2225 – 5009M

Diploma Programme
Programme du diplôme
Programa del Diploma

Markscheme

May 2025

Business management

Higher level

Paper 2

16 pages

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 flexi-time working. ***[2]***

Features of flexi-time working could include:
- it typically **allows employees to decide on when they start and finish a working day**;
- it allows employees to **work somewhere else** other than a fixed office;
- the business often **has a core period** or a minimum number of hours in which all employees must work.

Accept any other relevant feature.

***N.B.** no description required.*

*Award **[1]** for each relevant feature stated up to a maximum of **[2]**.*
Do not accept autonomy as a feature which is similar to flexibility in work hours.

(b) Using **Table 1**:

(i) calculate the annual straight-line depreciation expense for **one** fryer for 2025 (*show all your working*); ***[2]***

Annual depreciation expense =

Annual depreciation = (original cost – residual value) / expected useful life of asset
($1 000 000 – $160 000) / 4 = **$210 000**

*Award **[1]** for correct working and **[1]** for the correct answer with a $ sign, up to a maximum of **[2]**.*

***N.B. do not penalize more than once for sign/unit omission in any one question part (b)(i), (b) (ii), (c).** Accept if sign is present in either the working or final answer.*

(ii) calculate the annual depreciation expense for **one** fryer for 2025 using the units-of-production method (*show all your working*). ***[2]***

Depreciation per unit = (original cost – residual value) / units produced over the useful life

($1 000 000 – $160 000) / 600 000 = $840 000 / 600 000 = $1.4 per unit

Depreciation expense for 2025 = 120 000 x 1.4 = **$168 000**

*Award **[1]** for correct working and **[1]** for the correct answer with a $ sign.*
Accept if sign is present in either the working or final answer.

(c) Using your calculation in (b)(i), calculate the net book value of **one** fryer after two years of purchase (*show all your working*). ***[2]***

Net book value = original cost – (depreciation per year x number of years)
Original cost = $1 000 000
Accumulated depreciation = $210 000 x 2 = $420 000
Net book value = $1 000 000 – $420 000 = **$580 000**

*Award **[1]** for correct working and **[1]** for the correct answer with a $ sign.*

Allow candidate own figure rule (OFR) for using calculation in (b) (i).
Accept if sign is present in either the working or final answer.

(d) Explain **one** advantage for *HC* of introducing a customer loyalty programme. ***[2]***

A **customer loyalty programme** will not only encourage repeated purchases, **allow** HC to **compete** with the **increased competition** faced in the potato chip industry, but its creation will inevitably **lead to a new targeted market using the customer database** to **support** its future **marketing activities**.

Other relevant answers
- Improves customer retention due to better understanding of purchasing habits of existing customers
- Builds a positive relationship between HC and the customers which leads to a willingness to make repeat purchases/customer loyalty
- Attracts new customers by providing incentives/discounts etc

*Award **[1]** for explaining a relevant advantage for HC and a further **[1]** for a suitable application with respect to HC. Award a maximum of **[2].***

2. (a) Define the term *defect rate*. ***[2]***

The defect rate is the **number of defective units produced** by a business **divided by the number tested (or divided by the total output)**, expressed as a **percentage**.

***N.B.** No application required. Do not credit examples. Accept for full mark if candidate does not include the concept of percentage.*

*Candidates are not expected to word their definition exactly as above. Award **[1]** for partial understanding, e.g. a measure of the number of defective products made*
*Award **[1]** eg only a formula Defects/number tested x 100.* OR *Defects/total output X100.*

(b) Using relevant information from **Table 2**, calculate *Qwest*'s gearing ratio for 2024 (*show all your working*). ***[2]***

Gearing ratio = (non-current liabilities / capital employed) x 100
= (400 000 / (400 000+500 000+1 500 000)) x 100
= (400 000 / 2 400 000) x 100
= 16.67% (allow rounding 16.7% or 17%) Do not accept 16%.

*Award **[1]** for correct working and **[1]** for correct answer with % sign.*

(c) Qwest decides to take the new order for an additional 5000 doors to be delivered in four weeks.

(i) Calculate the cost to *Qwest* if it makes the 5000 doors (*show all your working*). ***[3]***

Total cost – Total fixed costs = Total variable costs
3 700 000 – 300 000 = $3 400 000
Unit variable cost = Total variable cost / Output
= $3 400 000 / 40 000 = $85 ***[1]***

Method 1
Cost to make additional 5000 doors = Fixed costs for additional doors + (Additional doors x variable cost per unit)
= 25 000 + (5000 x $90) = **$475 000 or** $95 per unit/door x 5000 = $475 000

Method 2
The overtime payment will increase unit variable cost by $5, so variable cost per unit will be
$85 + $5 = $90

Total unit cost under the make option would be $90 + 25 000 / 5000 = $95 versus $86 per door (buy)

Cost to make additional 5000 doors = Fixed costs for additional doors + (Additional doors x variable cost per unit)
= 25 000 + (5000 x $90) = **$475 000** ***[1]*** **or** $95 per unit/door x 5000 = $475 000

*Award **[1]** for correct calculation of unit variable cost ($85) with correct working.*
*Award **[1]** for the working to reach the cost to make using method 1, method 2 or other acceptable ways.*
*Award **[1]** for the correct final answer.*

Award marks as shown above.
Accept if sign is present in either the working or final answer.

(ii) Calculate the cost to *Qwest* if it buys the 5000 doors from another supplier (*no working required*). ***[1]***

Cost to buy additional 5000 doors = 5000 x $86 = **$430 000** ***[1]***

*Award **[1]** for the correct answer, no working required.*

(d) *Qwest*'s raw material supplier is increasing prices by 10 % in 2026. Explain **one** impact on *Qwest*. ***[2]***

Possible impacts include:
- it **decreases the contribution** (increases the variable cost per unit) and therefore **lower margins**;
- it could lead to **higher prices** as Qwest passes on the **cost to consumers** – **reducing sales, hence it is unable to reach the forecasted sales of 40000 doors**;
- it could make them **less competitive as prices will be higher than $100 in order to keep the same profit margin**;
- it could mean that Qwest **could limit employee wage** increases;
- Qwest could **look for a new supplier**.

*Award **[1]** for explaining a relevant impact. Award an additional **[1]** for application to Qwest.* Some meaningful reference to the figures in Table 3 can be used as application.

N.B. Do not accept "increase variable cost per unit" on its own as an explanation of an impact, without further relevant explanation in relation to other attributes such as revenue/sales.

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

3. (a) State **two** features of cradle-to-cradle design and manufacturing. ***[2]***

Cradle-to-cradle design and manufacturing features include:

- products are **safe**, enriching to the environment or user;
- Wastes have become inputs of another product, i.e. leaving **no waste** for future generations;
- it is about potentially **infinite circulation/recycling** of **materials and nutrients** in **cycles**;
- all **energy** used is from **renewable sources;**
- more sustainable.

Accept any other relevant feature.

***N.B.** no description required.*

*Award **[1]** for each relevant feature stated up to a maximum of **[2]**.*
Do not accept "higher costs" unless it is linked to R&D or design needed for the repurpose/reuse of material etc

(b) Using **Table 4**, calculate the net predicted outcome, **X**, for **Option 1** (*show all your working*). ***[2]***

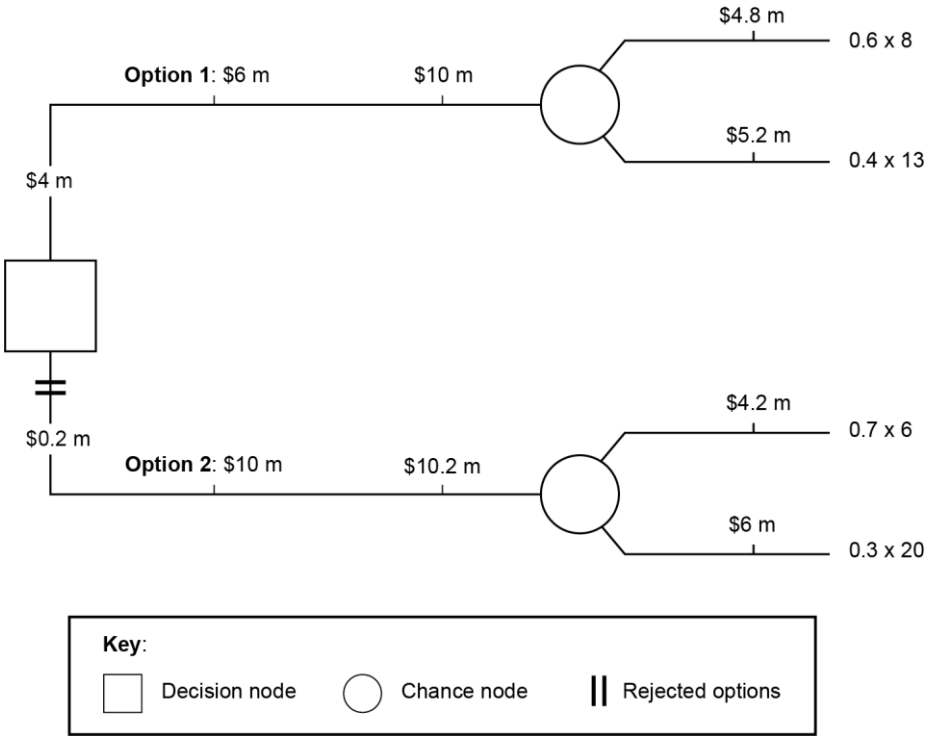
Expected value = (chance of success x outcome) + (chance of great success x outcome)
Expected value = (0.6 x $8 m) + (0.4 x $13 m) = $4.8 m + $5.2 m = $10 m

Net predicted outcome = Expected value – cost of investment
= $10m – $6m= **$4 million**

*Award **[1]** for working and **[1]** for the correct answer.*

The sign or million can be omitted as the answer is referring directly to a figure in a table which already has the sign in the heading.

(c) Using **Table 4**, construct a fully labelled decision tree **and** identify the best option for *DT* (*show all your working*). ***[4]***



Net predicted outcome for option 1: (see part b) = $4 million
Net predicted outcome for option 2:
= (0.7 x $6 m) + (0.3 x $20 m)
= ($4.2 m + $6 m) – $10 m
= $0.2 m

The best option for DT is Option 1

*Award a maximum of **[4]** for a decision tree that is accurately constructed. The calculations of each option are correct and well presented with $ sign. An accurate key is provided as well as the rejected option and full working. Full marks can be awarded even if the headings of net predicted outcome, costs and probabilities are not explicitly written.*

Do not penalise for labelling of the branches of different probabilities as "Success" and "Great success" as these terms were given in the question.

Apply own figure rule (OFR) for carried forward error from 3 (b).

(d) Explain **one** disadvantage for *DT* of setting competitive prices for its model airplanes. ***[2]***

Competitive pricing is based on **using the competitors' prices as a reference** for **setting** the business' **own prices**. In the context of *DT,* the main **disadvantage** is that **they** want to **add expensive features** to the model airplanes (**radio control, position location trackers**). However, competitive pricing may depend on what their competitors are charging and may reduce profit margins. Additionally, some **competitors may have lower average costs** (especially those not doing cradle-to-cradle) and **pricing competitively may risk *DT* making a loss**.

*Award **[1]** for an explanation of relevant disadvantage and an additional **[1]** for application to DT, up to a maximum **[2]**.*

Section B

4. (a) State **two** features of continuous improvement (kaizen). ***[2]***

Kaizen is an umbrella concept that includes a range of **different production techniques and practices.**

- It can include **TQM**, **zero defects**, **discipline** in the workplace, **kanban**, and **eliminating waste** among many others;
- It is a **planned and controlled change** to achieve the next step in **continual improvement**;
- It is practice that f**ocus on** making **small, incremental** i**mprovement** to **products**, **process or services** over time (regular process)
- Efficient supply chain management is required - to be flexible and efficient to accommodate changes in demand.
- It involves all levels of workers.
- It empowers workers to make things right at the start.

Accept any other relevant feature.

***N.B.** no description required.*

*Award **[1]** for each relevant feature of continuous improvement (kaizen) stated, up to a maximum of **[2].***

(b) Explain **one** advantage **and one** disadvantage for *VM* of using just-in-time (JIT) production. ***[4]***

Advantages include:

- JIT can **improve VM's cash flow** since **money is not tied up in too much stock**. JIT is particularly convenient for VM as the **ingredients used to produce mochi are expensive,** which could imply large amounts of cash outflows to pay for raw materials;
- JIT **reduces waste and stock maintenance**. Mochi ingredients spoil quickly. Keeping ingredients for a long time can be **expensive for VM** (warehouse, refrigerators needed, high spoilage);
- with JIT, **VM reduces the costs of stocking**. VM does not **need a warehouse to hold raw materials and/or final production.**

Disadvantages include:

- with JIT a lot of **trust is placed in suppliers**. **If they fail** to supply in time with the correct quality, then possible loss of **reputation could damage**. This is particularly dangerous **for VM as it only has a few reliable suppliers to resort to**;
- because of JIT, VM **does not** have or **rent a warehouse** to keep ingredients, **VM does not buy ingredients in bulk.** Purchasing economies of scale can be lost.

Mark as 2+2.
*Award **[1]** for an explanation of a relevant advantage/disadvantage and an additional **[1]** for application to VM, up to a maximum of **[2]**.*

*Award a maximum of **[4].***

(c) With reference to **Figure 1**, comment on the market research findings for *VM*. ***[2]***

- *VM* is perceived as a **premium brand, high quality, high price;**
- It is perceived by customers as the **most expensive** brand in the mochi market;
- *VM's* **closest competitor is AK,** which customers perceive as a high-quality **premium brand** but **lower price than VM;**
- **IP covers** a different market segment **and is probably not a competitor** for *VM* as it is perceived as **an economy product** with low quality and low price.

*Award **[1]** for a valid comment and **[1]** for application to VM, up to a maximum of **[2].***

N.B. For full mark, answer must refer to actual data such as name of the competitor, the type of product OR the relative positions of different competitors. If only VM is mentioned, comment must be clearly related to customer perception on both attributes i.e. high quality and high price

(d) Explain **one** advantage for *VM* of using dynamic pricing. ***[2]***

Dynamic pricing refers to the practice of **varying the price according to the changes in demand**. In particular, a business can increase its price **when demand increases and** lower it when it **falls**.

Advantages include:

- Dynamic pricing **is flexible**. *VM* **can adapt** its price **to** the **seasonal patterns** of mochi demand. For instance, *VM* could increase price **during traditional festivals when demand for mochi peaks** and maximize profitability and then lower the price.
- Dynamic pricing includes a **greater control over pricing**. This is important to *VM*, which operates in a **highly competitive market** where customers perceive *VM's* mochi as high quality but also as highly priced. A greater control over pricing could help *VM* to compete with the other brands, particularly with AK, its closest competitor.

*Award **[1]** for an explanation of a relevant advantage and an additional **[1]** for application to VM, up to a maximum of **[2]**.*

Do not accept improving stock management or increasing capacity utilisation as VM does not store its ingredients and uses JIT production.

(e) Using information in the stimulus, **Table 5**, and **Figure 2**, recommend whether *VM* should introduce the new equipment. ***[10]***

- The main **advantage** of introducing new equipment with internet of things technology, which i**mproves productivity by 30 %.** *VM* could **reduce average costs** and evaluate possible price reduction to compete with AK;
- **Enhanced data collection and access to real-time information** could **help** with data-based **decision making**. The equipment reports in real time valuable information such as the quality of mochi, ingredient needs, and equipment maintenance needs and failure. If *VM's* managers had this information in real time, the strawberry filling miscalculation or the equipment breakdown could have been avoided;
- The information provided by new equipment could be used **to maximize the efficient use of JIT** at *VM* to **avoid mistakes and to save administrative costs;**
- **Employee productivity can be measured**. If this information is used constructively for example in appraisal evaluation, there could be a lot of improvements for both *VM* and employees.
- **The mochi market is highly competitive.** Enhanced product quality and real time data collection will allow VM to effectively match its demand and its supply, leading to a higher customer satisfaction.

However,

- **Employees dislike being monitored and measured**. In addition, PRP bonuses based on personal productivity and measurements can **disrupt *VM's* working environment** and **increase negative competition.** As shown in the employee survey in Figure 2, **only 17%** believe that personal PRP bonuses are preferable to team PRP bonuses. Only 45 % of employees are in favour of being monitored and measured. This could damage *VM's* **kaizen culture leading to individualism.** Hofstede's country comparison tool ranks Japan very high on collectivism.
- **Collecting and storing personal health data** like body temperature and heart rates **is not really needed for *VM*** to function as a business. Employees could be concerned about **data security and privacy. Only 20 % agree** to providing sensitive personal data, which could be shared and exposed to data theft. *VM* collecting this kind of information could present legal issues;
- The **new equipment will need internet connection to operate**. What happens if **interruptions or connectivity issues occur?** There could also be concerns about the **growing dependency on the Internet** and *VM's* ability to function efficiently without it.

*If the candidate discusses only one argument why the new equipment should be introduced OR only one argument against, award a maximum of **[4].** If there are two arguments for and only one argument against or vice versa, then award a maximum of **[5-6]** depending on degree of substantiation.*

*If there is no balance, then for a one-sided response where only one reason why the new equipment should or should not be introduced is discussed then award a maximum of **[4]**.*

*For **[10]**, there must be effective integration of the stimulus material to support arguments, and an explanation of the limitation(s) of the stimulus.*

*N.B. If there is no reference to actual figures from Table 5, Figure 2, award a maximum mark of **[6].***

Marks should be allocated according to the markbands on page 3.

5. (a) Define the term *merger*. ***[2]***

A **merger** is the result **of two or more businesses combining** to **form a new bigger business entity**. ***[1]***

In addition, candidate can refer to any of the followings such as impact, result to get an additional ***[1]***.

It is an external growth method. ***[1]*** OR The **aim** of the merger is to **achieve higher synergy**, increase **efficiency**, and **competitiveness.*[1]*** **OR** The difference with an acquisition is that in the latter, one business buys another one, but in theory the **two companies that merge are equals.** ***[1]***

N.B. *no application required. Do not credit examples.*

*Candidates are **not** expected to word their definition **exactly** as above.*

*Award up to a maximum of **[2]**.*
N.B. Do not award marks for answers that define other growth methods such as takeover, joint venture etc.

(b) Explain **two** sources of stakeholder conflict at *AC*. ***[4]***

Possible sources of conflict:
- AC's **decisions** were **made without consultation**;
- AC decided to reduce wages by 15 %, a **reduction in wages** could significantly **affect** the **workforce** who are facing rising living costs;
- AC decided to **change working conditions** by reducing the number of cabin crews;
- **Fringe payments** (health insurance and life insurance) **would be reduced**.
- Reducing cabin crews by one employee per flight will increase employee's workload, leading to poorer in-flight services offered to passengers. Passengers may be dissatisfied with the reduced service quality.

*Accept any relevant source of stakeholder conflict with application and explanation. For example, AC decided to change working conditions by reducing the number of cabin crews **[1]**, application would be that it increases the workload for the remaining cabin crews **[1]**.*

Mark as 2+2.

*Award **[1]** for the explanation of each source of stakeholder conflict such as the decision that caused the conflict and an additional **[1]** for explaining why/how the conflict exists at AC such as how the stakeholder group has been negatively impacted, up to a maximum of **[2]**.*

*Award a maximum of **[4]**.*

(c) Explain **two** disadvantages for *AC* of having a single-union agreement with its cabin crews. ***[4]***

- The single-union agreement **unified most of the cabin crews in dealing** with their grievances. With **multiple unions**, the cabin crews were **fragmented**, the intent of **strike** action **had little impact** (12 years ago) and only 1% of flights were cancelled;
- Because the **cabin crews are now unified**, their **power for strike action is much greater** and resulted in the **cancellation of 98 % flights and an eight-day strike**. This would have been **costly for *AC***.

- Now ***AC*** becomes more reliant on the relationship with that one union. If the relationship breaks down in some way, it will significantly disrupt labour workforce relation in ***AC.***
- If the single union adopts an inflexible approach on some matters where ***AC management*** is more interested in the stake of shareholders, then ***AC*** has no alternative representative to negotiate with.
- Since some workers may feel not represented due to the single union agreement, especially an organisation like AC where a diverse workforce appears, it may bring reduced morale and dissatisfaction.

Mark as 2+2.

*Award **[1]** for an explanation of a relevant disadvantage and an additional **[1]** for an explanation in context, related to AC, up to a maximum of **[2].***

Award *a maximum of **[4].***

(d) Using information in the stimulus **and** force field analysis, discuss whether *AC*'s existing cabin crews should sign a no-strike agreement and proceed to collective bargaining with *AC*. ***[10]***

A discussion could include some of the following arguments. Accept any other reasonable argument.

Issue: Accept no-strike agreement

Driving forces are the reasons for the cabin crews **to sign** a no-strike agreement and proceed to collective bargaining with *AC*:

- **recruiting new** cabin **crews** would be **put on hold, therefore** existing cabin crews may have more job security;
- **creating** a **new fleet** of airplanes would be **put on hold**;
- **promotion based on years** of service would **continue**;
- **fringe payments** would **not** be **reviewed**;
- cabin **crews' workload** would **not** be **increased**;
- cabin **crews' wages** would **not** be **reduced** to industry average levels;
- **without new cabin crews joining** a **different trade union**, **FIST would remain powerful**;
- cabin **crews** would **continue** to **fly** to **desirable glamorous destinations**;
- the no-strike agreement would **open the door to collective bargaining**.

Restraining forces are the reasons for the cabin crews **not to sign** a no-strike agreement and proceed to collective bargaining with *AC*:

- accepting the no-strike agreement **would show weakness**. FIST is powerful and should not give in;
- ***AC* had a pre-tax loss of $500m in 2023**, and a **further $50m with the eight-day strike**, so they are probably in a **weak position to face another strike.** This would give the cabin crew more bargaining power;
- it would be **expensive for *AC* to create the new fleet**, it would make *AC* weaker, it would further **weaken their financial situation**;
- it would be **expensive** for *AC* **to recruit** and train the **new** cabin **crews**;
- ***AC's* share price dropped with the strike**; another strike could make it drop further;
- cabin **crews** could **achieve gains** because of *AC's* deteriorated bargaining power from financial weakness;

- the possibility of **another strike** and hiring **new** cabin **crews may affect *AC's* brand image** and make it **lose customers** to the competition; this also weakens *AC's* position**.** This would give the cabin crew more bargaining power;
- they can **no longer use a threat of strike as a way to achieve gains**. Past strikes have been successful.

*If there is no balance, then for a one-sided response where the candidate discusses only the restraining or driving forces then award a maximum of **[4]**.*

*If the candidate discusses **only** the restraining or driving forces (with balanced and substantiated arguments) then award a maximum of **[5]**.*

*N.B If there is no reference to Force Field Analysis, award a maximum mark of **[6].***

*To be awarded **[8]** or more, the candidate must discuss driving forces and restraining forces in depth with detailed use of the stimulus material (with balanced and substantiated arguments). Analysis should be integrated and show a consideration of the assumptions underpinning the arguments and implications.*

*For **[10]**, there must be effective integration of the stimulus material to support arguments, and an explanation of the limitations of the case study. For example, information on the media coverage of the conflict and some development of STEEPLE factors could have contributed useful elements to the discussion.*

Marks should be allocated according to the markbands on page 3.