Question 1

(a) Sales income without inflation 1
   Inflation of sales income 1
   Variable costs without inflation 1
   Inflation of variable costs 1
   Inflated fixed costs 1
   Calculation of capital allowances 1
   Correct use of capital allowances 1
   Calculation of tax liabilities 1
   Correct timing of tax liabilities 1
   Selection of correct discount rate 1
   Selection of discount factors 1
   Calculation of net present value 1
   Comment on financial acceptability 1
   Inflation of sales income 1

   Maximum 13

(b) Customer financing costs 2-3
   Company financing costs 2-3
   Effect on investment appraisal process 2-3

   Maximum 7

Suggested solution

(a) Present value of cash flows

<table>
<thead>
<tr>
<th>Year</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>GHS'000</td>
<td>GHS'000</td>
<td>GHS'000</td>
<td>GHS'000</td>
<td>GHS'000</td>
<td>GHS'000</td>
</tr>
<tr>
<td>Capital cost</td>
<td>(4,000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales revenue (W1)</td>
<td>5,614</td>
<td>7,214</td>
<td>9,015</td>
<td>7,034</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable costs (W2)</td>
<td>(3,031)</td>
<td>(3,931)</td>
<td>(5,135)</td>
<td>(4,174)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed costs*</td>
<td>(1,530)</td>
<td>(1,561)</td>
<td>(1,592)</td>
<td>(1,624)</td>
<td></td>
<td></td>
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<tr>
<td>Taxable cash flow</td>
<td>1,053</td>
<td>1,722</td>
<td>2,288</td>
<td>1,236</td>
<td></td>
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<tr>
<td>Tax liabilities</td>
<td>(316)</td>
<td>(517)</td>
<td>(686)</td>
<td>(371)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA tax benefits**</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>After-tax cash flow</td>
<td>1,053</td>
<td>1,706</td>
<td>2,071</td>
<td>850</td>
<td>(71)</td>
<td></td>
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<tr>
<td>Discount at 12%</td>
<td>1</td>
<td>0.893</td>
<td>0.797</td>
<td>0.712</td>
<td>0.636</td>
<td>0.567</td>
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<tr>
<td>Present values</td>
<td>(4,000)</td>
<td>940</td>
<td>1,360</td>
<td>1,475</td>
<td>541</td>
<td>(40)</td>
</tr>
</tbody>
</table>

NPV 276

This project has a positive NPV which indicates it should be undertaken.

*Fixed costs are inflated by 2% year on year.

**CA tax benefits = Purchase cost GHS4,000k/4 years × 30%
Workings

1 **Sales revenue**

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small houses selling price (GHS'000/house)</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Small houses sales quantity</td>
<td>15</td>
<td>20</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Large houses selling price (GHS'000/house)</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
</tr>
<tr>
<td>Large houses sales quantity</td>
<td>7</td>
<td>8</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Total sales revenue (nearest GHS'000)</td>
<td>5,450</td>
<td>6,800</td>
<td>8,250</td>
<td>6,250</td>
</tr>
<tr>
<td>Inflated sales revenue (GHS'000/year) – sales revenue × 1.03^n</td>
<td>5,614</td>
<td>7,214</td>
<td>9,015</td>
<td>7,034</td>
</tr>
</tbody>
</table>

2 **Variable costs**

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small houses variable cost (GHS'000/house)</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Small houses construction quantity</td>
<td>15</td>
<td>20</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Large houses variable cost (GHS'000/house)</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Large houses construction quantity</td>
<td>7</td>
<td>8</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Total variable costs (nearest GHS'000)</td>
<td>2,900</td>
<td>3,600</td>
<td>4,500</td>
<td>3,500</td>
</tr>
<tr>
<td>Inflated variable costs (GHS'000/year) – sales revenue × 1.045^n</td>
<td>3,031</td>
<td>3,931</td>
<td>5,135</td>
<td>4,174</td>
</tr>
</tbody>
</table>

(b) **Impact of a substantial rise in interest rates on BBB's financing costs**

A substantial increase in interest rates will cause BBB's borrowing costs to rise. The company's cost of debt will increase as loans require higher interest payments. This will in turn cause the company's weighted average cost of capital (WACC) to increase – the more the company's capital structure consists of debt, the more the WACC will be affected.

Ultimately, the increase in interest rates will also cause the cost of equity to rise. This is shown in the CAPM formula: the cost of equity is linked to the risk-free rate of return at any given time, and the risk-free rate of return (the rate of return on government securities, for example), varies in accordance with the prevailing interest rate. This should have an even greater impact on the company than the increase in the cost of debt.

**Impact of a substantial rise in interest rates on customers' financing costs**

BBB’s customers would be financing the purchase of their houses through long-term mortgages. As the rate of interest rises, existing and potential customers’ borrowing costs will increase, making the house purchase more expensive.

**Impact on the capital investment appraisal process**

- BBB is likely to use the WACC as the discount rate to be applied in evaluating investment decisions. As the WACC increases in response to the rise in interest rates, the present value of investment projects will decrease. As a result, BBB is likely to invest in fewer projects – projects which, at times of lower interest rates, would have been attractive may now be deemed unsuitable.
- BBB will find it more difficult to sell houses, as the higher mortgage costs put off potential house-buyers.
- To make certain investment projects attractive, BBB may raise house prices. However, this is likely to further reduce its volume of potential sales.
- Construction and infrastructure costs may also increase, as suppliers look to pass on their higher borrowing costs.

In summary, a substantial rise in interest rates is likely to reduce BBB's annual profits. BBB will need to consider a longer time period when appraising investments.
Question 2

Marking scheme

(a) Significance of trade payables
   Over-Reliance on trade credits

(b) Working capital cycle
   Interest cover
   Profits after tax
   Earnings per share
   Return on equity
   Capital gearing

Marks

(a)  (i) Working capital
The net working capital of a business can be defined as its current assets less its current liabilities. The management of working capital is concerned with ensuring that sufficient liquid resources are maintained within the business. For the majority of businesses, particularly manufacturing businesses, trade payables will form the major part of the current liabilities figure, and will be a significant element in the make-up of the working capital balance.

Trade credit period
It follows that the trade credit period taken will be a major determinant of the working capital requirement of the company. This is calculated (in days) as the total value of trade payables divided by the level of credit purchases times 365. The actual length of the period will depend partly on the credit terms offered by suppliers and partly on the decisions made by the company. For example, the company may choose to negotiate longer terms with its suppliers although this may be at the expense of any available settlement discounts.

Working capital cycle
The longer the payable days, the shorter the working capital cycle. This can be defined as the receivable days plus the inventory holding days less the payable days.

(ii) For many firms, trade payables provide a very important source of short-term credit. Since very few companies currently impose interest charges on overdue accounts, taking extended credit can appear to be a very cheap form of short-term finance. However, such a policy entails some risks and costs that are not immediately apparent, as follows:

(1) If discounts are being forgone, the effective cost of this should be evaluated – it may be more beneficial to shorten the credit period and take the discounts.

(2) If the company gains a reputation for slow payment this will damage its credit references and it may find it difficult to obtain credit from new suppliers in the future.

(3) Suppliers who are having to wait for their money may seek recompense in other ways, for example by raising prices or by placing a lower priority on new orders. Such actions could do damage to both the efficiency and profitability of the company.

(4) Suppliers may place the company ‘on stop’ until the account is paid. This can jeopardise supplies of essential raw materials which in turn could cause production to stop: this will obviously provide the company with a high level of unwanted costs.
(b) **Working capital cycle**

Receivable days: \( \frac{GHS0.4m \times 365}{GHS10m} = 14.6 \text{ days} \)

Inventory holding days: \( \frac{GHS0.7m \times 365}{GHS8m} = 31.9 \text{ days} \)

Payable days: \( \frac{GHS1.5m \times 365}{GHS8m} = 68.4 \text{ days} \)

Working capital cycle: \( 14.6 + 31.9 - 68.4 = 21.9 \text{ days} \)

This is a remarkably short working capital cycle which suggests that WW is unusually efficient in its management of working capital. The effect of the proposal by the supplier would be to reduce the payable period for 50% of the purchases from 68.4 days to 15 days. The new payable days figure would therefore fall to: \( \frac{68.4 \times 50%}{50%} + (15 \times 50%) = 41.7 \text{ days} \)

The working capital cycle will therefore rise to: \( 14.6 + 31.9 - 41.7 = 4.8 \text{ days} \)

**Interest coverage**

Interest coverage can be defined as PBIT (profit before interest and tax) divided by annual interest payments. The current figure for WW is four times \( \frac{GHS2.0m}{GHS0.5m} \) which for the majority of companies would be quite reasonable. The effect of the proposal made by the supplier will be to reduce the cost of sales, and therefore increase PBIT, but at the same time increase the level of interest since the company will have to finance the reduction in the working capital cycle. These elements can be calculated as follows:

Improvement in PBIT = ((GHS8m) \times 50%) \times 5% = GHS0.2m

The net advanced payment to the supplier will be:

\( ((GHS8m) \times 50%) \text{ – discount (GHS0.2m)} = GHS3.8m. \)

This must be financed for an additional 53.4 days \( 68.4 – 15 \). If this is financed using the overdraft, the interest rate to be paid will be 12%, generating additional interest of GHS3.8m \times 12% \times 53.4/365 = GHS66,700.

The interest coverage now becomes:

\( \frac{GHS2.0m + GHS0.2m}{GHS0.5m + GHS0.0667m} = 3.88 \text{ times} \)

This represents only a very small reduction in the interest coverage.

**Profits after tax**

These will change as follows:

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHS'000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profit before interest and tax</td>
<td>2,000</td>
<td>2,200</td>
</tr>
<tr>
<td>Interest</td>
<td>(500)</td>
<td>(567)</td>
</tr>
<tr>
<td>Taxable profit</td>
<td>1,500</td>
<td>1,633</td>
</tr>
<tr>
<td>Tax at 30%</td>
<td>450</td>
<td>490</td>
</tr>
<tr>
<td>Profit after tax</td>
<td>1,050</td>
<td>1,143</td>
</tr>
</tbody>
</table>

The proposal should give a small improvement in post-tax profit.

**Earnings per share**

Earnings attributable to equity have been calculated above (the profit after tax figure). The number of shares in issue is 4m \( (GHS1m/25Gp) \).

Existing EPS: \( GHS1.050m/4m = 26.3Gp \)

Projected EPS: \( GHS1.143m/4m = 28.6Gp \)

Thus, the EPS is also likely to improve if the proposals are adopted.

**Return on equity**

Return on shareholders' funds is calculated as profit attributable to equity divided by shareholders' funds. \( (GHS2m) \):

Existing: \( GHS1.050m/GHS2m = 52.5% \)

Projected: \( GHS1.143m/GHS2m = 57.2% \)

The return on equity will also rise if the proposals are adopted.
Capital gearing

Capital gearing is defined as prior charge capital (in this case the bank overdraft of GHS3m) divided by shareholders' funds (GHS2m). The existing level of gearing is therefore 150% (GHS3m/GHS2m).

If the proposals are adopted, the average level of the overdraft will rise by GHS3.8m × 53.4/365 = GHS556,000. The gearing level will therefore increase to 178% (GHS3.556m/GHS2m).

Summary

In summary, the effect of the proposal would be to give a slight increase in the profitability of WW, as measured by profit after tax, earnings per share and return on equity, but this would be at the expense of a small reduction in the interest coverage, a lengthening of the working capital cycle, and a significant increase in the level of capital gearing. It is this final item that gives the greatest cause for concern – to have such a high gearing level based totally on overdraft finance which is repayable on demand is a very dangerous position to be in. It is suggested that WW should either attempt to renegotiate its terms with the supplier to give a longer credit period than that being proposed, or alternatively seek to restructure its debt and to convert at least a part of the overdraft into more secure long-term borrowings.
Question 3

Marking scheme

| (a) | Hedging using the forward contract | 2 |
|     | Hedging using the money market     | 3 |
|     | Conclusion                         | 1 |
|     |                                   | 6 |
| (b) | Definition/explanation of futures and options | 2 |
|     | Advantages (1 mark per point)      | 2 |
|     |                                   | 4 |
| (c) | Translation risk                   | 3 |
|     | Transaction risk                   | 3 |
|     |                                   | 6 |
| (d) | Increased bad debt risk            | 2 |
|     | Longer lead times/larger inventories | 2 |
|     |                                   | 4 |
|     |                                   | 20 |

Suggested solution

(a) **Hedging using the forward contract**

The company should take out a three-month forward contract to sell $2,350,000 at a $1.2362 + $0.0028 = $1.2390

This rate is agreed today for exchange in three months, converting to $2,350,000/1.2390 = €1,896,691

**Hedging using the money market**

JKL needs to borrow now to match the receipts it will receive.

Amount to be borrowed = $2,350,000 / (1 + 0.012/4) = $2,342,971

Current spot = 1.2358 + 0.0004 = 1.2362

Converting at spot rate = $2,342,971 / 1.2362 = €1,895,301

Investment proceeds = €1,895,301 × (1 + (0.022/4)) = €1,905,725

**Conclusion**

JKL should **hedge using the money market** as this will lead to the highest receipt in their domestic currency.

(b) **Derivatives include currency futures and options.**

A **currency futures agreement** is similar to a forward agreement. Here the agreement would involve a contract to buy euros in three months' time. Currency futures are more complex than forward rates and involve the payment of a deposit (margin), they also involve standard contract sizes which will mean that the hedge is not for exactly $2.35m. On the positive side the futures rate is valid over a period of time instead of a fixed date (which is the case with a forward rate agreement).

A **currency options agreement** allows a company the safety net of using the agreed exchange rate, but also offers the flexibility of using the spot rate in three months' time if this is better.
(c) **Transaction risk**

This is the risk of adverse exchange rate movements occurring in the course of normal international trading transactions. This arises when the prices of imports or exports are fixed in foreign currency terms and there is movement in the exchange rate between the date when the price is agreed and the date when the cash is paid or received in settlement.

For example, a sale worth $300,000 when the exchange rate is $1.6820 = £1 has an expected sterling value of about £178,000. If the dollar has depreciated (spot) against sterling to $1.7500 = £1 when the transaction is settled, the sterling receipt will be only about £171,000.

Transaction risk therefore affects cash flows so companies often choose to hedge or protect themselves against transaction risk.

**Translation risk**

This is the risk that the organisation will make exchange losses when the accounting results of its foreign branches or subsidiaries are translated into the home currency. Translation losses can result, for example, from restating the book value of a foreign subsidiary’s assets at the exchange rate on the balance sheet date.

For example, an asset is valued on a balance sheet at $14m and was acquired when the exchange rate was $1.79 = £1. One year later, the exchange rate has moved to $1.84 = £1 and the balance sheet value of the asset has changed from $7.82 million to $7.61 million, resulting in an unrealised (paper) loss of $0.21 million.

Translation risk does not affect cash flows so does not directly affect shareholder wealth. However, investors may be influenced by the changing values of assets and liabilities so a company may choose to hedge translation risk through, for example matching the currency of assets and liabilities. For example an asset denominated in euros could be financed by a euro loan. If hedge accounting is used, gains or losses on translation of the net assets of the foreign subsidiary would be offset against losses or gains on the foreign currency loan. In addition, interest payments on the currency loan could be used to offset currency receipts of the subsidiary, thereby reducing net transaction exposures.

(d) When goods are sold abroad, the customer might ask for credit. Exports take time to arrange, and there might be complex paperwork. Transporting the goods can be slow if they are sent by sea. These delays in foreign trade mean that exporters often build up large investments in inventories and accounts receivable. These working capital investments have to be financed somehow.

The risk of bad debts can be greater with foreign trade than with domestic trade. If a foreign debtor refuses to pay a debt, the exporter must pursue the debt in the debtor’s own country, where procedures will be subject to the laws of that country.
### Question 4

#### Marking scheme

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<thead>
<tr>
<th></th>
<th>Marking</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(i) Calculation of market value</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(ii) Calculation of TERP</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Explanation of factors</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>(b)</td>
<td>(i) Calculation</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(ii) 1 mark per advantage</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(iii) Explanation</td>
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</tr>
<tr>
<td>(c)</td>
<td>1 mark per difference</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>

#### Suggested solution

(a) (i) The **current market price** can be found by multiplying the earnings per share (EPS) by the price/earnings (P/E) ratio.

- EPS is \( \text{GHS1.2m} / \text{6m} = \text{20Gp per share} \)
- P/E ratio is 12
- Market price of shares is \( 12 \times \text{20Gp} = \text{GHS2.40 per share} \)

(ii) In order to raise \( \text{GHS5,040,000} \) at a price of 192Gp, the company will need to issue an additional \( 2,625,000 \) (\( \text{GHS5,040,000/GHS1.92} \)) shares.

Following the investment, the total number of shares in issue will be: \( 8,625,000 \) (\( \text{6,000,000 + 2,625,000} \)).

At this point, the total value of the company will be: \( \text{(6m} \times \text{GHS2.40)} + \text{GHS5,040,000} = \text{GHS19,440,000} \)

The **theoretical ex-rights price** will therefore be \( \text{GHS19.44m/8.625m} = \text{GHS2.25} \).

**Alternative solution**

Theoretical ex-rights price

\[
= \frac{1}{N+1} \left( (N + \text{cum rights price}) + \text{issue price} \right)
\]

\[
= \frac{1}{\left( \frac{6,000}{2,625} \right) + 1} + \left( \frac{6,000}{2,625} \times 2.40 \right) + 1.92
\]

\[
= \text{GHS2.25}
\]

**Problems with calculations**

1. The **costs of arranging the issue** have not been included in the calculations.
2. The **market view** of the **quality of the new investment** will affect the actual price of the company's shares.
3. If the **issue** is **not fully subscribed** and a significant number of shares remain with the underwriters, this will **depress the share price**.
(4) The effect of the new investment on the risk profile of the company and the expected future dividend stream could also cause the share price to differ from that predicted.

(5) The price of the shares depends not only on the financial performance of the company, but also on the overall level of demand in the stock market. If the market moves significantly following the announcement of the issue, this will affect the actual price at which the shares are traded.

(b) (i) Conversion premium

The conversion premium is the difference between the issue value of the notes and the conversion value as at the date of issue.

In this case, GHS100 loan notes can be converted into 35 ordinary shares. The effective price of these shares is therefore GHS2.86 (GHS100/35) per share.

The current market price of the shares is GHS2.40. The conversion premium is therefore GHS2.86 – GHS2.40 = 46Gp. This can also be expressed in percentage terms as 19% (0.46/2.40).

(ii) Advantages of issuing convertible loan notes

1. Convertibles should be cheaper than equity because they offer greater security to the investor. This may make them particularly attractive in fast growing but high-risk companies.
2. Issue costs are lower for loan stock than for equity.
3. Interest on the loan notes is tax deductible, unlike dividends on ordinary shares.
4. There is no immediate change in the existing structure of control, although this will change over time as conversion rights are exercised.
5. There is no immediate dilution in earnings and dividends per share.

Note. Only three advantages are required.

(iii) Dividend policy

Dividend policy is one of the major factors which determines the share price. Under the dividend valuation model, the share price is held to be directly related both to the current dividend and to the expected future growth in dividends:

$$p_0 = \frac{d_0(1+g)}{(k_e - g)}$$

where:
- $p_0$ = market price of shares
- $d_0$ = current level of dividend
- $k_e$ = required rate of return
- $g$ = growth in dividend

Impact of dividend growth

Thus it can be seen that dividend growth is important in determining the likely market value of the shares. As has already been discussed above, the market value of the shares is very important in determining the price of convertibles, and therefore the dividend policy of the company will have an important effect on the value of convertible notes.

(c) Differences between sukuk and conventional bonds

Conventional bonds pay interest, and are generally not linked to any underlying asset. This is prohibited in Islamic finance.

The sukuk, although often likened to bonds, differ from conventional bonds in the following respects:

- Sukuk are normally linked to an underlying asset. The underlying asset is owned by the holder of the sukuk certificates, along with the ownership benefits and risks. No asset ownership is transferred in the case of a conventional bond.

- Instead of receiving interest, the sukuk holder receives the revenues generated by the underlying asset, and is also exposed to potential losses associated with his share of the asset. In conventional bonds, financial liability remains with the bond issuer.
The sukuk issuer manages the assets on behalf of the sukuk holders. The sukuk holders have the right to dismiss the manager if the manager fails in his/ her responsibilities. Bondholders normally have little or no influencing power over the bond issuer's actions.
Question 5

Marking scheme

(a) Calculation of cost of equity using CAPM 2
   Calculation of bond market price 1
   Calculation of current share price 1
   Calculation of future share price 1
   Calculation of conversion value 1
   After-tax interest payment 1
   Setting up interpolation calculation 1
   Calculation of after-tax cost of debt 2
   Calculation of cost of preference shares 1
   Calculation of after-tax WACC 2
   Explanation of any assumptions made 1

(b) Weak 1-2
    Semi-strong 1-2
    Strong 1-2

Maximum 6 20

Suggested solution

(a) Equity

The MV of equity is given as GHS125m.

CAPM: \[ E(r_i) = R_f + \beta_i (E(r_m) - R_f) \]

\[ R_f = \text{Risk-free rate} = 4\% \]

\[ \beta_i = \text{Equity beta} = 1.2 \]

\[ (E(r_m) - R_f) = \text{Equity risk premium} = 5\% \]

Therefore the cost of equity = 4\% + 1.2 \times 5\% = 10\%

Convertible bonds

Assume that bondholders will convert if the MV of 19 shares in five years' time is greater than GHS100.

\[ \text{MV per bond} = \text{GHS}100 \times \text{GHS}21\text{m}/\text{GHS}20\text{m} = \text{GHS}105 \]

\[ \text{MV per share today} = \text{GHS}125\text{m}/\text{25m} = \text{GHS}5 \]

\[ \text{MV per share in five years' time} = \text{GHS}5 \times 1.04^5 = \text{GHS}6.08 \text{ per share} \]

\[ \text{Conversion value} = \text{GHS}6.08 \times 19 = \text{GHS}115.52 \]

The after-tax cost of the convertible bonds can be calculated by linear interpolation, assuming the bondholders will convert.
Cash flow  Discount factor  Present value  Discount factor  Present value
Time  GHS  (7%)  GHS  (5%)  GHS
0  (105)  1  (105)  1
1-5  4.9**  4.100  20.09  4.329  21.21
5  115.52  0.713  82.37  0.784  90.57
(2.54)  
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** after-tax interest payment = 7 × (1 – 0.3) = GHS4.90 per bond

Cost of convertible bonds = 5 + [(7 – 5) × 6.78/6.78 + 2.54)] = 5 + 1.45 = 6.45%

Preference shares
After-tax cost of preference shares = 5% × GHS10m/GHS6.25m = 8%

WACC
Total value = GHS125m + GHS21m + GHS6.25m = GHS152.25m

After-tax WACC = [(GHS125m ×10%) + (GHS21m × 6.45%) + (GHS6.25m × 8%)/GHS152.25m]

After-tax WACC = 9.4% per year

Note. As overdraft represents a short-term source of finance, it has been assumed not to form part of the company's capital and has therefore been excluded from the WACC calculation. The overdraft is large, however, and seems to represent a fairly constant amount. The company should evaluate whether it should be taken into account.

(b) There are three forms of capital market efficiency: weak form, semi-strong form and strong form.

Weak form efficiency
Weak form efficiency is about the information content of security prices and it is suggested that the share price reflects all relevant past information. Information about past prices is in the public domain and equally available to all players in the market, and thus if this form of the hypothesis is correct, no one player should be able to outperform the market consistently using past information.

Semi strong efficiency
The semi-strong form of the theory holds that in addition to responding to past information, the market also reflects all other knowledge that is publicly available and relevant to the share valuation. Once again, this form of the theory is based upon the assumption that all the knowledge upon which share price movements are based is in the public domain and freely available. Thus no single player or group of players should be able consistently to outperform the market using past and publicly available information.

Strong form efficiency
The strong form of the theory holds that the market price of securities reflects all information that is available. This includes knowledge of past performance and anticipated events as in the semi-strong form, and also ‘insider’ knowledge. Thus no single player or group of players should be able consistently to outperform the market. This does not exist in the real world where individuals with ‘insider’ knowledge can outperform the market with their knowledge.