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Diploma Programme
Programme du diplôme
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Markscheme

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Business management

Standard level

Paper 2

16 pages

International Baccalaureate®
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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** external sources of finance a business may use. ***[2]***

External sources of finance include:

- Share capital
- Loan capital (bank / friends and family)
- Overdrafts
- Trade credit
- Grants
- Subsidies
- Debt factoring
- Crowdfunding
- Venture capital
- Leasing
- Microfinance
- Business angels / investors
- Debentures
- Sponsorships

Do not award:

- Investments (from another organization)
- Donations (from consumers)
- Internal sources eg owner's own savings

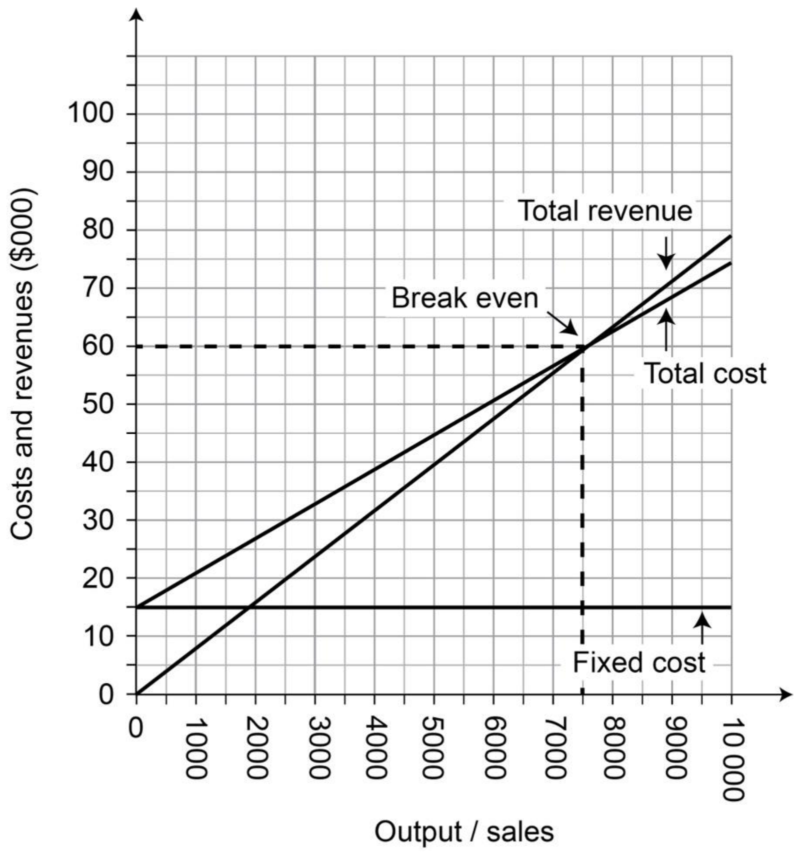
N.B. *No description is required.*

*Award **[1]** for each external source of finance stated. Award a maximum of **[2]**.*

(b) Using **Table 1**, construct a fully labelled break-even chart for 2026, to scale, for *AS*. ***[4]***

The break-even level of output out is 7500.

Break even quantity = Fixed costs / (contribution per unit) = $15 000 / $2 = 7500 units
Contribution per unit = Unit price – Variable cost = $8 – $6 = $2



Award marks as follows:

[1] *for a correctly labelled and accurately drawn total revenue (TR) line – can be TR or revenue or sales revenue (**but not "sales" on its own**).*

[1] *for a correctly labelled and accurately drawn total cost (TC) line.*

[1] *for identifying the break-even point. The break-even point must show where the total revenue and total cost line intercept. Ideally, the student will draw an arrow pointing to the break-even point and label the arrow. However, accept as an accurately labelled break-even point a vertical line from the x-axis to the break-even point, **provided that the line is labelled "break-even point**".*

[1] *for correctly labelling **BOTH** axes – y-axis must have both costs and revenue; x-axis must have some indication of quantity, e.g. output/units/quantity/items/number of hot dogs.*

***A break-even chart that is not neat, not drawn with a straight edge, can be awarded a maximum of [2]**.*

*A break-even chart that is **not drawn to scale** can be awarded a maximum of **[2] if the axes are both correctly labelled and the break-even point is identified on the chart**.*

*If a student produces a table rather than a chart, award **[0]**.*

N.B. *Drawn diagrams must have a consistent verifiable scale, otherwise it cannot be determined if TR and TC are accurate, even if correctly labelled.*

(c) Calculate *AS*'s forecasted margin of safety for 2026 (*show all your working*). ***[2]***

Margin of safety = sales – break-even level of output
22 500 – 7500
Margin of safety = 15 000 **hot dogs**

*Award **[1]** for correct answer **INCLUDING** either **units or hot dogs.***
*Award **[1]** for correct working.*

OFR rule applies if the student's answer to (b) is incorrect.

(d) Explain how Albert's planned change to *AS*'s revenue streams in 2027 may affect its total revenue. ***[2]***

AS's total **revenue is likely to increase** ***[1]*** as it **now has a second revenue stream with the rental of Albert's vehicle**. / *AS*'s total revenue will increase **by $80 per day ($4160 per year)** it is rented. ***[1]***

*Award **[1]** for stating AS's total revenue will increase.*

*Award an additional **[1]** for use of the stimulus.*

2. (a) State **two** types of intangible assets**.** ***[2]***

Types of intangible assets include:
- Copyrights
- Goodwill
- Licenses
- Patents
- Software
- Brand value / brand / public image / brand recognition / brand loyalty
- Internet domain names
- Trademarks, logos, brand names
- Franchises, broadcasting rights
- Lists of regular and reliable customers

Each bullet point counts as one intangible asset.

Accept any other relevant intangible assets.
N.B. *No description is required.*

Award ***[1]*** *for each type of intangible asset stated up to a maximum of* ***[2]****.*

(b) Using **Table 2**, for the year ended and as at 31 December 2025:

(i) calculate *W&Z*'s gross profit (*show all your working*); ***[2]***

Gross profit = sales revenue – cost of sales
Gross profit = \$2550m – \$460m = \$2090m **(2 090 000 000)**

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

Correct answer must include \$ sign and "m" or "millions".

Allow benefit of doubt (BOD) if other signs, e.g. £ or € used in error.
Accept if \$ / millions is present in either the working or final answer.

N.B. *Do not penalize more than once for \$ / millions omission in any one question part.*

(ii) calculate *W&Z*'s profit for period (*show all your working*); ***[2]***

Profit for period = Gross profit – expenses – interest – tax
Profit for period = \$2090m – \$1650m – \$52m – \$48m **= \$340m (340 000 000**)

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

Correct answer must include \$ sign and "m" or "millions".

Allow benefit of doubt (BOD) if other signs e.g £ or € used in error.

Accept if \$ / millions is present in either the working or final answer.

N.B. *Do not penalize more than once for \$ / millions omission in any one question part.*

(iii) calculate *W&Z*'s dividends, X (*show all your working*). ***[2]***

Dividends = Profit after interest and tax (profit for period) – retained earnings/profit
Dividends = $340m – $150m = **$190m**

*Award **[1]** for correct working.*
*Award **[1]** for the correct answer. eg 190*

$ / millions not needed as given in the table.

Allow for own figure rule (OFR) from part (ii).

(c) Explain **one** reason why an external stakeholder group might be interested in *W&Z*'s profit or loss statement. ***[2]***

Answer **MUST name an external** stakeholder **or imply one** (eg mentions investing in the business) and explain why they might be interested in the profit or loss statement.

DO not award a mark for simply naming an external stakeholder.

External stakeholders potentially interested in *W&Z's* profit or loss statement include:

- The **government** will look at *W&Z's* profit or loss statement ***[1]*** as **the government is giving financial incentives to profitable companies developing new medicines.**
- **Suppliers** want to know about *W&Z*'s financial health to determine if they should continue operating with them. ***[1]*** **Suppliers are worried about *W&Z*'s future liquidity** / the **use of animal testing has affected *W&Z*'s sales. *[1]***
- **Investors (potential)** will look at profit or loss statement as this affects dividend payments / share prices. ***[1]*** **Potential investors are concerned about future dividends. *[1]***
- **Finance providers (banks)** will want to examine *W&Z*'s profit or loss statement to see if they can repay loans. ***[1]***

  NB Shareholders are an INTERNAL stakeholder and answers that explain their interest in W&Z's profit or loss statement must be awarded [0].

  Accept any other valid external stakeholder/reason.

  *Award **[1]** for a reason why an external stakeholder group may be interested in W&Z's profit or loss statement, and an additional **[1]** for application to W&Z.*

Section B

3. (a) State **two** reasons why organizations set ethical objectives. ***[2]***

Reasons for setting ethical objectives include:

- Enhancing **brand reputation**
- Developing **consumer trust / brand loyalty**
- **To appeal to a target market**
- **Attracting and retaining** a skilled and committed **workforce,** talent development, and maintaining a **positive workplace culture / improving employee motivation**
- Ensuring **compliance with legal and regulatory requirements**
- **Differentiating** the company in the marketplace, **creating a USP** and competitive advantage
- **Contributing** to **sustainable development** and **corporate social responsibility (CSR)**
- **Building strong relationships with stakeholders**, such as investors and local communities
- **To comply with their mission statement**
- **Reduce opposition from pressure groups**

Do not award:

- Can charge a high(er) price / premium price
- To increase profit

Accept any other relevant reason.

N.B. *No description is required.*

*Award **[1]** for each reason stated up to a maximum of **[2]**.*

(b) Using **Table 3** and other information in the stimulus:

(i) calculate *HJ*'s forecasted profit margin for 2026, **X** (*show all your working*). ***[2]***

Profit margin (2026) = (Profit before interest and tax / Sales revenue) × 100

Sales revenue = Price per bottle x forecasted sales (bottles)
Sales revenue = \$4 × 160 000 bottles = \$640 000
Profit before interest and tax = \$115 200

So,

Profit margin = $\frac{\$115\,200}{\$640\,000} \times 100 =$ **18%**

*Award **[1]** for the correct working.*
*Award **[1]** for the correct answer including a % sign.*

(ii) calculate *HJ*'s forecasted return on capital employed (ROCE) for 2026 with the additional capital investment of $50 000 (*show all your working*). ***[2]***

Revised capital employed for 2026 is the initial capital employed for 2026: $822 857 (given in the table) plus the additional investment of $50 000.

Revised capital employed for 2026 = $822 857 + $50 000 = **$872 857**

ROCE = Profit before interest and tax ⁄ Revised capital employed × 100
Profit before interest and tax = $115 200

Forecasted ROCE (2026) = $\frac{\$115\,200}{\$872\,857} \times 100$

= **13.19803%**

(Accept 13.2% or 13%)

*Award **[1]** for correct working.*
*Award **[1]** for correct answer including a % sign.*

*Award only **[1]** if answer is 13.1% as incorrect rounding.*

(c) Suggest **one** reason why *HJ* forecasted that its gross profit margin will increase in 2026. ***[2]***

The **gross profit margin will increase because**:

Cost of sales have decreased ***[1]*** as **raw material costs have gone down by 10%. *[1]***

Sales revenue per unit sold will increase ***[1]*** as **price** has **increased** to $4. ***[1]***

Only award ***[1]*** if uses the stimulus only eg states that **raw material costs have gone down by 10% and/or the price** has **increased** to $4.

(d) Using **Table 4**, calculate *HJ*'s forecasted stock level for 2026, **Y** (*show all your working*). ***[2]***

Acid test ratio = $\frac{\text{Current assets – Stock}}{\text{Current liabilities}}$

The acid test ratio = 1, so:

$$1 = \frac{\$180\,000 - \text{stock}}{\$120\,000} = \$120\,000$$

Therefore stock = $60 000

Alternative working:

$$1 = \frac{\$180\,000 - \text{stock}}{\$120\,000} =$$

1 × $120 000 = $180 000 – stock

Stock = $180 000 – $120 000 = **$60 000**

*Award **[1]** for correct working.*

*Award **[1]** for correct answer with $ sign*

(e) Using **Table 3, Table 4** and other information in the stimulus, evaluate the two strategic options (**Option 1** and **Option 2**) for *HJ*. ***[10]***

Option 1: Lowering the price of its organic vegetable juices to match the industry average (mean) and reducing its donations to local environmental projects by 1%.

Benefits: May **increase sales volume and market share** by appealing to price-sensitive consumers.

However, the marketing **survey** suggested that **60% of loyal customers were willing to pay a price premium of 25% for high-quality organic vegetable juices** produced locally and sustainably by companies committed to renewable energy use, recyclable packaging and waste reduction**. *HJ* satisfies these sustainability aspirations and has a high-quality product**. In 2024, the mark-up over the industry average was 25% (HJ $3.75 vs. Industry average $3.00). The price increases in 2026 pushed prices ($4) closer to 28% higher than the industry average ($3.12), which may put more customers off purchasing going forward. However, if **sales in 2026 did remain constant at 160 000 despite the price** increases this would **suggest that price sensitivity is still quite low.** Customer feedback is positive, highlighting the unique flavours and high-quality ingredients of the juices. In tests, most consumers preferred *HJ*'s vegetable juices to competitors' juices. **Removing** the charitable **donations** to increase profit **may damage *HJ*'s sustainability and CSR credentials as well as loosening its local links**. *HJ* is committed to ethical and sustainable practices.

To gain the growth required by shareholders, lower prices may encourage demand from more price-sensitive consumers. Considering the financial data, *HJ* has a strong gross profit margin but declining profitability and ROCE. **Lowering prices may reduce profitability further**, especially given that the **profit margin is already decreasing**. There is no evidence that a lower quality organic vegetable juice range would be competitive at a lower price point.

Lowering prices runs the **risk of undermining the brand's premium image and reducing profitability further** due to lower margins. It **may demotivate staff who have pride in the organic vegetable juice**. The suggestion is using lower cost ingredients not produced locally, which may further impact on its quality perception crucial to the product's image.

Option 2: Investing in marketing and distribution to reinforce premium positioning and increase availability.

Benefits: Could **strengthen brand perception and loyalty**, potentially **justifying premium pricing** and improving distribution reach.

This **involves higher short-term** costs with no guaranteed increase in sales or market share. Higher marketing and distribution **expenses will stretch *HJ*'s cash flow further** at a time when the **current ratio (decreases from 1.7 in 2025 to 1.5 in 2026) and acid test ratio (decreases from 1.3 in 2025 to 1.0 in 2026) suggest increasing risks of liquidity problems**.

However main reason for the decrease in acid test ratio from 1.3 to 1.0 arises from *HJ*'s higher stock levels (from 40 000 to 60 000). Investing in marketing and distribution to increase availability may help to reduce its stock. Therefore, it would allow acid test ratio and cash flow to improve (it would be a positive impact instead of a negative one).

160 000 bottles per annum **is close to the maximum output** (production capacity) that *HJ* can produce. The **additional investment of $50 000 in machinery will be necessary** if demand rises further. Initially, **this investment will reduce the ROCE even further**, but if profit before interest and tax increases as a result, then the ROCE should increase. The liquidity of the business is concerning, so *HJ* will need to consider taking out bank loans or finding new investors.

Focusing on marketing to emphasize the brand's unique attributes and sustainability focus **aligns better with consumer feedback** and could attract a growing target market willing to pay more for ethical products.

Apply the own figure rule (OFR).

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

*If the student makes no reference to the stimulus provided, then the maximum mark to be awarded is **[4]** even if there is some balance.*

*Award **[5]** if the student discusses one option only (with balanced and substantiated arguments).*

*Award **[6]** if the student has balanced analysis on one option but unbalanced on the other option.*

*Award **[7]** if a student provides a balanced analysis of both options and reference is made to data in Table 3 **OR** Table 4.*

*Award **[8]** if a student provides a balanced analysis of both options and reference is made to data in Table 3 **AND** Table 4.*

***N.B.** students cannot reach the top marks if there is no relevant reference/application to the stimulus and an explanation/awareness of the limitations of the stimulus material.*

4. (a) Define the term *mass customization*. ***[2]***

Mass customization is an **operations method** that **uses flexible manufacturing** systems **to mass produce products that meet individual consumer needs and wants**. It is a manufacturing strategy that allows businesses to produce personalized products at a mass production scale.

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

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

Award ***[1]*** *for a basic definition that conveys a partial understanding.*

Award ***[2]*** *for a full definition that conveys knowledge and understanding that mass customization* ***[1] is a type of mass production*** *and* ***[1]*** *that it* ***meets individual customers' requirements.***

(b) Explain **two** advantages for *SM* of outsourcing the production of some of its car parts. ***[4]***

Outsourcing is the practice of **using another business to undertake an internal function rather than doing it within the business** using the company's own employees.

Advantages include:

- Lower costs / makes SM more competitive. ***[1]*** **as Country Y has cheap skilled labour force [1]**
- Access to raw materials / lower raw material prices ***[1]*** **as Country Y has a surplus of raw materials.** ***[1]***
- Enables *SM* to focus on core activities ***[1]*** **as SM needs to focus on its design of electric cars,** ***[1]***

Do not award:

- Parts will be of better quality.
- SM will be closer to the raw materials
- Production will be faster
- Shipping costs will be lower

Accept any other relevant response.

Mark as [2+2]*.*

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

(c) Using **Table 5** and **Table 6**, calculate *SM*'s acid test (quick) ratio for 2025, **X** (*show all your working*). ***[2]***

Acid test = current assets – stocks / current liabilities

Current assets = cash + debtors + stock
= $520m +$480m + $500m = $1500m
Current assets – stocks = $1500m – $500m = $1000m

Current liabilities = trade creditors + bank overdraft
Current liabilities = $550m + $450m
Current liabilities = $1000m

Acid test = $1000m / $1000m
Acid test = 1.0

Award ***[1]*** *for correct working and an additional* ***[1]*** *for the correct answer* ***without*** *units. Do not credit incorrect use of units in the answer, such as* ***$ or %.***

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

Allow own figure rule OFR.

Award ***[1]*** *if the student makes a mathematical error (thus the answer is incorrect) OR if the student has the correct answer but does not show working.*

(d) Using **Table 6**, and the acid test (quick) ratio you calculated for 2025 comment on *SM*'s liquidity between 2023 and 2025. ***[2]***

*Award **[1]** for commenting that SM's liquidity has decreased.*

*Award **[1]** for an answer that accurately interprets either the Acid test ratio or Current ratio between 2023 and 2025.*

Eg SM's liquidity has declined. ***[1]*** The 2025 values show an **acceptable current ratio of 1.5**, which means that **for every $1 of short-term debt**. ***[1]***

Eg SM's liquidity has declined. ***[1]*** The 2025 values show the acid test value of 1.0 is less adequate, "on the limit."

Allow own figure rule (OFR) for incorrect calculation of SM's 2025 acid test (quick) ratio, from part (c).

(e) Using **Table 7** and other information in the stimulus, examine whether *SM* should reshore its operations to Country X. ***[10]***

*This question is about **considering the possibility** of reshoring the manufacture of parts and materials from Country Y as part of a preliminary analysis that may support the decision or not. Other information not provided in the stimulus would be necessary to reshore, such as financials, logistics, etc.*

Arguments in favour of reshoring:

- **Consumers** in **Country X** are ready to **pay higher prices** for cars made locally (high standard of living)
- The **boost in Country X's economy** and the rise of employment would **improve *SM*'s image and reputation**
- **Surplus** of **skilled workers** in Country X
- Some **good economic indicators** in Country X, **like stable prices**
- **Decreasing energy costs** in Country X
- Very **stable political context in Country X** reduces uncertainty and risk
- **Suitable legal context** in Country X
- **Low corruption levels** in Country X
- **Limited** (although rising) number of **skilled workers in Country Y**
- Still some **quality control issues in Country Y**

Arguments against reshoring:

- **Low unemployment in Country X may make it more difficult to find enough skilled** workers. **Low economic growth could impact the demand for luxury cars**
- **Low** (though slowly increasing rising) **labour costs** in Country Y
- **Low cost** of **rent** of manufacturing facilities in Country Y
- Good economic indicators in Country Y
- **Rising** (though still limited) number of **skilled workers** in Country Y
- **Low cost of energy** in Country Y
- Favourable **incentives for direct foreign investment** in Country Y
- Country Y has **surplus raw materials**
- Reshoring **would take away some of the focus on designing *SM*'s new generation of electric cars**

Other valid arguments can be considered.

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

If the student makes no reference to the stimulus provided, then the maximum mark to be awarded is ***[4]*** *even if there is some balance.*

Award ***[5]*** *if one argument for and one argument against reshoring to Country X are discussed.*

Award ***[6] if two*** *arguments for and one argument against (or vice versa) reshoring to Country X are discussed.*

Award ***[7-8] if two*** *arguments for and* **two** *arguments against reshoring to Country X are discussed.*

N.B. *Students cannot reach the top marks if there is no relevant reference/application to the stimulus and an explanation/awareness of the limitations of the stimulus material.*