments in larger companies are more easily marketable.
- The smaller business will find it particularly difficult to attract venture capital.
- Small forms tend to lack the financial expertise to prepare adequate cash flow projections or proper forecasts.
- The cost of finance to small firms will probably be higher than that for large business. In order to attract capital in the first place, the small firm may be forced to pay a greater rate of interest.
- Some governments supported schemes (e.g., agricultural loan guarantee scheme) specify minimum qualifying levels which exclude the smaller firms.

(Any 5 points for 10 marks)

(Total: 25 marks)

EXAMINER'S COMMENTS

This question covered two aspects namely weighted average cost of capita (WACC) with 15 marks and the (b) aspect which covered a theory aspect on the problems of raising capital by small firms. Even though the question paper allocated 5 marks to this (b) which was an error this was rectified and the total 10 marks allocated for the total 25 marks allocated to that question.

The (a) portion which was standard and quantitative posed challenges to the students in calculating the various cost components and the overall weighted average cost of capital. Only few students were able to answer it. This part contributed to the low pass rate in this question. The marks allocated to the question relative to the time required and complexity of the question appear small.

The (b) part was well attempted and students generally scored good marks in this area contributing to the pass rate.

QUESTION THREE

a) Return on investment is the average annual profit from an investment, after depreciation, expressed as a percentage of the original capital invested. It is a useful measure because it relates profit to capital employed. It is a measure used to compare divisional performance. Since Wax Ltd has ten divisions the method would relate the profitability of the various divisions to the level of investments in those divisions and thereby provide a basis for comparing their level of performance.

i) Advantages of the use of the ROI (Return on Investment/return on capital employed ROCE) lie in its tendency to:

- Focus management's attention upon earning the best profit possible on the capital (total assets) available.
- Serve as a yardstick in measuring management's efficiency and effectiveness in managing the company as a whole and its major divisions or departments.
- Tie together the many phases of financial planning, sales objectives, cost control, and the profit goal.
- Afford comparison of managerial results both internally and externally.
- Develop a keener sense of responsibility and team effort in divisional and departmental managers by enabling them to measure and evaluate their own activities in the light of the results achieved by other managers.
- Aid in detecting weaknesses with respect to the use or non-use of individual assets particularly in connection with inventories

(Any 4 points for 4 marks)

ii) Problems associated with ROI

- It is a profit measure and as such is only a worthwhile measure if it is high profit that is the investor's main objective.
- Profit could be defined in various ways as well as capital employed. It could be profit before or after tax and various elements charged to profit may not have comparable measures. Capital employed may or may not include debt capital.
- The fact that different divisions engage in different types of activities and some lines of business generally yield higher returns than others may distort the basis of comparison.
- ROI emphasizes profitability and may therefore lead to oversimplification of investment decision making. Other factors that should be considered include capital availability, liquidity, risks, etc.
- Possible suboptimisation by pursuing divisional goals to the detriment of corporate objectives.

(Any 3 points for 3 marks)

Safeguards

- Other measures should be used in addition to ROI. Qualitative factors should also be considered. This would deemphasize profit objective.

- Investment decisions should be centralized as much as possible.

(2 points for 3 marks)

(Total: 25 marks)

b) As projects 2 and 8 are mutually exclusive, only the most profitable need be considered, i.e. project 8. Project 2 can be completely omitted from the selection process.

(2 marks)

As projects 1 and 5 are mutually dependent both must be either selected or rejected, and to ensure this a weighted profitability index is needed.

(2 marks)

	Outlay	x	Profitability index	
1.	200,000		1.20	240,000
2.	200,000		1.15	230,000
	400,000			470,000

Weighted profitability index = $\frac{470}{400}$

= 1.175

(3 marks)

The projects can then be ranked in descending order of profitability:

Project	**Profitability index**	**Outlay**
9	1.22	100,000
8	1.21	100,000
7	1.19	400,000
1 + 5	1.175	400,000
		1,000,000
3	1.17	100,000
10	1.16	100,000
6	1.13	200,000
4	1.10	300,000

Thus, projects 9,8,7,1 and 5 are accepted

(8 marks)

(Total: 25 marks)

EXAMINER'S COMMENTS

Question 3 again was a mixture of theory and quantitative questions. The (a) aspect covered advantages and safeguards on the use of Return on Investment (ROI). This question appeared unexpected to the students and attracted wide range of answers and general thinking. Performance was generally above average and compelled students to think outside the box.

The (b) aspect which covered capital rationing for projects using profitability index and also introducing mutually exclusive and mutually dependent projects in the list appeared straight forward but students still did not understand it that way as majority of students computed NPVs and ranking using that. Students wasted valuable time to do that. This impacted negatively on the marks obtained in this area by students. Those who got it right scored the maximum marks. Overall performance was above average

QUESTION FOUR

a) **Overtrading** refers to a situation where turnover is increased without a matching increase in equity or other long-term sources of funds: as a result, a company which is earning good profits can run into a liquidity crisis and default in payment of its current liabilities. **(1 mark)**

Symptoms of Overtrading

The financial backers of the tenanted-pub firms might have noticed the following symptoms;

- The increased investment in current assets needed to support the increased sales are financed mainly form short-term sources like creditors and bank overdraft, resulting in a declining current ratio and quick ratio.
- Sales tend to increase very quickly in relation to equity, resulting in sharp increases in the ratio of sales to equity.
- The increase in debt would lead to higher gearing ratios
- The net working capital will tend to decline, and may even become negative. A negative net working capital implies a current ratio less than equity (current assets less than current liabilities), and a business in such a position is likely to face considerable difficulty in meeting its current liabilities. Even where the current ratio is satisfactory, any erosion of net working capital would worsen the liquidity of the business and make it more vulnerable to cyclical risk.

(Any 3 points for 3 marks)

Various possible causes

However over trading is not the only cause of these symptoms: Situations similar to overtrading can be caused due to other reasons as well:

- It is not only physical increase in sales that can strain liquidity. In periods of high inflation, sales turnover and the corresponding working capital requirements can increase very sharply in nominal terms, resulting in the symptoms of overtrading.
- Repayment of a loan without raising sufficient long-term funds (either in the form of profit accruals or a fresh loan) can drain cash form the firm, creating symptoms.
- Excessive dividend payout can result in depressing the equity and creating similar symptoms.
- Using short-term sources of funds to finance long-term investments will depress net working capital, resulting in overtrading symptoms.

(Any 2 points for 2 marks)

Overcoming overtrading

- However if the management of the tenanted-pub firms feel that overtrading is the root cause of their condition then they must as a matter of urgency tackle the situation.
- The instant solution for an overtrading situation is to take more trade credit and bank overdraft finance; however this is likely to be only a short-term fix that ultimately exacerbates the situation and worsens the liquidity crisis.

- Better short-term solutions would be to either restrict the growth in turnover to manageable proportions; or improve working capital management so that the investment in current assets required to support the level of sales is reduced (i.e. better inventory control, credit policy and debt collection).
- The long-term solution is to provide more long-term funds for working capital purposes – i.e. improve the Net Working Capital positon of the firm.

(Any 2 points for 2 marks)

b)

i) Economic Order Quantity of dints

Q = $\frac{2cd}{iP}$

(d = 150,000 x 12 = 1,800,000)

Q = $\sqrt{\frac{2 \; x \; 1{,}800{,}000 \; x \; 200}{8}}$

Q = √90,000,000 = 9,487 units

(3 marks)

ii) Total inventory costs

TC = $\frac{CQ}{2} + \frac{SO}{Q}$

TC = $\frac{(8)(9487)}{2} + \frac{(1{,}800{,}000)(200)}{(9487)}$

Total costs = 37,948 + 37,947

= GH¢75,895

(2 marks)

iii) Many times per year Inventory should be ordered

$\frac{(1{,}800{,}000)}{9{,}487}$ = 190 times or approximately every 2 days

(2 marks)

(Total: 15 marks)

EXAMINER'S COMMENTS

This question also had (a) and (b) aspects. The (a) portion was standard and straight forward on overtrading, symptoms, causes and how to overcome that. This was generally understood and well answered.

The (b) portion which covered economic order quantity and the total inventory cost was well answered and maximum marks obtained by students who understood the question. Some students however deviated in calculating the annual demand using the finished

product instead of converting back to the raw material on which economic order quantity was based. Valuable marks were lost due to this deviation.
Students who read and understood the question did extremely well.

QUESTION FIVE

a)

i) Net asset (liquidation) basis:

PV of bond:

As interest is paid semiannually:

The total number of periods over which the cash flows will be paid is 10 (2 X 5 years remaining).

The required rate of return on assets of this risk level is 12% / 2 = 6% semiannually.

The formula for the present value of a non-callable redeemable bond is:

= PV of the coupon payments + the PV of the redemption value of the debt

PV = GH¢250,000 x (8.11) + GH¢5,000,000 x (0.675)

(From PV annuity tables, n = 10, r = 4% and PV tables n = 5, r = 8% and)

= GH¢2,027,500+ GH¢3,375,000 = GH¢, 402,500

Change in the value of fixed assets:

If we assume that both buyer and seller would accept the revaluation of assets by the independent valuer, an assets valuation of equity would be as follows;

Adjusted Net Assets of LHW Ltd

	GH¢ million	**GH¢ million**
Balance sheet Figure		2.6
Estimated values of fixed assets		
Land & Buildings	2.0	
Plant & Machinery	4.0	
Fixtures and Fitting	1.2	
Motor Vehicles	0.35	
	9.0	
Less fixed assets in balance sheet		(1.45)
Current Assets:		
Nominal value of debtors in balance sheet	2.5	
20% reduction of value of debtors		(0.5)
Nominal value of 8% of debentures in balance sheet	(5.0)	
Redemption cost	(5.4)	
		(0.4)
Adjusted net Assets of LHW Ltd		0.25

(3 marks)

ALTERNATIVE SOLUTION

Adjusted Net Assets of LHW Ltd		**GH¢ million**
Fixed Assets;		
Land and buildings	2.0	
Plant and Machinery	4.0	
Fixtures and Fittings	1.2	
Motor Vehicles	0.35	
		7.55
Current Assets:		
Stock	1.1	
Debtors	2.0	
Cash	0.2	
Prepayments	0.1	
	3.4	
Current Liabilities:		
Creditors	2.4	
Taxation	1.5	
Bank overdraft	0.1	
	4.0	(0.6)
		6.95
Debenture	(5.4)	
Deferred Taxation	(1.3)	(6.7)
Adjusted Net Assets of LHW LTD		**0.25**

ii) P/E Ratio: Choosing the appropriate earnings figure:
As a company with significant growth since its start up, it would not be correct to believe that past earnings are an appropriate measure for valuation. Future earnings should be used.

Usually if no other information about the future is available one would use the latest earnings figure and forecast that next year equals this year, i.e. €250,000. We could however take the average of forecast earnings based on the directors' assessment of growth prospects for the next three years:

Year	2009	2010	2011	Average
Profits	GH¢262,500	GH¢275,625	GH¢316,969	GH¢285,031

Choosing the appropriate ratio:
The only P/E ratio for an earnings basis valuation given is that of 14 times for the quoted company. This should be reduced by about 40%, to about 8.4, to allow for unquoted status. A share valuation on an expected earnings basis might be as follows:

P:E Ratio	Earnings	Valuation	# of Shares	Value per share
8.4	GH¢250,000	GH¢2,100,000	10,000,000	GH¢0.210
8.4	GH¢285,031	GH¢2,394,263	10,000,000	GH¢0.239

(4 marks)

iii) Dividend yield with no growth
The gross dividend yield for shareholders in the quoted company was 10%, and it is reasonable to suppose that investors in LHW Ltd. Would require at least this yield, (perhaps increased to allow for unquoted status, e.g. 14%). Again, usually if no other information about the future is available or one is unhappy with the forecasts given, one would use the latest dividend figure and forecast that next year equals this year, i.e. GH¢100,000.

A yield basis valuation would therefore be:

GH¢100,000 / 0.1= GH¢1,000,000 = GH¢0.10 per share.
Or GH¢100,000 / 0.14 = GH¢666,666.67 = GH¢0.067 per share, (to allow for unquoted status).

(3 marks)

iv) Dividend yield with growth
If one wished to use the forecast earnings, then as earnings are expected to increase by 5% a year for the next three years, with no further information we can assume g = its capital gains yield = 5%. The dividend yield for the quoted companies was only 10%. For LHW, an unquoted company, this could be increased by about 40% to 14%.

Since the required return for LHW = its dividend yield + its capital gains yield

That is to say: r = (Div1 / P0) + g
Thus r = 14% + 5% = 19%

Therefore using Gordon's dividend growth model:

P0= D0 (1+g) / (r –G)–g) = 100,000(1.05) / (0.19 –0.05) = GH¢105,000 / 0.14 = GH¢750,000 or
GH¢0.075 per share. **(2 marks)**

Summary:	Company	Per Share
	GH¢	GH¢
Net Asset Value	247,500	0.025
P:E (Low)	2,100,000	0.210
P:E (High)	2,394,263	0.239
Div Yield (No Growth)	666,666.67	0.067
Div Yield (With Growth)	750,000.00	0.075

b)

Standard deviation

Standard deviation, or total risk, is the square root of the weighted average deviation of the returns on the individual stocks in a portfolio from the mean return, E.g. for a two asset portfolio, the Standard Deviation (="the total risk of the portfolio‖) = $\sigma_p = \sqrt{\{X_1^2\sigma^2_1 + X_2^2\sigma^2_2 + 2X_1X_2P_{12}\}}$

The standard deviation or total risk can be broken down into two forms, namely: unsystematic risk which is diversifiable and systematic risk which is undiversifiable.

(1 mark)

Beta

Beta is the slope of a regression line, and it equals the covariance of the return on a security with the return on the market divided by the variance of the market return:

Betai = covim / σm2

Beta measures the sensitivity of a stock's return to the return on the market portfolio. The market portfolio is a portfolio of all assets in the economy. In practice a broad stock market index, such as the S&P Composite, is used to represent the market. By definition the Beta of the market portfolio is one and that of the risk free asset is zero. While beta does not directly measure risk, it is a crucial risk indicator, reflecting the extent to which the returns on the single asset move with the market. **(1 mark)**

Appropriate measure

For an investor with an undiversified portfolio, it is total risk or standard deviation which is the most appropriate measure of risk.

Unlike standard deviation, Beta is not a measure of total risk but a measure of relative risk, the risk of an asset relative to the market. Beta is also a measure of market risk. Market risk accounts for most of the risk of a well-diversified portfolio. **(1 mark)**

(Total: 15 marks)

EXAMINER'S COMMENTS

This question which also had (a) and (b) was mainly quantitative. Out of the 15 marks allocated to the question the quantitative aspect covered 12 marks and the theory 3 marks. The12 marks allocated however appear small relative to the requirements and complexity of the question. It

The (a) portion was on valuation on net assets value, P/E and dividend yield basis. This was poorly answered and scored the worst performance. Students struggled to answer the question. The (b) aspect was also another a theory question on standard deviation and beta. Students struggled to understand and explain the two concepts.

CONCLUSION

Remedies for observed weaknesses

- More preparation time by students before writing the paper
- Minimum period should be allowed by ICA before a student sit for the exams depending on the background of the student
- More questions and answer bank and guide lines should be provided by the Institute and other accredited tuition centres
- ICA tuition and revision centres should incorporate exam comprehension and answering techniques as part of their revision lectures and kits to better guide students preparing to write the exams
- Explore the possibility of implementing web based or electronic based tuition and revision centres for students leaving outside the Accra area
- Implementation of mock like exams by the accredited tuition centres to help prepare the students to have the feel of the exams before the main exams and feedback given at individual level on what went well and what didn't go well in the mock or pre exam test even if it is at an affordable fee for students
- Re-evaluation of the quality of the students and admission requirements for the Institute.