Market value of equity:

\[ R \times 26,05 \times 2,000,000 \times 2 \times 0.000 = R52,100,000 \]

Optional: + control premium (between 10% and 25%) e.g. 10% = R5210000

\[ = R57,310,000 \]

Market value of medium-term debt:

\[ K_d = 8.5\% \text{ (prime)} + 4.5\% = 13\% \]
\[ i = 9.36\% \]
\[ n = 5 \]
\[ PMT = (R 2,767,219) \times (32,028,000 \times 0.12 \times 0.72) \]
\[ FV = (R 32,028,000) \]
\[ PV = R31,139,356 \]

\[ n=5; FV = (32,028,000); \text{ any after-tax pmt and after-tax or any before-tax pmt and before-tax tax i; PV?} \]

<table>
<thead>
<tr>
<th>Ratio</th>
<th>(i) Errors in calculations and comments</th>
<th>(ii) Correct ratio</th>
<th>(iii) Insightful comment (relative to candidate’s calculation)</th>
</tr>
</thead>
</table>
| Gearing | This calculation should be based on the market value of debt and equity. Bank overdraft should be excluded as it is used for working capital purposes only/does not form part of the permanent capital structure. Decrease in gearing ratio is as a result of a relative decrease in borrowings / increase in equity, not an increase in borrowings. | \[ = \frac{MVD}{MVE+MVD} \]
\[ E.g.: \frac{31,139,356}{(31,139,356 + 52,100,000)} = 37.4\% \]
<p>| | | The correct calculation amounts to (e.g. 37.4%) which is an improvement from 208.8% (2011) as it is more in-line with D&amp;S TEC’s target capital structure. |</p>
<table>
<thead>
<tr>
<th>Ratio</th>
<th>(i) Errors in calculations and comments</th>
<th>(ii) Correct ratio</th>
<th>(iii) Insightful comment (relative to candidate’s calculation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Return on Equity</td>
<td>• The calculation should rather be based on <strong>headline earnings, not operating profit.</strong></td>
<td><strong>Total H-E:</strong> ((3.82 \times 2m))</td>
<td>• Shareholders of D&amp;S TEC may find that due to the <strong>improved</strong> ROE from 6.2% they are now more satisfied with their <strong>return</strong> in relation to the <strong>risk</strong> they are exposed to.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Alt:</strong> Based on <strong>basic earnings per share</strong> as South Africa is one of the few countries who calculate HEPS.</td>
<td><strong>MVE</strong>&lt;br&gt;(=\ 7.640\ 000)&lt;br&gt;e.g. 52 100 000&lt;br&gt;= 14.7%</td>
<td>• Thus indicating that the net effect in 2012 of company performance and <strong>gearing utilisation</strong> was more beneficial to equity holders.</td>
</tr>
<tr>
<td></td>
<td>• This calculation should be based on the <strong>market value of equity.</strong></td>
<td><strong>Alt:</strong> <strong>PAT:</strong> (7.987\ 000)&lt;br&gt;<strong>MVE</strong>&lt;br&gt;(=\ 7.987\ 000)&lt;br&gt;e.g. 52 100 000&lt;br&gt;= 15.3%</td>
<td></td>
</tr>
<tr>
<td>3. ROCE</td>
<td>• This ratio does not refer to the <strong>distribution of earnings</strong> but to the effective utilisation of assets.</td>
<td>(=\ 22.3%) or unchanged</td>
<td><strong>In 2012 (22.3%) the company has utilised their assets more effectively than in 2011 (13.6%).</strong></td>
</tr>
<tr>
<td>4. ROIC</td>
<td>• <strong>ROIC</strong> should be calculated based on <strong>Net Operating Profit After Tax (NOPAT), not profit after tax.</strong></td>
<td>**(25\ 188\ 000 \times 0.72)**&lt;br&gt;(MVD+MVE-cash)&lt;br&gt;(=\ 18\ 135\ 360)&lt;br&gt;e.g(311\ 393\ 566+521\ 000\ 000-359\ 460\ 000\ )&lt;br&gt;= 38.3%</td>
<td><strong>Exceeds the companies <strong>WACC</strong> of 19%.</strong>&lt;br&gt;• <strong>ROIC</strong> <strong>improved</strong> from 16.8% (2011) to 38.3% (2012), thus indicating that their investment capital (excl cash) was used effectively.</td>
</tr>
<tr>
<td></td>
<td>• By calculating the <strong>ROIC</strong> on an after tax basis <strong>ROIC may be compared to WACC.</strong></td>
<td><strong>Alt:</strong> <strong>7987000+(16171000x0.72)</strong>&lt;br&gt;-(2077000x0.72)&lt;br&gt;(MVD+MVE-cash)&lt;br&gt;(=\ 18134680)&lt;br&gt;e.g(311\ 393\ 566+521\ 000\ 000-359\ 460\ 000\ )&lt;br&gt;= 38.3%</td>
<td></td>
</tr>
<tr>
<td>5. Interest cover</td>
<td>• <strong>Times interest earned does not take the balance sheet (loan) amounts into consideration and should be calculated by dividing EBIT with finance cost.</strong></td>
<td>(-25\ 188\ 000)&lt;br&gt;16 171 000&lt;br&gt;=1.56 times</td>
<td><strong>The interest cover has <strong>improved</strong> since 2011 from 1.13 to 1.56 times in 2012 mainly as a result of the improved <strong>operating profit</strong> and thus interest is now covered with <strong>more ease</strong></strong>&lt;br&gt;• The interest cover of 1.56 times is <strong>low for a company in the IT industry</strong> (considering risks).</td>
</tr>
<tr>
<td>6. Growth in turnover</td>
<td>• <strong>Formula correct, but incorrectly calculated in 2012.</strong></td>
<td>(=\ (113684k-98047k))&lt;br&gt;98047k&lt;br&gt;= 15.95%</td>
<td><strong>N/a. The comment remains valid.</strong></td>
</tr>
</tbody>
</table>

**Overall max: 24**
(b) Discuss with calculations the actual funding strategy 5 Marks

Supporting calculations

<table>
<thead>
<tr>
<th>Debt:</th>
<th>Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>35%:</td>
<td>65%</td>
</tr>
<tr>
<td>Or 0.54:</td>
<td>1</td>
</tr>
<tr>
<td>MVD:</td>
<td>MVE</td>
</tr>
<tr>
<td>e.g.</td>
<td>R31 139 356</td>
</tr>
<tr>
<td>= 37.4%:</td>
<td>62.6%</td>
</tr>
<tr>
<td>or 0.60:</td>
<td>1</td>
</tr>
</tbody>
</table>

 Finance income percentage earned on cash

2077k/35946k

= 5.8%

Excess cash – after immediate / short-term obligations (considering the high risk IT industry)
– an estimation only

- Cash and cash equivalents: 35 946 000
- Tax liabilities: (4 459 000)
- Bank overdraft: (270 000)
- Interest for one year: (2 767 219)
- Portion of trade and other payables: (?) or discussed
- Portion of provisions: (?) or discussed
- Reserved for pending capital projects: (?) or discussed

~ 28 449 781 or less

Discussion

- D&S TEC’s actual D:E ratio (2012) is close to / slightly above the target D:E ratio.
- Due to the strong upward movement in D&S TEC’s share price in 2012 this is an improvement from what the actual D:E ratio of 2011 would have been.
- It is positive to have an actual D:E close to the target, as the target D:E takes account of:
  - The business and other risks inherent to the company.
  - Industry factors.
  - Should represent the optimum capital structure, thereby minimising WACC.
- D&S TEC’s bank overdraft does not form part of the funding structure as it is used for working capital purposes only/ does not form part of the permanent capital structure.
- D&S TEC’s medium term loan offers a cost/tax benefit due to interest expenditure that is deductible to Section 24J of the Income Tax Act.
- D&S TEC’s medium term loan offers a reprieve to repayment of capital (only due in 5 years’ time), minimising effect on cash flow in short/medium term.
- D&S TEC has high levels of excess cash, earning a low return (5.8%) – far below WACC.
- D&S TEC should consider uses for excess cash: other capital projects / repaying a portion of the medium term loan.
- Some excess cash may be required given risks of IT industry / economic crisis effect on access to finance.

Max: (5)
(c) Ratio calculations

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Dividend cover</td>
<td>3.82</td>
<td>2.11</td>
</tr>
<tr>
<td></td>
<td>1.75</td>
<td>0.9</td>
</tr>
<tr>
<td></td>
<td>2.18</td>
<td>2.34</td>
</tr>
<tr>
<td>Alternative</td>
<td>4.00</td>
<td>2.15</td>
</tr>
<tr>
<td></td>
<td>1.75</td>
<td>0.9</td>
</tr>
<tr>
<td></td>
<td>2.29</td>
<td>2.39</td>
</tr>
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</table>

(ii) PE ratio

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26.05</td>
<td>12.10</td>
</tr>
<tr>
<td>Headline Earnings per share</td>
<td>3.82</td>
<td>2.11</td>
</tr>
<tr>
<td></td>
<td>6.82</td>
<td>5.74</td>
</tr>
<tr>
<td>Alternative</td>
<td>26.05</td>
<td>12.10</td>
</tr>
<tr>
<td></td>
<td>4.00</td>
<td>2.15</td>
</tr>
<tr>
<td></td>
<td>6.51</td>
<td>5.63</td>
</tr>
</tbody>
</table>

(d) Comments

(i) Dividend cover

- The dividend cover ratio has worsened, indicating that dividends are now covered by a smaller earnings figure.
- This is as a result of DPS increasing more than the H-EPS.
- As the dividends are increasing with a higher percentage than the earnings indicating that the dividend payment may not be sustainable.

(ii) PE ratio

- (The (trailing) PE multiple shows that, at present, investors are willing to pay 6.81 (or 6.51) times the most recent historical H-EPS, for a share.
- The PE multiple has increased/strengthened to 6.81 (or 6.51) (2012) from 5.74 (2011).
- Indicating that investors likely expect higher relative-growth in future H-EPS (likely); and/or that an investment in D&S TEC has reduced in risk relative to 2011 (less likely).
- In 2012 investors may have been influenced by the signalling effect/information content of:
  - The increase in the DPS/H-EPS.
  - Rumours of a share repurchase.
- D&S TEC’s PE multiple is relatively low for an IT company.
(e) Anti-takeover strategy

Effect of repurchase of shares
- The share price of D&S TEC may increase due to the signalling effect (information content) indicating that shares may be undervalued / 10% premium offered.
- Will reduce the high excess-cash level.
- If shares are cancelled, fewer shares will be available in the market / fewer minority shares.
- If shares are repurchased through a subsidiary, it may be resold – possibly to the majority shareholder.

Effect as a defensive strategy
- Making shares in D&S TEC more expensive.
- May reduce the attractiveness of D&S TEC to the competitor.
- More difficult for an acquirer to obtain a sufficient number of shares.
- A hostile takeover will be impossible.

Max: (4)

(f) Integrated reporting

(i) Should entail:
An integrated report should involve / incorporate the following key areas –
- Organisational overview / Business model / Governance structure
- Operating context / Risks / Opportunities
- Objectives / Strategies to achieve those objectives
- Competencies / Remuneration
- Targets / KPIs (Key Performance Indicators) / KRIIs (Key Risk Indicators)
- Historical performance / Annual report
- Future performance objectives / Future outlook
- Sustainability / Environmental, social, governance (ESG) information

An integrated report should cause/result in the following –
- Integration of financial information with sustainability information
- Sustainability being embedded in the organisation / integrated with daily business processes
- Reflection upon the community impact
- Indication of how positive aspects can be enhanced / negative aspects can be negated
- Vision and commitment towards matters other than profit
- Substance over form

Max: (6)

(ii) Critique – Mr Dinozzo
- Mr Dinozzo emphasises only a single interest (bottom line: profit) of a single stakeholder (shareholders).
- Thereby ignoring other interests, e.g. the triple bottom-line (profit, but also people and the planet).
- Thereby ignoring other stakeholders (such as employees, suppliers, customers, regulators, environment, community, etc.)
- Mr Dinozzo is therefore not considering as stakeholders inclusive model.
- Stakeholders are also interested in the following: The impact the company has on the environment and community, and vice versa.

Max: (3)
Identify risks associated with D&S TEC 7 Marks

- **Business / Operating risk**: D&S TEC operates in the competitive / fast-changing IT industry.
- **Country risk**: D&S TEC is a multinational entity, which may result in risks associated with different cultures, languages, laws and regulations.
- **Financial risk**: D&S TEC makes use of debt financing and is therefore exposed to the risk posed by fixed repayment terms / calling-up of a facility.
- **Technological risk**: D&S TEC operates in the IT industry with short life-cycles and fast obsolescence.
- **Piracy / Hacking risk**: D&S TEC’s software may be hacked, rendering security features useless and thereby allowing the sale of pirated or illegal copies / software may be stolen.
- **Fraud / Theft risk**: D&S TEC’s employees could bypass software security features.
- **Malware / virus risk**: D&S TEC’s software may contain viruses and other malware thereby spreading it to customers’ systems.
- **Patent and copyright infringement / legal risk**: D&S TEC’s customised software may infringe patents / copyrights of others, with an associated legal exposure.
- **Currency (exchange rate risk)**: D&S TEC is a multinational entity and certain foreign sales / costs may be incurred in a currency other than ZAR.
- **Interest rate risk**: D&S TEC’s bank overdraft is linked to a variable rate (prime), creating uncertain future interest payments. (This is not applicable to the medium-term loan as it has a fixed interest rate.)
- **Risk of a loss of management focus / key-person risk**: D&S TEC’s management could lose focus on operations due to the current hostile takeover situation / D&S TEC’s already saw Anthony Senior’s retirement and other key-persons may leave after a takeover.
- **Governance risk**: D&S TEC seems to be dominated by a strong leader with little regard for matters other than profit.

Max:(7)

**PART B - Customfit-IT**

(a) **WACC**

**Cost of equity (\(K_e\))**

\[
K_e = R_f + \beta (R_m - R_f) + \text{small-stock premium (optional)} \]

\[
= 9\% + 1.25 (16\% - 9\%) + 5\% \]

\[
= 22.75\% + 5\% \]

\[
= 22.75\% \]

(Gordon’s Dividend Growth Model cannot be used to determine \(K_e\) here, as \(D_1\) is unknown.)

**Cost of debt (\(K_d\))**

\[
K_d = 8.5\% \text{ (prime)} + 4.5\% = 13\% \]

\[
= 13\% \times 0.72 \]

\[
= 9.36\% \]
Target weighting | Required return | WACC
--- | --- | ---
Equity | 0.65 | 22.75% | 14.79%
Debt | 0.35 | 9.36% | 3.28%
1.0 | | | **18.07%**

Max: (6)

(b) New bank loan 9 Marks

<table>
<thead>
<tr>
<th>From earlier calculations:</th>
<th>Debt:</th>
<th>Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Target D:E</td>
<td>35%:</td>
<td>65%:</td>
</tr>
<tr>
<td>Or 0.54:</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>• Actual D:E (2012)</td>
<td>MVD:</td>
<td>MVE:</td>
</tr>
<tr>
<td>e.g. R31 133 356</td>
<td>R52 100 000</td>
<td></td>
</tr>
<tr>
<td>= 37.4%:</td>
<td>62.6%:</td>
<td></td>
</tr>
<tr>
<td>or 0.60:</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

(Discussion below to be marked relative to a candidate’s calculations.)

(i) Impact on Cost of equity:

- A new loan will increase D&S TEC’s financial **gearing** and thereby the company’s **financial / credit risk** (payments are **obligatory** and may be difficult / impossible to make in certain instances).
- The **claim of equity** holders on benefits (e.g. dividends) and in the case of liquidation ranks **junior** to (below) all other forms of finance.
- Thus, cost of equity will **increase** as investors require a higher return to compensate for the increased risk.

(ii) Impact on Cost of debt:

- The exact cost of the new loan will depend on its **terms**, the **security** offered and the associated debt **covenants**.
- Due to the **low value of second-hand computer equipment**, such equipment is unlikely to offer sufficient security on a new loan, which may increase the cost of this new debt.
- Since the claim of debt holders ranks **senior** to (above) that of equity holders and because **interest** is normally **deductible** for purposes of income tax, the cost of debt is usually **cheaper** than equity.
- The new loan will increase the level of the company’s **overall debt and risk**, and will therefore result in a **higher** cost of debt (relative to the existing debt – all else being equal).

(iii) Impact on WACC:

- Theoretically, the WACC is minimised when D&S TEC reaches an **optimum** capital structure – often taken to be the target level (an entity should therefore **strive towards the target**).
- New debt will affect the **following variables within the calculation of WACC**: (a) increase the $k_d$; (b) increase the $K_e$; and (c) change the proportion (weight) of debt and equity.
• The **new loan amount** (EUR 1 million plus some other expenses) will be relatively small compared to the existing value of debt and equity, and will therefore not have a significant impact.

• A new bank loan will result in weights that are **further away from** / **closer to** the target capital structure.

• As a result, D&S TEC’s **WACC will increase** / **decrease**.

• The strong movements (e.g. 2011 to 2012) in the share price will affect the weight of equity within the capital structure and indicates the **riskiness of the industry** and the **limited ability** of D&S TEC to make use of extensive debt finance.

Max. for part (b): *(9)*
**Investment decision**

<table>
<thead>
<tr>
<th>CF0</th>
<th>CF1</th>
<th>CF2</th>
<th>CF3</th>
<th>CF4</th>
<th>CF5</th>
<th>CF6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial capital expenditure on computer and other equipment</td>
<td>(£ 1 000 00/0.095)</td>
<td>(10 526 316)</td>
<td>Shipping cost to South Africa</td>
<td>(301 250)</td>
<td>Commissioning cost</td>
<td>(65 000)</td>
</tr>
<tr>
<td>Landed cost</td>
<td>(10 892 566)</td>
<td></td>
<td>Sales income</td>
<td>9 100 000</td>
<td></td>
<td>Additional annual administrative costs</td>
</tr>
<tr>
<td>Employment cost</td>
<td>(6 233 760)</td>
<td></td>
<td>Retrenchment cost</td>
<td>(Year 6 salary 10 039 533x 6/13 x 6/12)</td>
<td>(2 316 815)</td>
<td></td>
</tr>
<tr>
<td>Office rental expenditure</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Marketing department research cost</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Initial working capital</td>
<td>(725 000)</td>
<td></td>
<td>Working capital released</td>
<td>725 000</td>
<td></td>
<td>Tax at 28%</td>
</tr>
</tbody>
</table>
### Taxation calculation

<table>
<thead>
<tr>
<th></th>
<th>CF0</th>
<th>CF1</th>
<th>CF2</th>
<th>CF3</th>
<th>CF4</th>
<th>CF5</th>
<th>CF6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxable income before tax and wear and tear</td>
<td>2 215 400</td>
<td>2 863 374</td>
<td>3 177 306</td>
<td>3 524 288</td>
<td>3 907 723</td>
<td>2 014 549</td>
<td></td>
</tr>
<tr>
<td>Wear and tear allowance</td>
<td>(3 630 492)</td>
<td>(3 630 492)</td>
<td>(3 630 492)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxable income</td>
<td>(1 415 092)</td>
<td>(767 118)</td>
<td>(453 186)</td>
<td>3 524 288</td>
<td>3 907 723</td>
<td>2 014 549</td>
<td></td>
</tr>
</tbody>
</table>

### Net cash flow before resale

<table>
<thead>
<tr>
<th></th>
<th>CF0</th>
<th>CF1</th>
<th>CF2</th>
<th>CF3</th>
<th>CF4</th>
<th>CF5</th>
<th>CF6</th>
</tr>
</thead>
<tbody>
<tr>
<td>(11 617 566)</td>
<td>2 611 626</td>
<td>3 078 167</td>
<td>3 304 198</td>
<td>2 537 487</td>
<td>2 813 561</td>
<td>2 175 475</td>
<td></td>
</tr>
</tbody>
</table>

### Assumptions:

1. Depreciation is irrelevant as this is an accounting entry only, thus has no cash flow effect
2. Office space rental is irrelevant cost as existing premises are used and the R 300 000 represents an allocated cost/non-cash item.
3. Research cost is irrelevant as the expense has already been incurred (historic/sunk cost).

**Discount rate (given)**

19%

**NPV =**

(2 078 002)

### Resale value (ignoring tax recoupment)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PV=</td>
<td>(2 078 002)</td>
</tr>
<tr>
<td>n=</td>
<td>6</td>
</tr>
<tr>
<td>i=</td>
<td>19%</td>
</tr>
<tr>
<td>FV=</td>
<td>5 901 030</td>
</tr>
</tbody>
</table>

**Conclusion:** The resale value should amount to **R5 901 030** for the project to provide the required return of 19%.
(d) Other important factors 6 Marks

- The appropriateness/reasonableness of marketing research performed: sufficient demand, pricing of packages, staff capacity utilisation?
- Will the selling price allow for sufficient product/coding testing time?
- Influence of foreign competition, e.g. inexpensive programming services offered by firms in India.
- Computer equipment is unlikely to have a high resale value (due to high level of obsolescence / short life-span)
- How realistic is the probability of employees being redeployed within the entity?
- Possibility of any disputes arising with unions due to retrenchment.
- The impact of this project and the possible retrenchment may have on D&S TEC’s reputation.

- Additional consideration should be paid to the most sensitive cash flows, identified by performing a sensitivity analysis.
- Additional consideration should be paid to the determination of the 6 year period. As an extended/shortened period may drastically affect the investment decision.
- Consider the most appropriate form of finance for the project: that will move company closer to its target capital structure / use excess cash.
- Other available projects deriving a positive NPV should be considered.
- Consider if the project is in-line with D&S TEC’s long-term strategy.
- Training cost of staff may be required (due to fast-changing environment) – has been omitted from analysis.
- Any other valid factor (max 1).

Max: (6)