

Markscheme

May 2026

Business management

Higher level

Paper 2

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The markbands on page 3 should be used where indicated in the markscheme.

Marks	Level descriptor
0	The work does not reach a standard described by the descriptor.
1–2	• Little understanding of the demands of the question. • Little use of business management tools and theories; any tools and theories that are used are irrelevant or used inaccurately. • Little or no reference to the stimulus material. • No arguments are made.
3–4	• Some understanding of the demands of the question. • Some use of business management tools and theories, but these are mostly lacking in accuracy and relevance. • Superficial use of information from the stimulus material, often not going beyond the name of the person(s) or name of the organization. • Any arguments made are mostly unsubstantiated.
5–6	• The response indicates an understanding of the demands of the question, but these demands are only partially addressed. • Some relevant and accurate use of business management tools and theories. • Some relevant use of information from the stimulus material that goes beyond the name of the person(s) or name of the organization but does not effectively support the argument. • Arguments are substantiated but are mostly one-sided.
7–8	• Mostly addresses the demands of the question. • Mostly relevant and accurate use of business management tools and theories. • Information from the stimulus material is generally used to support the argument, although there is some lack of clarity or relevance in some places. • Arguments are substantiated and have some balance.
9–10	• Clear focus on addressing the demands of the question. • Relevant and accurate use of business management tools and theories. • Relevant information from the stimulus material is integrated effectively to support the argument. • Arguments are substantiated and balanced, with an explanation of the limitations of the case study or stimulus material.

Section A

1. (a) State **two** features of lean production.

[2]

Features include:

- it **reduces all forms of waste and achieve greater operational efficiency.**
- **produces quality output with fewer resources.**
- **cutting out anything** in the production process **that adds complexity, cost and time and does not add value** to the customer.
- Identifies less waste in terms of excessive **transportation** of components and products, **excessive inventory** holding, too much **movement** by workers, waiting time, overproduction, overprocessing, defects and unused talent.

Accept any other relevant feature.

Do not accept “continuous Improvement” unless it specifies **what** is being improved.

Similarly do not accept “just-in-time (JIT)” unless it specifies reduction in stock/inventory holding.

N.B. No description is required.

Award [1] for each feature of lean production stated up to a maximum of [2].

(b) Using **Table 1** and the other information provided:

(i) calculate the payback period for the new factory (*show all your working*).

[2]

Year	Net cash flows (\$)	Cumulative cash flows (\$)
0	(1 500 000)	(1 500 000)
1	240 000	(1 260 000)
2	300 000	(960 000)
3	390 000	(570 000)
4	440 000	(130 000)
5	390 000	260 000

The payback period occurs between years 4 and 5.

Cumulative net cash flow by the end of year 4:

= (1 500 000) + \$240 000 + \$300 000 + \$390 000 + \$440 000

= (\$130 000)

By the end of year 4, there is a shortfall of \$130 000 to cover the cost of \$1 500 000.

Shortfall year 5 net cash flow: \$130 000 / \$390 000 = 0.333 × 12 months = 3.996 or 4 months.

Payback period = 4 years 4 months

Alternative working of shortfall: \$390 000 / 12 = \$32 500/month. \$130 000 / \$32 500 = 4

Payback is **4 years 4 months**

Year 1, Year 2, Year 3, Year 4 and 4 months more

Alternative working: \$240 000 + \$300 000 + \$390 000 + \$440 000 + (\$130 000 / \$390 000) × 12 = **4 years 4 months**

Year 1, Year 2, Year 3, Year 4 and 0.33 year more

Alternative working: $\$240\,000 + \$300\,000 + \$390\,000 + \$440\,000 + (\$130\,000 / \$390\,000) = 4.33$ years

Do not accept 4.3 years.

Accept 4 years 121.7 days along with 4 years and 17.33 weeks or 52 weeks.

Award up to a maximum of [2].

Accept any other method of calculation.

*Award [1] if a student **who has shown working** provides a correct procedure e.g correctly calculates months (thus, demonstrates an understanding of the underlying concepts), but has made an error in the calculation or the answer does not include **years/months/days**.*

Award [1] if a student does not show any working and simply writes the correct answer.

*Award [2] if a student provides **the correct answer with working**. A correct answer must include **years/months** in the working or final answer.*

(ii) calculate the gearing ratio if *BY* receives a loan of \$1.5 million for the new factory (*show all your working*). [2]

Capital employed = non-current liabilities + equity
 = \$5 500 000 + \$2 000 000
 = \$7 500 000

Gearing ratio % = $\frac{\text{non-current liabilities}}{\text{capital employed}} \times 100$

Gearing ratio % = $\frac{\$5\,500\,000}{\$7\,500\,000} \times 100 = 73.33\%$

Accept 73.3%.

Award [1] for the correct answer with the % sign in the working or final answer and an additional [1] for correct working.

Award no marks for merely writing the formula.

If no workings are shown, but the final answer is correct, award a maximum of [1].

Do not credit full marks if the answer is not a percentage.

(c) Complete **Table 2** by calculating the present value for the new factory for the first five years, using a discount rate of 4%.

Year	Net cash flows (\$)	Discount rate at 4%	Present value (\$)
1	240 000	0.9615	230 760
2	300 000	0.9246	277 380
3	390 000	0.8890	346 710
4	440 000	0.8548	376 112
5	390 000	0.8219	320 541
		Total	1 551 503

Using your completed **Table 2**, calculate the net present value (NPV) for the new factory for the first five years (*no working required*). **[2]**

Present value: \$1 551 503

Net present value = \$1 551 503 – \$1 500 000 = \$51 503

Award [1] for the correct total present value (TPV).

Award [1] for the correct net present value (NPV).

Do not deduct mark for no \$ sign as it is given in the table.

(d) Explain **one** disadvantage for *BY* of using the net present value (NPV) method to decide whether to build the new factory. **[2]**

Possible **disadvantages** for *BY* of using the net present value (NPV) method to decide whether to build the new factory:

- The **result depends heavily on the rate of discount used (in this case 4%)**. This is particularly important in the case of *BY*, as it **will need to ask for a bank loan to finance the building of the new factory**. If **inaccurate interest rates are used for the calculation** of the NPV of the project, **the validity of the forecasted calculations of appraisal of the project** and therefore corresponding comparison with the cost of the bank loan **will decrease**. **Interest rates are currently very low and are predicted to rise** in the next year.
- NPV, like other investment appraisal methods, does not consider the existing financial state of the company and its ability to take on the investment. We are told that *BY* would require a loan to finance the new factory. This would result in a gearing ratio of 73.33%, indicating a highly geared/leveraged company that would be at risk of bankruptcy if the demand for the Speed model is less than expected.

Without application for **[1]**:

- **NPVs can be compared to other projects, particularly if the initial capital cost is the same.** However, this method does not provide a percentage rate of return on the investment (internal rate of return), which would allow *BY* to have a more complete assessment of the project particularly if comparing several investments with different capital outlays. A combination with another method of investment appraisal would be required for *BY* to make a more accurate decision on the building of the new factory, as NPV would not provide enough information.
- **As NPV is a quantitative method of appraisal, it will not consider qualitative factors affecting the decision.** Even if the NPV result obtained from calculations in part (c) suggests that the project of the new factory is feasible, qualitative factors, such as the impact on the environment, planning permissions or risk of the project, would not be taken into consideration if only NPV is used by *BY* to decide whether to build the new factory.

- NPV requires forecasting net cash flows far into the future and these can be hard to estimate accurately, the further into the future.
- The NPV may be sensitive to optimistic projections, and this might misleadingly suggest a project is profitable.

Accept any other relevant explanation.

Do not accept “new factory” as application – these words are in the question.

Do not accept general references to external crises eg war, tsunamis etc unless linked to how it specifically affects NPV.

Award **[1]** for an explanation of a relevant disadvantage and an additional **[1]** for application to BY.

[2] cannot be awarded if the response lacks either **explanation** and / or **application**.

For example: For an explanation of a relevant disadvantage with no application **[1]**.

For an explanation of a relevant disadvantage and application to BY **[2]**.

Award up to a maximum of **[2]**.

2. (a) State **two** features of a privately held company.

[2]

Features include:

- shareholders have **limited liability**
- the business **has a separate legal identity from its owners**
- control and ownership cannot be lost as **shares are only sold to new members if all shareholders agree**
- **it will continue if one owner dies**, as **shares** will be **transferred**
- **not allowed to sell shares in the stock market**
- **profits are shared by** a larger number of **shareholders** compared to sole traders, partnerships?
- not required to **publicly** disclose financial data
- operates in the private sector

Accept any other relevant feature.

Do not accept “shares owned / sold by / to friends and family as it is not true for all.

Do not accept “aims to make a profit”.

N.B. No description is required.

Award [1] for each relevant feature stated up to a maximum of [2].

(b) Using information in **Table 3**, calculate the missing values **W**, **X** and **Y** on the critical path diagram in **Figure 1** (*no working required*). [3]

$$W = 100 - 20 - 15 = 65$$

$$X = 60 + 20 = 80$$

$$Y = 100 - 20 = 80$$

Award [1] for the correct answer for W, X and Y, up to [3].

(c) Using **Figure 1**:

(i) calculate the total float for activity E (*show all your working*);

[2]

$$\text{Total float (E)} = \text{LFT} - \text{duration} - \text{EST}$$

$$\text{Total float (E)} = 65 - 15 - 40 = 10 \text{ days}$$

Accept alternate ways of working out the total float e.g. $\text{LF} - \text{EF (of E)} = 65 - 55 = 10$

*Award [1] for working and [1] for the correct answer **with unit/days** in working or final answer, up to a maximum of [2].*

Accept if days is present in either the working or final answer. Allow own figure rule (OFR).

(ii) determine the critical path for Kaila’s wedding party project.

[1]

Critical path is A, C, D, G

Award [1] for the correct answer.

(d) Explain whether the completion date for Kaila’s wedding party project will be delayed if the earliest starting time (EST) for activity E is delayed by eight days.

[2]

Activity E has 10 days of float. If E’s EST is delayed by 8 days, it will still have 2 days of float remaining (10 days – 8 days delay = 2 days remaining float). Hence, Kaila’s wedding party project overall completion **date will not change, as activity E is still within its float capacity.**

For a generic response that includes an idea that “Kaila’s wedding party project’s overall completion date would not be delayed” award [1].

For the application mark total float is **10 days** hence activity E has still **2** remaining days of float days project delayed [1]. Needs to make reference to “float”.

Allow OFR for activity E’s 10 days total float.

Award [1] for identifying or describing one possible consequence for VE and a further [1] for a suitable application with respect to VE. Award a maximum of [2].

[2] cannot be awarded if the response lacks either explanation or application.

3. (a) State **two** advantages of working with a business angel **other than** financial investment. [2]

A business angel:

- often has **significant experience in running businesses** and can provide valuable advice and mentoring support, strategic guidance and industry insights
- normally has **strong networks** within the industry and can introduce firms to other potential customers, suppliers or business partners, helping accelerate business growth
- **shares some of the business risks associated with start-ups**, which reduces the financial costs of production for the entrepreneur
- is equity based, hence no need to pay interest or pay back money which reduces financial pressure in the early stages of a project
- **May attract other investors** because of their reputation and connections in the investment community.

Accept any other relevant advantage.

N.B. No description is required.

Award [1] for each relevant advantage stated up to a maximum of [2].

(b) Using **Table 4**, prepare a cash-flow forecast for WS for the first four months of operations. [6]

All financial figures are in \$	Month 1	Month 2	Month 3	Month 4
Opening balance	0	10 600	1200	31 400
Cash inflows				
Business angel investment	40 000			
Sales revenue (QFHotels)			54 000	
Total cash inflows	40 000	0	54 000	0
Cash outflows				
Raw materials			14 400	
Patent fee	12 000			
Machinery and equipment	8000			
Utilities	550	550	550	550
Insurance	850	850	850	850
Sergio's salary	8000	8000	8000	8000
Total cash outflows	29 400	9400	23 800	9400
Net cash flow	10 600	(9400)	30 200	(9400)
Closing balance	10 600	1200	31 400	22 000

Accept slightly different headings / format.

N.B. Allow student own figure rule (OFR): if a student makes an error in one row and carries it through the remainder of the forecast that is only one error. This provision includes both mathematical errors and

conceptual errors (for example, if a student has the machinery and equipment cost in the incorrect month then students should only lose **[1]** for that error.

If a student misclassifies an item, such as insurance, as an inflow, consider that as one error.

Award **[1]** if the student conveys some understanding of what a cash-flow forecast is, but otherwise the forecast is largely inaccurate, incomplete or illegible or includes 5 or more errors.

If the student produces a cash flow as below:

All financial figures are in \$	Month 1	Month 2	Month 3	Month 4
Opening balance	0	10 600	1200	31 400
Total cash inflows	40 000	0	54 000	0
Total cash outflows	29 400	9400	23 800	9400
Net cash flow	10 600	(9400)	30 200	(9400)
Closing balance	10 600	1200	31 400	22 000

Award a maximum of **[5]** if otherwise fully correct. Deduct any further marks according to the guidance above for mathematical and conceptual errors.

Award **[2–3]** if a cash-flow forecast is drawn, but either it is not in a generally accepted format or it is untidy, and/or the forecast contains three or more errors, which could include, in addition to number placement problems and mathematical errors, conceptual errors (using the word “profit” rather than “net cash flow”) or omissions, such as not having a line like “closing balance” or totals.

Award **[4–5]** if the cash-flow forecast is drawn essentially correctly and neatly in a generally accepted format, but there is one error for **[5]** or two errors for **[4]**.

Award **[6]** if the cash-flow forecast is drawn accurately and neatly in a generally accepted format and is error free. If the student provides a heading of total cash inflow/total cash outflow without using another heading above of cash inflow or cash outflow – do not penalize as an omission. If student incorrectly labels opening/closing balance treat as one error.

If the student omits both headings of cash outflow/cash inflow that is one error, using the term “net profit in the cash flow forecast” instead of “net cash flow” is inaccurate and **[1]** should be deducted. If the student has only one row for all cash outflows, deduct **[1]** from the total mark awarded. If opening balance is not at the top of the table deduct a further **[1]**.

Full working is not expected.

(c) Explain **one** reason why Sergio patented his innovative faucet.

[2]

Reasons with application for **[2]**:

- **It is a competitive market.** The **patent provides WS with legal protection** that **prevents** competitors from **copying** the tap innovation. This creates competitive advantage through a barrier to entry, as the product is exclusive to WS.
- May **enhance WS's reputation as an innovator in much-needed sustainable water-saving solutions in Country X (water shortage in Country X)**, attracting investors keen on this environmental segment.
- It can **attract** the additional capital required from future **investors**, as the **patent makes the business more appealing for capital investments in a competitive environmental marketplace.**

Reasons without application for **[1]**:

- **Allows WS to license the manufacture or sales of the faucet innovation** to other businesses, generating additional revenue streams without WS directly producing the units itself.
- **Enables WS to differentiate its product** in the marketplace, establishing it as an innovator in the water-saving technology industry. This could lead to stronger brand recognition and higher demand from environmentally conscious customers.
- Could **allow WS to negotiate favourable terms with suppliers or distributors**, as its product has unique properties and may solve problems that other options do not.
- Sergio has exclusive rights to his innovative faucet. He has a protected market position for up to 20 years. The patent may increase WS's valuation.

Accept any other relevant comment.

Do not accept as application words repeated from the question such as Sergio, faucet etc.

*Award **[1]** for a relevant comment and an additional **[1]** for application to WS.*

Section B

4. (a) State **two** features of a publicly held company. [2]

Features include:

- **Limited liability.** The liability of the shareholders is limited to the extent of the shares owned by them.
- **It is a separate legal identity.**
- Can raise capital by selling shares in the stock market (offers shares to general public).
- Needs to make available to the public and all shareholders certain information governed by listing rules.
- Can be subject to takeover if third party buys majority of shares.
- Easier to raise finance than other forms of legal entity.
- Operates in the private sector.
- Continuity of existence.
- Shareholders receive dividends in return for investment.
- Usually very large organisations.
- Has a Board of Directors.

Accept any other relevant feature.

N.B. No description is required.

Award [1] for a relevant feature stated up to a maximum of [2].

(b) Explain **one** advantage **and one** disadvantage for *RJ* of using competitive pricing for *Rey*. [4]

Competitive pricing method sets product or service prices based on competitors' prices

Advantages include:

- **Increases sales volume.** If *RJ* sets **Rey's prices lower (slightly below) than competitors' prices**, a competitive pricing method can lead to higher sales volume and increased market share.
- **Strengthens *RJ's* customer loyalty.** **Rey has been in the market for 25 years.** Consistently **offering lower prices** than competitors **for a high-quality detergent** can boost brand loyalty and enhance *Rey's* market position.
- *RJ's* cost of production **is low due to economies of scale.** A competitive pricing method can allow *RJ* to maintain profitability even with low prices.
- **Discourages price wars** that could lead to lower profits. As the **market leader, *RJ*** has the resources to lower prices and sustain a price battle. On the other hand, **competing brands are struggling to keep prices low**, so competitors will be discouraged to lower their prices to battle with *Rey*.

Disadvantages include:

- This **leads to low-quality perception.** *Rey* is a **high-quality** detergent, but if *RJ* lowers *Rey's* price to remain competitive, customers may perceive *Rey* as a low-quality detergent, even if it's **high-quality**.
- If *RJ* constantly matches *Rey's* price to lower prices, **profits can be eroded despite economies of scale.** Relying only on matching *Rey's* price to lower prices **may not be sustainable in the long run.**
- *Rey* **has lower profit margins** (than other products) **because of the lower price charged.**
- Need to continually monitor competitor's prices (for past 25 years - application) which would incur costs in both labour and/or data collection/analysis.

*Award [1] for a relevant advantage/disadvantage, with an additional [1] for application to *RJ*. Award up to a maximum of [2].*

(c) Using data from **Figure 2**, comment on the estimated market growth for organic **and** non-organic laundry detergents in Country Y for 2027–2029. **[2]**

The estimated growth of the organic **laundry detergent** market is greater than that of non-organic.

The estimated market growth for organic laundry detergents is increasing from 5.5% in 2027 to 9% in 2029. The non-organic laundry detergent market is estimated to stay the same in 2027 and 2028 at 6% and fall to 5.5% in 2029. Market growth for organic detergents increases by 3.5 percentage points and for inorganic falls by 0.5 percentage points. Relative increases are 63.6% for organic and –8.3% for non-organic detergents.

Accept if students calculate average growth.

Award **[1]** for a relevant comment on the market growth of both organic and non-organic laundry detergents and **[1]** for use of actual figures from Figure 2.

If a student makes a relevant comment on the market growth with the use of actual figures from **Figure 2** on **only** organic detergents **OR** non-organic detergents, award a maximum of **[1]**.

If a student makes a comment on only one of organic or non-organic detergents with no use of actual figures award **[0]**.

(d) Complete the Boston Consulting Group (BCG) matrix (**Figure 3**) for *RJ*'s four brands. **[2]**

		Market share	
		High	Low
Market growth	High	CocoX EcoX	
	Low	Rey	Sol

Award **[2]** for a complete matrix with all four brands placed accurately.

Award **[1]** for one error.

Award **[0]** for more than one error.

(e) Using **Table 5**, **Figure 4** and other information in the stimulus, discuss how *Unixi*'s entry into the laundry detergent market might affect *RJ*'s position as a market leader. **[10]**

Arguments could include:

- As a market leader, *RJ* benefits from the **largest market share** in the industry, with **55% of the market share**. A large market share and low production cost, fuelled by **economies of scale**, may have led *RJ* to benefit from **high profitability**. However, after *Unixi*'s entry into the market, *RJ* has lost customers and reduced its market share by 5% (to 50% according to Figure 4). *Unixi*, on the other hand, is growing and already has a 22% market share. *Unixi* threatens to become the next market leader.
- As a market leader, *RJ* sets **innovation leadership** and benefits from **first-mover advantage**. Innovation enables the production of **unique products** that can be charged premium prices. *RJ* launched a new line of organic detergents, being the sole company in the market to offer these products. However, *Unixi*, as a multinational company that makes high investments in research and development, is already offering a high-technology product, detergent tablets (which it claims are three times more efficient than liquid and powder detergents), that *RJ* cannot offer yet. *RJ* will probably lose its first mover's advantage and innovation leadership. This is underlined by the BCG matrix which shows *RJ* not having any products in the High growth/Low market share sector (Problem Child).
- As a market leader, *RJ* has the power to set prices according to its strategic needs. *RJ* charges premium prices for its organic products, leading to higher profits. *RJ* also undercuts

competitors to increase market share, as this is the case with Rey's competitive pricing method. **However, Unixi offers high-technology, unique products such as detergent tablets. Unixi also offers organic detergents. RJ will no longer be able to set all prices. As a multinational company Unixi will be able to achieve economies of scale and sustain lower prices to compete with RJ.**

- Using the results of RJ's loyalty survey (**Table 5**) 80% of customers are either neutral or likely to continue buying RJ's products, meaning Unixi is appealing to a relatively small number of RJ's customers to switch brands. This could erode RJ's market leadership. However, the factors listed that might cause customers to change *ie* lower price, better quality and special offers are all areas that Unixi can exploit. However, ranked against this is the fact that only 10% of customers are dissatisfied with RJ's product again making it difficult for Unixi to increase its market share.
- **Figure 4** suggests market leadership (50%) with very strong brand loyalty and customer satisfaction over a sustained period of time (**Table 5**). The new organic products (CocoX and EcoX) are even higher market share (80%). However, Sol is low growth/low market share despite reduced prices and new packaging, and may need to be divested to meet the challenges from Unixi if it cannot be repositioned.

Also, as indicated previously, price wars between RJ and Unixi may occur especially given the resources of Unixi which may require review of growth strategies to maintain market leadership. Maybe mergers and acquisitions for the other 28% of competitors in the laundry detergent market is an option if permitted by government competition regulations/laws.

Possible limitations explicitly linked to the stimulus that require further **explanation** for the top markband:

- What is the size/financial strength of Unixi?
- What other countries do they operate in?
- What products do they produce?
- What are customer preferences?

Accept any other relevant argument.

N.B. the question is focused on the affect of Unixi's entry into the laundry detergents market on **RJ's market leadership**.

Marks should be allocated according to the markbands on page 3 with further guidance below:

If there is no balance, then for a one-sided response where only one effect is considered then award a maximum of [3].

If the student makes no reference to Table 5 and Figure 4 then this only partially addresses the demands of the question, then the maximum mark to be awarded is [6] even if there is some balance.

If the student discusses one affect only (with balanced and substantiated arguments) then award a maximum of [5].

A balanced response is one that provides at least one argument for and one argument against two effects.

A conclusion is expected in this response as the command term is discuss.

N.B. Students cannot reach the top marks if there is no relevant reference/application to the stimulus. They must also show awareness/explain the limitations of the stimulus material.

5. (a) State **two** examples of cybercrime **other than** the theft of personal data. [2]

Examples of cybercrime include:

- Phishing
- Identity theft
- Ransomware / malware attack
- Account hijacks/hacking
- Email fraud
- Cyberbullying
- DDoSing – flooding website with data causing it to crash
- Digital copyright

Accept any other relevant example.

N.B. No description is required.

Award [1] for a relevant example stated up to a maximum of [2].

(b) Explain **one** advantage **and one** disadvantage for *BG* of using a cloud computing service. [4]

Advantages include:

- **Lower costs.** With a cloud computing service, *BG* will pay lower yearly fees (\$400 000) than its current data centre maintenance costs (\$450 000) without investing in new hardware and software to upgrade its in-house data centre (with an estimated cost of \$2.5 million).
- **Access to cutting-edge technology.** Cloud computing providers continuously invest in the latest technology. *BG* will have access to the latest technology by just paying a fee.
- By outsourcing to a cloud computing service, *BG* will be able to focus more on its core business of developing popular video games.

Disadvantages include:

- Cloud computing **does not offer the same control** as a private on-premises data centre exclusively operated by *BG*. With a cloud computing service, ***BG* will have to rely on a service provider** and would lose control over its IT environment.
- Cloud computing **may not offer the same security as an in-house data centre**, which *BG* has exclusive access. Given the security breaches that *BG* has experienced, it may be quite a risk to outsource information (including confidential information) storage to an external party.
- Cloud computing **requires a fast and stable internet connection to operate**. If there is a technical problem with the internet connection, *BG* may not have access to its data.

Accept any other relevant response.

Mark as [2+2].

*Award [1] for a relevant advantage/disadvantage, with an additional [1] for application to *BG*. Award up to a maximum of [2].*

(c) Using data from **Figure 5**, comment on Jim’s data collection.

[2]

- **62% of BG’s employees used weak passwords in April**; this percentage **dropped** slightly to **55% in May and June** possibly **due to the cybercrime incident**, when employees were perhaps **more vigilant**.
- **35% of BG’s employees did not follow BG’s online security procedures in April**, which **fell to 30% in May and increased to 38% in June**, which may result in a risk of further cybercrime.

*Award [1] for each relevant comment related to **Figure 5**, with at least one reference to figures up to a maximum of [2].*

*Award [1] for **two** comments with no reference to any figures from **Figure 5**.*

*For [2] there must be a reference to at least one set of figures from **Figure 5**.*

*For only one comment with reference to figures from **Figure 5** [1].*

*For one comment with no reference to figures from **Figure 5** [0].*

(d) Explain **one** disadvantage for BG of conducting on-the-job training for all employees.

[2]

On-the-job training is carried out in the workplace. It is usually **delivered by managers or supervisors**.

Disadvantages include:

- **Labour productivity may decrease at BG** during the six weeks of training. Six weeks is a long time for **senior engineers and all BG employees to not be able to work fully** on the new game due to time spent in training sessions. **Senior engineers will be facilitating training sessions**, and the rest of the employees will be receiving them.
- It will be **expensive to train all employees**. BG will have to pay extra for additional hours worked and to hire more engineers to launch the new game and support training sessions at the same time, leading to increased costs.
- **Development of the new game could be jeopardized**, and BG could potentially lose \$200 000 per month. If all of BG’s engineers are involved in training, the new game’s **development could be delayed even more** (development of the game is already behind schedule), and the entire project could be put at risk.
- If BG failed to protect itself against cybercrime in the past, training conducted by its own senior engineers might not be sufficient to protect against future attacks. A third party might be better qualified to train BG’s employees to adhere to proper procedures related to cybersecurity.

Award [1] for a relevant disadvantage, with an additional [1] for application to BG. Award up to a maximum of [2].

(e) Using **Table 6** and other information in the stimulus, discuss whether BG’s board of directors should accept Jim’s contingency plan in terms of cost, time and risks. [10]

It is expected that responses will examine the following aspects involved in Jim’s contingency plan:

Financial costs:

Jim’s **contingency plan has an estimated cost of \$ 4 500 000 (\$1 500 000 + \$500 000 + \$2 500 000)**. BG will need to raise finance externally to cover these costs. BG’s brand image was eroded, and BG’s share value **dropped by 15% after the cybercrime incident**. It seems unlikely that BG will be able to raise the necessary finance to fund the contingency plan from equity. **However, the cybercrime cost BG \$3 500 000 in fines**. In the event of a **second cybercrime**, if BG does not react quickly, **the fine will triple**. In addition, **BG’s image will be destroyed**, leading to lower trust from investors and customers.

Time:

It takes time to plan for a contingency, but a contingency plan can help BG respond quickly and minimize the impact of a second cybercrime crisis. With the suggested training and an established chain

of command, *BG*'s **response time** to cybercrime **could be reduced by 20%**. However, contingency planning uses up valuable management time and resources. **Senior engineers will be delivering training sessions for six weeks instead of focusing on other strategic priorities**. Time is also needed for *BG*'s core activity, such as developing new games that would generate further income.

Risks involved:

Jim's contingency plan **can reduce potential risks of another cybercrime**. With an **upgraded data centre**, *BG*'s **network security can increase**, hence reducing the risks of a second cybercrime attack. **Training staff** in cybersecurity can also **reduce risks**. However, no matter how detailed contingency plans can be, **it is impossible to outline all possible scenarios**. Plus, **not all the employees at *BG* will take security seriously**. 62% of *BG*'s employees did not follow simple rules like using strong passwords – with only a 7% improvement three months later. Contingency planning **does not reduce risks of crisis to zero**. **Using an external cloud computing provider could compromise data security**, as *BG* will have no control over it.

Marks should be allocated according to the markbands on page 3 with further guidance below:

*If there is no balance, then for a one-sided response where only **one** aspect is considered then award a maximum of [3].*

*If there is no balance, then for a one-sided response where only **two** aspects are considered then award a maximum of [4].*

*If there is no balance, then for a one-sided response where **three** aspects are considered then award a maximum of [5].*

*If the student makes no reference to **Table 6** then this only partially addresses the demands of the question, then the maximum mark to be awarded is [6] even if there is some balance.*

If the student discusses up to two aspects only (with balanced and substantiated arguments) then award a maximum of [5].

For access to the top markbands at least one argument for and one argument against is expected for each of the 3 aspects.

A conclusion is expected in this response as the command term is discuss.

N.B. Students cannot reach the top marks if there is no relevant reference/application to the stimulus. They must also show awareness/explain the limitations of the stimulus material.

Possible limitations to the data might include (but not limited to)

- *What is *BG*'s financial position – can it afford to keep paying fines*
 - *How will *BG* raise the additional finance needed to implement the contingency plan*
 - *Does *BG* operate in a competitive market*
 - *What percentage of customers did *BG* lose after the cyber attack*
-