MARCH 2025 PROFESSIONAL EXAMINATIONS
FINANCIAL MANAGEMENT (PAPER 2.4)
CHIEF EXAMINER'S REPORT, QUESTIONS AND MARKING SCHEME

EXAMINER'S GENERAL COMMENTS

The paper was up to the required standard. It was also observed that the questions were generally well structured and covered almost the entire syllabus except mergers and acquisitions area which was not examined in this sitting. Each question was well spread containing a number of sub questions on different parts of the syllabus. The marks allocation per question and sub questions were generally good and consistent with the level of difficulty and time required to answer the question.

PERFORMANCE OF CANDIDATES

The performance of the candidates was generally stable at 41% pass rate compared to the 42% in the previous sitting and considered encouraging but more effort is required from candidates to improve their performance.

NOTABLE STRENTHGS AND WEAKNESSES OF CANDIDATES

The following strengths were observed:

- Good understanding of the questions that were set helping the candidates to avoid deviations in answering the questions.
- Improvement in approach to answering questions and providing precisely what was needed by some candidates rather than proving a lot of unrequired responses.
- Candidates continue to improve their strength in the new areas of the syllabus which are mainly theory based.

The strengths can be enhanced by:

- Continuous improvement in preparations and ensuring they are well prepared before sitting for the paper.
- Review of the various examination reports to avoid pit falls and improve on reported weaknesses of candidates in previous examinations.
- Again, proper and comprehensive planning on when to be ready before writing the exams rather than rushing to write without adequate preparations.

Observed weaknesses demonstrated by candidates

- Poor understanding of how to answer valuation questions which still requires more efforts by candidates.
- Even with the formula tables provided in the exams some candidates still struggled to identify which formulas are applicable to the question they are answering.
- Poor understanding of the extent of writing expected by the question with no regard to the marks allocated to the question especially the essay areas.

Remedies for observed weaknesses

- Candidates should spend more time in practising questions and be familiar with the right formulas applicable for each type of subject area.
- Spend more time on the highlighted areas posing difficulties to candidates in answering the questions in the past exams.

QUESTION ONE

a) In Ghana, the collaboration between public institutions and private entities in the healthcare sector has become increasingly noteworthy, particularly through Public-Private Partnership (PPP) arrangements. These partnerships are essential for expanding healthcare infrastructure, improving service delivery and ensuring access to quality healthcare for all citizens. For instance, the Government of Ghana has agreements with private companies to build hospitals, supply medical equipment, or manage healthcare facilities.

One of the critical aspects of PPP arrangements in healthcare is allocating risks between the public and private partners. Effective risk allocation is crucial to the success of these partnerships, guaranteeing that both parties are driven to fulfil their obligations and that the project can deliver the expected benefits to the public.

Required:
Explain **FOUR** types of risks associated with a PPP arrangement in the health sector.
(8 marks)

b) Kakape LTD (Kakape), a leading Information Technology firm known for its innovative technology solutions, has 50,000,000 shares in issue with an equity market value of GH¢87,000,000 at the end of 2023. The company is forecasting its profit after tax to grow by 15% per year for the next three years (2024–2026) and onwards by 8% per year. Kakape's cost of equity capital is estimated to be 12% per year. Dividends may be assumed to grow at the same rate as profits. Assume that the 2023 dividend per share ended up as GH¢0.07 and that all dividends will be paid at the end of the financial year.

Required:
Using the dividend valuation model, determine whether Kakape's shares are under or over-valued in 2023. **(7 marks)**

c) In the healthcare sector, hospitals are expected to provide high-quality medical care and uphold corporate social responsibility (CSR) principles that guide them in making decisions that align with their values and responsibilities to patients, staff and the broader community.

Required:
Explain **THREE** core principles of corporate social responsibility as applied in the healthcare sector. **(5 marks)**

(Total: 20 marks)

QUESTION TWO

The Governing Board of Dominase Agriculture University is considering a capital project and related financing options. The project involves the construction of a candidate hostel, which requires capital outlays of GH¢20 million in the first year and GH¢30 million in the second year.
The hostel will become operational in the third year. Net operating cash flows from the hostel are expected to be GH¢20 million annually for the first three years of operation (i.e. Years 3, 4, and 5) and then begin to grow at a constant rate of 10% annually to perpetuity.

The project finance advisory team has presented the following two financing options for the consideration by the Governing Board:

Option 1: A Syndicated Bank Loan
Through a syndication arrangement led by the National Investment Bank, the university can borrow the required GH¢50 million from five local banks at an annual interest rate of 28% with quarterly compounding. The loan amount will be released to the university immediately. The university will be given a moratorium (grace period) of two years to complete the construction of the hostel before it is required to start paying off the loan balance in equal instalments at the end of each quarter for ten years. Interest will accumulate on the loan during the grace period.

Option 2: Bond Issuance
The university can issue a bond to raise the GH¢50 million required to finance the construction of the hostel. The bonds will be issued in 50,200 units of GH¢1,000 face value each. The annual coupon rate on the bond will be set at 26%, but coupons will be paid semi-annually starting as soon as the bond is issued. The bonds will be issued now and redeemed in 15 years at a premium of 10%. Although the total redemption value will be paid to the bondholders at maturity, the university will be required to establish a sinking fund to raise enough money to redeem the bonds. The university can deposit equal sums of money into the fund at the beginning of every six months, starting from the third year until the fifteenth year when the bond will be redeemed. The fund will be invested at an annual interest rate of 20%.

Required:

a) Regarding the syndicated loan,
i) Compute the loan's balance at the end of the moratorium. **(3 marks)**
ii) Compute the quarterly instalment required to amortise the loan over the ten-year repayment period. **(4 marks)**

b) Regarding the bond issue,
i) Compute the total redemption value of the bond. **(3 marks)**
ii) Compute the size of each semi-annual instalment into the sinking fund. **(4 marks)**

c) Compute the project's net present value (NPV) and provide an investment recommendation based on it. Assume the required rate of return on the project is 30%. **(6 marks)**

(Total: 20 marks)

QUESTION THREE

a) Gyenyame Pharmaceuticals LTD (GPL), a Ghanaian company, imports raw materials from the United States of America to produce generic drugs for the local market. Due to recent fluctuations in the foreign exchange market, the company's management is concerned about the impact of exchange rate movements on its costs and profitability.

The company is expected to pay USD750,000 in three months for a shipment of Active Pharmaceutical Ingredients (APIs). GPL also exports locally produced herbal medicine called 'Koo-pile' to the Ghanaian community in Oklahoma, USA on credit basis. The company is expecting a receipt of USD250,000 in three months for a consignment exported a month ago.

GPL is considering two hedging strategies to manage the foreign exchange risk: a forward contract and a money market hedge.
The following financial information is available:

- Current Spot Rate (GHS/USD): 12.00
- 3-Month Forward Rate (GHS/USD): 12.20
- 3-Month USD Interest Rate: 3% per annum
- 3-Month GHS Interest Rate: 14% per annum
- Expected Future Spot Rate in 3 Months (GHS/USD): 12.50

Required:

i) Determine the outcome of the two hedging techniques and recommend the appropriate technique to GPL based on your computations. **(9 marks)**

ii) Explain **THREE** internal hedging techniques that GPL could use to manage its foreign exchange risk. **(6 marks)**

b) Technological advancements have significantly transformed financial markets, enhancing the way transactions are conducted, information is accessed and risks are managed. As financial institutions and individual investors increasingly depend on digital tools and innovative technologies, financial markets have become more efficient, accessible and transparent

Required:
Explain **FIVE** positive impacts of technological development on financial markets.
(5 marks)

(Total: 20 marks)

QUESTION FOUR

a) Mama Lomo is trying to value Obuorba LTD's stock. She uses a spreadsheet model to easily see how a change in one or more assumptions affects the stock's estimated value. The model has projections for the next four years based on the following assumptions.

- Sales will be GH¢300 million in Year 1.
- Sales will grow at 15% in Years 2 and 3 and 10% in Year 4.
- Operating profits (EBIT) will be 17% of sales in each year.
- Interest expense will be GH¢10 million per year.
- Income tax rate is 30%.
- Earnings retention ratio will stay at 60%.
- The per-share dividend growth rate will be constant from Year 4 onwards, and the final growth rate will be 200 bps (2%) less than the growth rate from Year 3 to Year 4. This final growth rate should be used to derive the dividend growth from year 4 onwards.

The company has 10 million shares outstanding. Mama Lomo has estimated the required return on Obuorba LTD's stock to be 13%.

Required:

i) Estimate the value of the stock at the end of Year 4 based on the foregoing assumptions. **(6 marks)**

ii) Estimate the current value of the stock using the foregoing assumptions. (**4 marks)**

b) State **THREE** limitations of the dividend discount model of stock valuation. **(5 marks)**

c) In the healthcare sector, efficient inventory management and resource utilisation are critical to providing timely and high-quality patient care. The Korle-Bu Teaching Hospital, the largest teaching hospital in West Africa, has recently implemented a Just-in-Time (JIT) system to enhance its operational efficiency. The hospital adopted JIT production and purchasing strategies to manage its medical supplies and pharmaceuticals more effectively. The goal is to reduce inventory holding costs, minimise wastage and ensure that critical medical supplies are available when needed without overstocking.

However, the implementation of JIT systems in a healthcare setting like Korle-Bu Teaching Hospital presents several challenges. While JIT aims to streamline operations and reduce costs, it also introduces potential risks and problems, particularly in an environment where the timely availability of medical supplies is crucial for patient care.

Required:

i) Explain ***JIT purchasing***. **(2 marks)**

ii) Discuss **TWO** potential problems associated with implementing JIT systems in a hospital environment. **(3 marks)**

(Total: 20 marks)

QUESTION FIVE

a) Gagba LTD, a manufacturing company, is planning to expand its operations to meet increasing demand for its products. As part of this expansion, the company needs to determine its working capital requirements to ensure smooth operations and avoid liquidity issues.
The company has provided the following financial and operational data for the year ended 31 December 2023:

1. Sales Data:
   - Annual Sales: GH¢18,000,000

2. Cost Data:
   - Cost of goods sold (COGS): 70% of sales
   - Inventory turnover ratio: 8 times per annum
   - Accounts receivable turnover ratio: 6 times per annum
   - Accounts payable turnover ratio: 4 times per annum

3. Operation Data:
   - Average inventory: GH¢1,500,000
   - Average Accounts receivable: GH¢2,000,000
   - Average accounts payable: GH¢1,200,000

4. Additional Information:
   - Desired Cash balance: GH¢500,000
   - Projected Increase in Sales due to expansion: 15%
   - Cost of capital: 12% per annum

Required:
Compute the working capital requirement for Gagba LTD after the planned expansion.
(10 marks)

b) The Ministry of Health in Ghana is conducting a review of its procurement practices and the overall performance of its Public Financial Management (PFM) system. The review aims to enhance value for money in public spending while adhering to the principles outlined by the Public Expenditure and Financial Accountability (PEFA) framework.
You are provided with the following data for the fiscal year 2023:

1. Budgeted Public Expenditure: GH¢50 billion
2. Actual Public Expenditure: GH¢52 billion
3. Total Procurement Expenditure: GH¢25 billion
4. Value of Contracts Awarded through Competitive Tendering: GH¢15 billion (60 contracts)
5. Value of Contracts Awarded through Restricted Tendering: GH¢5 billion (20 contracts)
6. Value of Contracts Awarded through Single-Source Procurement: GH¢5 billion (20 contracts)
7. Number of Procurement Violations Detected: 15 (with a total value of GH¢300 million)
8. Disposal of Stores and Equipment: GH¢100 million

Required:

i) Analyse the variance in the public expenditure and its implications for the PFM system in Ghana. **(3 marks)**

ii) Discuss which procurement method appears to provide the best value for money with suitable computations. **(7 marks)**

(Total: 20 marks)

SUGGESTED SOLUTION

QUESTION ONE

a) Risks associated with PPP arrangements in the health sector

i) **Construction risk**: This encompasses the many issues that may be encountered during the construction phase of a project, such as cost overruns, building material defects, construction delays, health risks and worksite accident

ii) **Demand risk:** This risk relates to variability in the amount of service required or consumed by infrastructure or public facility users. Users can be the public sector entity, third-party users such as citizens or both.

iii) **Operational and maintenance risk:** This risk encompasses a broad range of risks that exist after the infrastructure of public facility becomes operational. Examples include price increases, increased labour cost and obsolescence.

iv) **Residual value risk:** This risk relates to the possible difference between the market price of the infrastructure or public facility at the end of the PPP arrangement and the original market price expectation.

v) **Financing risk:** This describes the risk that the full funding required for the project will not be obtained or will be obtained at interest rates that would prevent the project from achieving its expected benefits.

vi) **Availability risk:** This is the risk that the infrastructure of Public facility will not provide sufficient services, for example because of insufficient management or not meeting the required quality standards.

(4 well-explained risks @ 2 marks each = 8 marks)

b)

Kakape LTD

Since company's profits and dividends are expected to increase initially by 15% per annum, investors will expect 2024's dividend (paid at the end of the year) to be 7 x 1.15 = 8.05

Value for first next three years

Year	Dividend	PV factor (12%)	Present value
2024	0.07 x 1.15 = 0.081	0.893	0.072
2025	0.081 x 1.15 = 0.093	0.797	0.074
2026	0.093 x 1.15 = 0.107	0.712	0.076

Value of dividends (2027)

$d(1 + g) / (i – g) = 0.107 (1.08) / (0.12 – 0.08) = 0.116 / 0.04 = 2.9$

to obtain 2023 values discount back another three years @12%

2.9 x 0.712 = 2.065

Value of share at 2023 = 0.222 + 2.065 = GH¢2.287

Current market value is GH¢87,000,000 / 50,000,000 = GH¢1.74

Since GH¢2.287 is greater than GH¢1.74 Kakape's shares are under-valued.

(7 marks)

c) Core principles of CSR include

i) **Ethical and Integrity Practices**: Hospitals must have a recognised code of ethical behaviour and ensure all hospital operations, including patient care, billing practices, and employee relations, adhere to high ethical standards.

ii) **Community Engagement**: Actively participating in and contributing to the well-being of the local community. This includes supporting community health initiatives, providing education, and engaging in outreach programmes.

iii) **Environmental Stewardship**: Adopting practices that minimize the hospital's environmental impact. This involves reducing waste, conserving energy, and implementing sustainable practices in hospital operations.

iv) **Employee Welfare**: Employees must be treated fairly and with respect. The fair treatment of employees can be assessed by the company's employment policies, such as providing good working conditions and providing education and training to employees.

v) **Respect for basic human rights**: Prioritizing the needs and well-being of patients in all aspects of hospital operations. This involves delivering respecting patient rights, and ensuring patient satisfaction.

(5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

All parts of the question were generally well answered except on the share valuation side which posed some challenges to some candidates.

The overall performance was a remarkable improvement over last sitting. The pass rate was 55% compared to 8.5% in the previous exams and contributed to the reasonable pass rate for the overall paper.

QUESTION TWO

a) Syndicated loan

i) Computation of the loan's balance at the end of the moratorium

$$FV_n = P_0\left(1 + {}^{i}/_{m}\right)^{mn}$$

$$FV_n = GH¢50{,}000{,}000\left(1 + \frac{0.28}{4}\right)^{2\times4} = GH¢85{,}909{,}309$$

(3 marks)

ii) Computation of the quarterly instalment required to amortise the loan over ten years.

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

$$GH¢85{,}909{,}309 = PMT\left[\frac{1 - \frac{1}{\left(1 + \frac{0.28}{4}\right)^{10*4}}}{\frac{0.28}{4}}\right]$$

$$PMT = \frac{GH¢85{,}909{,}309}{13.33170884} = GH¢6{,}443{,}983.29$$

The university must pay GH¢6,443,983.29 every quarter to settle the loan over the 10-year repayment period.

(4 marks)

b) Bond issue

i) Computation of the total redemption value of the bond.

$$\text{Redemption price} = GH¢1{,}000 \times (1 + 0.1) = GH¢1{,}100$$

$$\text{Total RV} = 50{,}200 \times GH¢1{,}100 = GH¢55{,}220{,}000$$

(3 marks)

ii) The size of each semi-annual instalment into the sinking fund.

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

$$55{,}220{,}000 = \text{PMT}\left[\frac{\left(1+\frac{0.20}{2}\right)^{13*2}-1}{\frac{0.20}{2}}\right]\left(1+\frac{0.20}{2}\right)$$

$$\text{PMT} = \frac{\text{GH¢}55{,}220{,}000}{120.0999419} = \text{GH¢}459{,}783.74$$

(4 marks)

c) Computation of the project's NPV and investment recommendation

EOY	0	1	2	3	4	5
			GH¢' million			
Capital expenditure		(20.00)	(30.00)			
NOCFs				20	20	20
Terminal value						110
After-tax NCFs	-	(20.00)	(30.00)	20.00	20.00	130.00
DF @ 30%	1.0000	0.7692	0.5917	0.4552	0.3501	0.2693
PV @ 30%	-	(15.38)	(17.75)	9.10	7.00	35.01
NPV @ 30%	17.98					

Workings:

$$\text{Terminal value}_5 = \frac{\text{NCF}_5(1+\text{g})}{\text{r}-\text{g}} = \frac{20\ (1+10\%)}{0.30-0.10} = 110$$

Investment recommendation:
The project should be accepted for implementation. The positive NPV suggests that the project will increase the value of the university when implemented.

(6 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

Question Two posed a lot of challenges to most candidates as reflected in the pass rate. Candidates were tested on computation of outstanding loans values and redemption values of bonds and the size of semi-annual instalment into a sinking fund for redemption to redeem the debt. Understanding the right formulas to use and how to compute was a major challenge to most candidates.

The overall pass rate was 12% compared to the 34% pass rate in the previous sitting and requires more focus by future candidates in this area to avoid reoccurrence. It was the worst answered question in the paper. Only 68 candidates obtained a pass or better in the question compared to 223 candidates in the previous sitting.

QUESTION THREE

a) **Gyenyame Pharmaceuticals LTD (GPL)**

i) First of all, net-off the foreign receipts and payment before setting up the hedge

Payment	USD$750,000
Receipts	USD$250,000
Net outcome – Payment	USD$500,000

Forward Contract Hedge

To calculate the amount of GHS that GPL would need to pay using a forward contract:
Forward Rate (GHS/USD): 12.20
Amount Payable in USD: 500,000
GHS Amount Payable = USD Amount × Forward Rate
GHS Amount Payable = 500,000 × 12.20 = GHS6,100,000

Money Market Hedge

Step 1: Determine the Present Value (PV) of USD 500,000 in 3 months.

PV of USD Payment $= \frac{USD500{,}000}{(1+USD\ interest\ rat\times\frac{3}{12})}$

$$= \frac{500{,}000}{(1 + 0.03 \times \frac{3}{12})} = \frac{500{,}000}{1.0075} = USD\$496{,}271$$

Step 2: Convert this USD amount to GHS using the spot rate.

Amount in GHS Today = PV of USD Payment × Spot Rate
Amount in GHS Today = 496,271 × 12.00 = GHS5,955,252

Step 3: Calculate the amount of GHS required today if borrowed at the GHS interest rate. Since the company will need to repay this amount in three months, including interest, we find the required GHS investment today:

FV of GHS Payment $= Amount\ Today \times (1 + GHS\ interest\ rate \times \frac{3}{12})$

$$\text{FV of GHS Payment} = 5{,}955{,}252 \times \left(1 + 0.14 \times \frac{3}{12}\right) = 5{,}955{,}252 \times 1.035$$
$$= \text{GHS}6{,}163{,}431$$

Forward Contract Hedge Cost:	GHS6,100,000
Money Market Hedge Cost:	GHS6,163,431

Conclusion
The forward contract hedge results in a lower GHS outlay (GHS 6,100,000) compared to the money market hedge (GHS 6,163,431). The difference of GHS63,431 makes the forward contract hedge more cost-effective.

GPL should adopt the forward contract hedge as it is less expensive and provides certainty about the future cash outflow. The company avoids the additional interest cost associated with the money market hedge and locks in the forward rate, mitigating the risk of adverse exchange rate movements.

(9 marks)

ii) Internal Hedging Techniques

- **Invoicing in Local Currency**: GPL could negotiate with its international suppliers to invoice in Ghanaian Cedi (GHS) instead of foreign currencies (e.g., USD or EUR). By doing so, the company transfers the foreign exchange risk to the supplier, effectively avoiding currency risk on its imports.
  This technique is highly effective in eliminating foreign exchange risk for GPL. However, it may be difficult to convince suppliers to accept payments in GHS, especially if they prefer or are accustomed to dealing in USD or EUR.
- **Leading and Lagging**: Leading involves accelerating payments in anticipation of a currency's depreciation, while lagging involves delaying payments if the currency is expected to appreciate. For example, if GPL expects the GHS to depreciate against the USD, it could expedite payments to lock in the current exchange rate (leading). Conversely, if appreciation is expected, the company might delay payments (lagging).
  This technique is effective when the company has accurate forecasts of currency movements. However, predicting exchange rate movements is inherently uncertain, and mistiming payments could lead to increased costs.
- **Matching:** GPL can match its foreign currency inflows and outflows. If the company receives USD payments from customers and has USD liabilities, it can use the incoming USD to settle the liabilities without converting to GHS. This naturally hedges the currency risk.
  Matching is an effective and straightforward way to mitigate currency risk. However, its effectiveness depends on the company having foreign currency inflows that align with its outflows.
- **Netting**: In multinational companies, netting involves offsetting receivables and payables in the same foreign currency across different subsidiaries or divisions. GPL could use netting if it operates in multiple countries or has foreign subsidiaries, reducing the need for currency conversions.
  Netting reduces transaction costs and foreign exchange exposure. However, its applicability is limited to companies with complex international operations.

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

b) **Positive impacts of technological development on financial markets**

1) **Improved Efficiency**: Technology has greatly enhanced the efficiency of financial markets by enabling faster trade execution and automated processes. High-frequency trading algorithms and electronic trading platforms have reduced transaction times from seconds to milliseconds, leading to quicker and more efficient trading operations.
2) **Increased Accessibility**: Technological advancements have increased access to financial markets. Online trading platforms, mobile apps and digital wallets have made it easier for individual investors to participate in the markets, regardless of their location or financial status, thus broadening market participation.
3) **Enhanced Transparency**: Technology has improved market transparency by providing big data and analytics. Investors have greater access to detailed market information, financial

reports, and performance metrics, allowing for more informed decision-making and reducing information asymmetry.

4) **Cost Reduction**: Technological innovations have lowered the costs associated with trading and financial transactions.
5) **Advanced Risk Management**: Technology has enabled the development of sophisticated risk management tools and models. Advanced data analytics and machine learning allow financial institutions and investors to assess and manage risks, anticipate market trends, and implement more effective risk mitigation strategies.

(5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

Question Three was on hedging exchange rate risk with candidates further required to explain internal hedging strategies that could be used to hedge the currency risk exposure. This part received good answers as candidates became generally familiar with this type of question.

The (b) Part tested candidates' ability to identify and explain positive impact of technological development on financial markets and received varied answers and was one of the best answered areas in the paper.

QUESTION FOUR

a)

	0	1	2	3	4
Sales		300	345	396.75	436.43
Operating Income		51	58.65	67.45	74.19
Interest expense		10	10	10	10
Income before tax		41	48.65	57.45	64.19
Net income		28.70	34.06	40.21	44.93
EPS		2.87	3.41	4.02	4.49
Dividend per share		0.4*EPS = 1.15	1.36	1.61	1.80
Terminal value (a)					=1.8*1.09 8/(0.13 - 0.098) = 61.76
Current value (b)	**42.18**				

Workings:

1. Constant growth rate is expected to be 2% lower than the growth between Year 3 & Year 4. Growth rate = (1.8/1.61 - 1)*100 - 2% = 9.8%
2. Terminal value $= \frac{DPS_4(1+g)}{(r-g)}$
3. $Current\ Value\ = \frac{DPS_1}{(1+r)^1} + \frac{DPS_2}{(1+r)^2} + \frac{DPS_3}{(1+r)^3} + \frac{DPS_4 + TV}{(1+r)^4}$

C. $\hat{V}_0 = \frac{D_1}{(r-g)}$. Dividing both sides by EPS establishes the relationship we want.

Assuming forward EPS: Forward PE ratio can be = $\frac{D_1/EPS1}{(r-g)} = \frac{(1-b)}{(r-g)}$, where b = retention rate.

Assuming trailing EPS: Trailing PE ratio can be = $\frac{D_0(1+g)/EPS1}{(r-g)} = \frac{(1-b)(1+g)}{(r-g)}$, where b = retention rate.

Flowing from the above expressions:

i) Higher retention rate, b, implies lower stock value (all things being equal)
ii) Higher growth rate may have an indeterminate effect or negative effect on stock value
iii) A higher cost of equity generally leads to lower stock value.

(10 marks)

b) Limitations of the dividend discount model of stock valuation.
1) Inappropriate model to use for valuing low or non-dividend paying stocks;
2) Errors inherent in estimations;
3) Other distributions, such as share repurchase, are excluded in the valuation.

(5 marks)

c)

i) Just-in-Time (JIT) production is a manufacturing strategy where materials and products are produced only as they are needed, minimizing inventory levels. The goal is to reduce waste, enhance efficiency, and decrease costs associated with holding inventory.
The production process is closely aligned with demand, meaning goods are produced only when an order is received. This approach helps to avoid overproduction and excess inventory, which can tie up capital and resources.

(2 marks)

ii) **Challenges Associated with Implementing JIT Systems**

- **Supply Chain Disruptions:** Any delay or disruption in the supply chain can lead to production halts or shortages, as there is little to no buffer inventory.
- **Increased Supplier Dependency**: Organizations become highly dependent on their suppliers for timely deliveries, which increases the risk if a supplier fails to deliver as expected.
- **Lack of Inventory Buffer**: With minimal inventory on hand, there is little room for error or unexpected demand spikes, which could lead to stockouts and unmet customer needs.
- **Higher Administrative Burden**: Implementing JIT requires careful planning, constant monitoring of inventory levels, and strong supplier relationships, increasing the administrative workload.
- **Risk of Stockouts**: Unexpected increases in demand or supply chain issues can lead to stockouts, which can disrupt operations and affect customer satisfaction.

(Any 2 relevant points @ 1.5 marks each = 3 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

This question expected candidates to compute the value of stock at the end of four years based on the information provided and assumptions vis-a-vis the current value of the stock which was to be computed and to state three limitations of dividend discount model of stock valuation. This part received fairly good answers from some candidates and some attempted the process and score some marks but a reasonable number of candidates could not appreciate the requirement and formula or methodology to use in the computation.
The (c) Part was just in time purchasing (JIT) system and the potential problems in implementing that in a hospital set up. This part was the best answered part of the question Overall pass rate was 50% but below the 64% pass rate in the previous sitting and was the third best answered question.

QUESTION FIVE

a) **Computation of Working Capital Requirement**

Projected Sales = Current Sales x (1+Sales Growth Rate)

Projected Sales = 18,000,000 x (1+15%) = 18,000,000 x 1.15 = GHS20,700,000

Projected COGS = 70% x 20,700,000 = GH¢14,490,000

Projected Average inventory:

Inventory Turnover Ratio = $\frac{COGS}{Average\ Inventory}$

$$Average\ Inventory = \frac{Projected\ COGS}{Inventory\ Turnover\ Ratio}$$

$$Average\ Inventory = \frac{14{,}490{,}000}{8} = GH¢1{,}811{,}250$$

Projected Average Accounts Receivable:

$$Accounts\ Receivable\ Turnover\ Ratio = \frac{Credit\ Sales}{Average\ Accounts\ Receivable}$$

Credit sales = 100% of Projected Sales

$$Average\ Accounts\ Receivable = \frac{Projected\ Sales}{Accounts\ Receivable\ Turnover\ Ratio}$$

$$Average\ Accounts\ Receivable = \frac{20{,}700{,}000}{6} = GH¢3{,}450{,}000$$

Projected Average Accounts Payable:

$$Accounts\ Payable\ Turnover\ Ratio = \frac{COGS}{Average\ Accounts\ Payable}$$

$$Average\ Accounts\ Payable = \frac{Projected\ COGS}{Accounts\ Payable\ Turnover\ Ratio}$$

$$Average\ Accounts\ Payable = \frac{14{,}490{,}000}{4} = GH¢3{,}622{,}500$$

Working Capital Requirement	**GH¢**
Projected Average Inventory	1,811,250
Projected Average Accounts Receivables	3,450,000
Desired Cash Balance	500,000
Projected Average Accounts Payables	(3,622,500)
Working Capital Requirement	**2,138,750**

(10 marks)

b)

i) **Variance Analysis**

- **Budget Variance in Public Expenditure:**

$$Budget\ Variance = Actual\ Public\ Expenditure - Budgeted\ Public\ Expenditure$$

$$Budget\ Variance = GH¢52\ billion - GH¢50\ billion = GH¢2\ billion$$

Comment:

A negative budget variance of GH¢2 billion indicates that actual public expenditure exceeded the budgeted amount. This overspending could imply potential inefficiencies in budget planning and execution within the PFM system. It may suggest a need for tighter budget controls and monitoring mechanisms to prevent such deviations in future periods.

(3 mark)

ii) **Procurement Efficiency**

Average Value per Contract:

$$Average\ Value\ per\ contract\ (Competitive\ Tendering) = \frac{Value\ of\ contracts\ awarded\ through\ Competitive\ Tendering}{Number\ of\ Competitive\ Contracts}$$

$$Average\ Value\ per\ contract\ (Competitive\ Tendering) = \frac{GH¢15\ billion}{60}$$

$$= GH¢250\ m$$

$$Average\ Value\ per\ contract\ (Restricted\ Tendering) = \frac{Value\ of\ contracts\ awarded\ through\ Restricted\ Tendering}{Number\ of\ Restricted\ Contracts}$$

$$Average\ Value\ per\ contract\ (Competitive\ Tendering) = \frac{GH¢5\ billion}{20}$$

$$= GH¢250\ m$$

$$Average\ Value\ per\ contract\ (Single\ Source\ Procurement) = \frac{Value\ of\ contracts\ awarded\ through\ Single\ Source\ Procurement}{Number\ of\ Single\ Source\ Contracts}$$

$$Average\ Value\ per\ contract\ (Competitive\ Tendering) = \frac{GH¢5\ billion}{20}$$

$$= GH¢250\ m$$

Comment:

All three procurement methods (Competitive Tendering, Restricted Tendering, and Single-Source Procurement) have an average contract value of GH¢250 million. While the average value per contract is the same, competitive tendering is generally preferred because it promotes transparency and competition, leading to better value for money. Therefore, even though the values are the same, competitive tendering would typically be seen as the method that offers the best value for money.

(7 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

Question five was on working capital management and tested the candidate's ability to compute the capital requirement from giving variables after the company embarks on a planned expansion which received varied responses. Some candidates did extremely well and scored the maximum marks while some candidates struggled but managed and computed some of the variables and getting the necessary marks allocated to those areas.
The (b) part was on variances analysis on public expenditure and candidates were expected to analyse and highlight its implications on the Public Financial Management System (PFM) which received average responses.
The overall performance was an improvement over the previous sitting with a pass rate of 37% compared to 30% in the last paper and was the fourth best answered question.