2226 – 3020M

Diploma Programme
Programme du diplôme
Programa del Diploma

Markscheme

May 2026

Business management

Standard level

Paper 2

15 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 below-the-line promotion. **[2]**

Below the line promotion includes the following features:

- more control than mass advertising;
- targets specific audience segments;
- cost-effective and less expensive than mass advertising campaigns;
- direct communication between businesses and customers;
- measurable results, such as response rates or sales conversions;
- easy to assess promotional effectiveness;
- campaigns customized to meet particular customer preferences or needs;
- generates quick results, such as increased sales or customer engagement.

Accept any other relevant feature. Do not accept examples alone such as sponsorships and other types of below-the-line marketing. An example alone is not a feature.

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

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

*Award only **[1]** for features that are essentially the same.*

(b) Using the stimulus, calculate *BB's* monthly interest, **X**, in **Table 1** on its bank loan (*show all your working*). **[2]**

Bank loan = $10 000

Annual interest rate = 6 %

Annual interest on bank loan = amount borrowed x 6% = $600

Monthly interest on bank loan = $600 ÷ 12 = $50

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

(c) Using the financial information in the stimulus, **Table 1** and **Table 2,** and from your answer to part (b), complete the following cash-flow forecast (all figures in $) for *BB* for the last four months of operation in 2026. **[4]**

Cash-flow forecast for *BB* for the last four months of 2025

All figures in $	**September**	**October**	**November**	**December**
Opening balance	20000	13175	17835	23980
Cash inflows				
Cash sales revenue	7500	9000	10500	15000
Total cash inflows	7500	9000	10500	15000
Cash outflow				
3D printer purchase	10000			
Materials	700	700	700	700
Printer ink	75	90	105	150
Advertising	475	475	475	475
Salaries	3000	3000	3000	3000
Maintenance	25	25	25	25
Loan interest	50	50	50	50
Total cash outflows	14325	4340	4355	4400
Net cash flow	–6825	4660	6145	10600
Closing balance	13175	17835	23980	34580

*Award **[1]** if the student shows some understanding of a cashflow and has some of the cashflow completed correctly, or makes 3 or more errors.*

*Award **[2]** if the student completes the cashflow but has two errors.*

*Award **[3]** if the student completes the cashflow but has one error.*

*Award **[4]** if the student completes the cashflow correctly*

***N.B.** Allow student own figure rule (OFR): if a student makes an error and then carries it through, that is only one error. $ sign not required for full marks as clearly indicated in question. The opening balance is $20 000 - do not accept if this figure is included in September cash inflow. One or more labels missing for inflows/outflows is one error.*

Also, if the student makes an error in 1(b) and then uses the incorrect figure for loan interest in 1(c), apply OFR—no penalty.

(d) Maria could have leased a 3D printer instead of buying one.

Explain **one** advantage for *BB* of leasing a 3D printer instead of buying one. **[2]**

Applied advantages:

- **Lower initial cost**: Leasing a 3D printer requires lower upfront payments compared to purchasing. This makes it more accessible for Maria's start-up business, especially to acquire advanced technology without heavily impacting her cash flow. By buying the printer outright, the cash purchase led to a $6825 negative cash outflow in September and lower cash balances for the remaining three months.
- **Maintenance and support**: Leasing agreements will include maintenance by the printer provider and would remove the maintenance cost $25 per month maintenance costs shown in Maria's cash forecast, as the leasing business will be responsible for these.

Other non-applied advantages:

- **Flexibility in upgrades**: Leasing agreements often allow businesses to upgrade to newer models as technology evolves, ensuring access to the latest features without purchasing new equipment.
- **Tax benefits**: Lease payments may be tax-deductible as an operating expense, which can reduce a business's taxable income and improve financial efficiency.
- **Predictable payments**: Leasing provides consistent monthly costs, making it easier for businesses to budget and manage cash flow without unexpected financial burdens.
- **Lowers risk from unexpected breakdown costs**: The lessor bears the burden of unforeseen costs associated with the 3D printer.

Accept any other relevant explanation.

*Award **[1]** for a relevant explanation and an additional **[1]** for application to BB.*

2. (a) State **two** features of an overdraft. **[2]**

Features of an overdraft include:

- is a short-term source of finance
- can repay an overdraft at any time
- charged interest on the amount used
- flexible – a business can borrow only what is needed
- quick to arrange
- generally has high interest rate
- no collateral needed / is an unsecured loan
- repayment by the bank can be demanded immediately / at very short notice.

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

(b) Using **Table 3**,

(i) construct a fully labelled decision tree; **[3]**

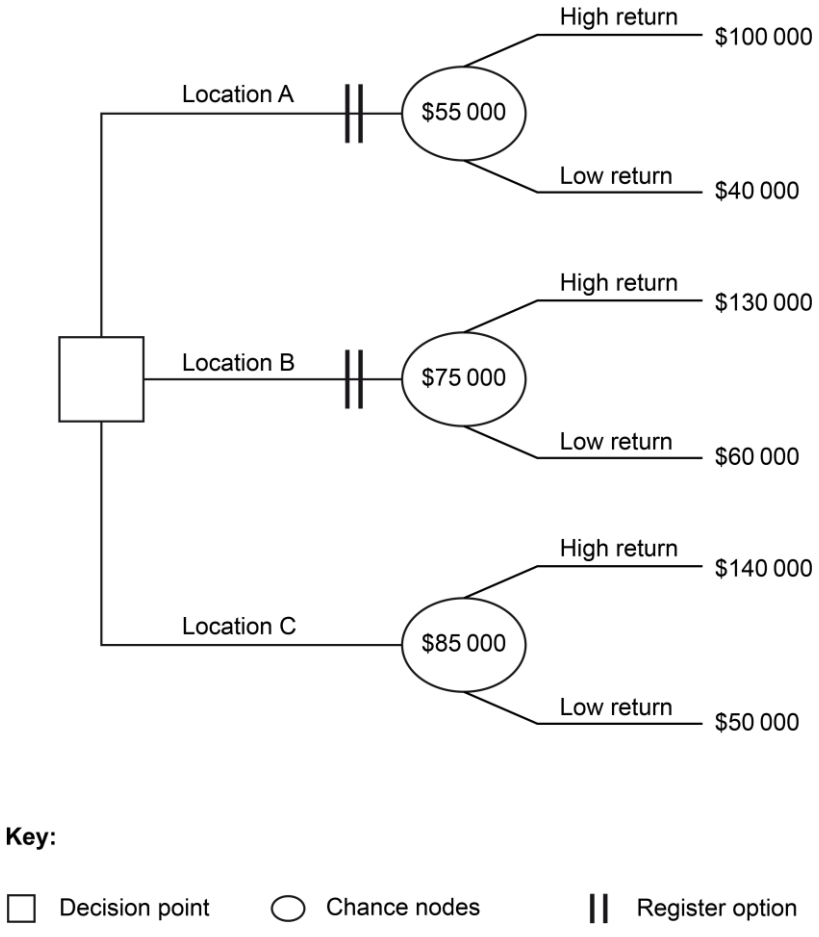
*Award **[1]** for a decision tree diagram that shows some understanding of decision tree format. Students must produce a diagram of some kind. Do not accept a definition without a diagram.*

*Award **[2]** for an accurately drawn decision tree, with decision point, chance nodes and rejected options. There is **no** key.*

*Award **[3]** for an accurate decision tree: decision point, chance nodes and rejected options **and** a correct key.*

Do not penalise incorrect EV calculations as these are tested in (ii).

Accept high/low probability, or specific numerical probabilities instead of high/low return.



(ii) determine the best option for GI *(show all your working)*. **[3]**

Students may show working in their decision tree in (b)(i). Allow OFR if the student has working / calculations in that gives a different best option.

The **best option for GI is to choose Location C because it has the highest expected revenue of $37 000**.

*Award **[1]** for stating the best option (Location C).*

*Award an additional **[2]** for three correct EV (option) calculations.*

*Award an additional **[1]** if only two of the three correct EV (option) are correctly calculated.*

Expected returns for location A:

= (0.75 × $100 000 + 0.25 × $40 000) – $55 000
= ($75 000 + $10 000) – $55 000
= $30 000

Expected returns for location B:

= (0.7 x $130 000 + 0.3 × $60 000) – $75 000
= ($91 000 + $18 000) – $75 000
= $34 000

Expected returns for location C:

= (0.8 × $140 000 + 0.2 × $50 000) – $85 000
= ($112 000 + $10 000) – $85 000
= $122 000 – $85 000
= $37 000

A = $30 000; B = $34 000; C = $37 000

(c) Comment on the impact on *GI*'s gross profit margin if Gennaro's concerns for 2027 are correct. **[2]**

If Gennaro's forecasts for 2027 are correct then GI's gross profit margin is likely to fall since he has decided not to increase prices, but his cost of sales will increase as he expects an increase in the cost of raw materials.

*Award **[1]** for stating that the gross profit margin will fall.*

*Award an additional **[1]** for use of the stimulus – Gennaro has decided not to increase prices, but he expects an increase in the cost of raw materials.*

***N.B.** A student who suggests it may be difficult to determine the effect on GI's profit margin as Gennaro may benefit from purchasing economies of scale as now he operates two ice cream shops can be awarded **[2]**.*

OR

*If the student suggests that the savings from the purchasing economies may outweigh the 10 % increase in material costs and therefore the GPM may rise then award **[2]**.*

Section B

3. (a) State **two** features of a non-governmental organization (NGO). **[2]**

Features of non-governmental organization (NGO):

- non-profit making
- voluntary associations
- mission driven
- formed by a group of like-minded volunteers
- operates independently of any government
- encourages dialogue and free speech
- addresses social, economic, environmental, and political issues
- operates transnationally both globally and at local level.

Accept any other relevant feature.

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

(b) Using data from **Figure 1** and **Figure 2**, comment on *BFU*'s sales revenue. **[2]**

Sales revenue has more than doubled in five years and the rate of increase is highest in 2025, increasing approximately $150 000. Since 2024, a link exists between *BFU*'s sales revenue and how long people keep their mobile phone as the length of time has also increased consistently across the five years. However, we do not know what percentage of the sales revenue arises from mobile phone repairs, which may have influenced the figures.

*Award **[1]** for a description of the trends in sales revenue (figure Y) **and also** how long people keep their mobile phone (figure X).*

*Award an additional **[1]** for an implicit or explicit reference to the data, such as a student stating that the rate of increase is at its highest in 2024-2025, **OR** quoting data from either figure X / Y, **OR** suggesting that we do not know if the increase in sales revenue is due to increased revenue from mobile phone repairs.*

(c) Explain **one** advantage for *BFU* of using a cost-plus (mark-up) pricing method. **[2]**

Cost-plus (mark-up) pricing method adds a percentage to the cost of a product. An advantage to the business is that it ensures any battery or repair provided covers cost and adds to profits.

BFU's success is partly due to its very competitive prices and each month it can pass on any manufacturer price cuts to customers. Battery manufacturers frequently reduce their prices. *BFU*'s main competitor only reviews their prices every six months so this can give *BFU* a short-term price advantage.

Another advantage is that cost-plus pricing is easy to calculate and implement. As *BFU* is a small business, it probably does have the accounting support to use other pricing strategies.

*Award **[1]** for demonstrating knowledge of an advantage of cost-plus (mark-up) pricing method*

*Award an additional **[1]** for application from the stimulus.*

(d) Using **Table 4**:

(i) calculate *BFU*'s current ratio (*show all your working*); **[2]**

Current ratio = current assets / current liabilities

= (24+25 + 1) / 40 = 1 : 1.25

A*ward **[1]** for correct working.*
*Award **[1]** for correct answer.*

Correct answer is 1: 1.25 but accept 1.25 on its own.

(ii) calculate *BFU*'s acid test (quick) ratio (*no working required*); **[1]**

Acid test ratio = (current assets – stock) / current liabilities

= 25/40 = 0.625

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

Correct answer = 0.625 : 1 but accept 0.625 on its own.

(iii) calculate *BFU*'s return on capital employed (ROCE) (*no working required*). **[1]**

$$\text{Return on capital employed (ROCE)} = \frac{\text{profit before interest and tax}}{\text{capital employed}} \times 100$$

= \$175 000/\$1 500 000 × 100

= 11.67 %

*Award **[1]** for correct answer including a % sign, no working required.*
Allow rounding eg 11.7 %

*Award **[0]** if % sign is omitted. Do not accept 11.6%.*

(e) Using the information in the stimulus, recommend whether Jo and Jim should choose growth **Option 1** or growth **Option 2**. **[10]**

Jim and Jo are considering two growth options:

Option 1: Open a new shop every year.

Option 2: Sell *BFU* franchises.

Option 1

Advantages

Retain tight control over the new shops. *BFU*'s success is largely due to the business providing personal customer service, competitive prices, complete repairs within 24 hours, and stocking parts for any mobile phone made in the last five years. This option enables Jo and Jim to make sure this continues in all its shops.

All the profits go to Jim and Jo.

No need to spend $90 000 on marketing campaign to create awareness of the business.

Disadvantages

Speed. They plan to open one new shop each year. The change in regulations is likely to see more entrants into the market and within a year of two there may be little room for new shops to successfully enter the market.

Costs. Each new shop will cost $200 000. *BFU* has high non-current liabilities, making it difficult to raise finance from loans, or may result in higher interest charges as they are deemed as higher risk. *BFU* can use some of its annual profits but even if profits stay at $175 000 and they used all their retained profit of $75 000 they would still need a loan to set up each new shop. Interest payments on a loan would increase their overall costs. Any loan would increase their already high level of non-current liabilities.

Jim and Jo would need to employ new managers for each shop and ensure that their business model is followed. They would need to find time to regularly visit each new shop and neither have the time as they both work more than 40 hours a week. Additional workers may be needed in their original shop to free up time, increasing that shop's operating costs.

Option 2

Advantages

Speed. If Jim is correct, then *BFU* could sell four franchises in 2026, a faster method of expansion than opening their own shops. This expansion would enable *BFU* to secure a strong position in what is likely to be a rapidly growing market due to the regulation changes.

Cost. *BFU* would not need to borrow to set up the shops. *BFU* already has a high level of non-current liabilities.

Source of finance. Each franchisee would also pay a fee of $50 000 raising for BFU $200 000 almost immediately. *BFU* would also benefit from the payments from the four franchises, set at 10 % of sales revenue. If each franchisee recorded sales similar to *BFU*'s shop sales in 2025 then this would amount to $200 000 each year.

Time required to supervise franchises is likely to be less than supervising new shops owned by *BFU* with paid managers.

Lower investment risk: Compared to setting up own shops, Jo and Jim would lower the risk of using their own capital through franchising.

Disadvantages

BFU would need to spend $90 000 on an awareness raising campaign.

BFU would not get all the profits made by the franchises, only 10 % of the sales revenue.

Jim would need to find a replacement to carry out repairs whilst he is training new franchise owners – needs cover for 40 days if four franchises are sold.

Both Jim and Jo would need time to monitor the franchises, which may be difficult as they both work more than 40 hours per week.

Providing outstanding personal customer service may be harder to guarantee. Not all franchises may complete repairs within 24 hours. Completing repairs within 24 hours is another reason for *BFU*'s success.

One franchise's actions could damage *BFU*'s reputation if it fails to deliver good customer service or complete repairs within 24 hours.

Likely conflict between franchisor and franchisee. Implementing change may be difficult and agreement must be reached.

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

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

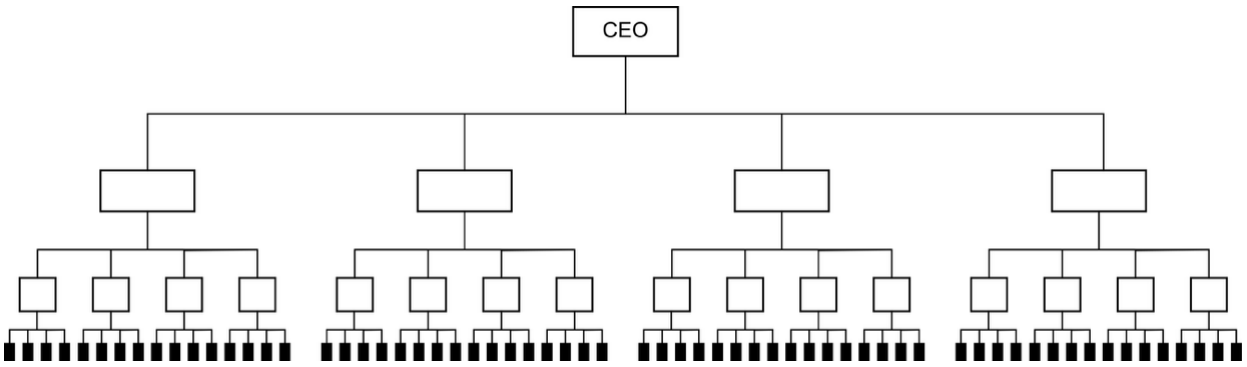
Features of a publicly held company could include:

- central organization under a board of directors, a chair of the board, and a chief executive officer
- compared to other types of legal organizations (sole trader, partnership, private limited company), publicly traded companies typically have an easier time raising finance
- legal continuity
- limited liability of shareholders
- shares can be bought and sold on the stock exchange.

Accept any other relevant feature.

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

(b) Draw an organization chart for *SMS*. **[2]**



*Award **[1]** if the organization chart has four levels of hierarchy (allow if the chart does not include the CEO as one level and, thus, has five levels. Award an additional **[1]** indicating that each manager has four, and only four, direct reports (thus indicating understanding of span of control. Maximum award **[2]**.*

***N.B.** Accept if the student somehow abbreviates the chart if they make clear their understanding of span of control and levels of hierarchy.*

(c) Referring to *SMS*, distinguish between quantitative and qualitative research. **[4]**

Mark as [2+2].

Quantitative research relies on numerical data allowing for measurement and analysis of relationships between variables. Application: Population is ageing and an ageing population needs easier access to medical services.

Qualitative research collects non-numerical data, such as words, description, and observations. Qualitative research allows to “dig deeper” into the meaning of the relationships that the quantitative research established. Application: SMS used focused groups to understand the experiences and needs of potential clients. An aging population needs more medical services.

*Award **[1]** for an accurate explanation of quantitative research and **[1]** for application.*
*Award **[1]** for an accurate explanation of qualitative research and **[1]** for application*.

(d) Comment on the data in **Figure 3**. **[2]**

In 2019, the population of Europe shows some indication of an aging population, as more people of middle age were alive than there were young people. In the upper age ranges, the female population, as a percentage of the total population, increases. Women, one can reasonably infer, live longer than men.

The population chart shows some interesting, estimated differences in 2050. Few children had been born in recent years, and people, especially women, were forecasted to live longer. The sex imbalance, especially after the age 65, becomes more pronounced than in 2019. As the overall population increases and women live longer than men, the percentage of the population that is female increases.

*Award **[1]** for an accurate observation and award **[1]** for a precise reference to the data set (age, for example). Maximum award: **[2]**.*

(e) Using the information in the stimulus, discuss the appropriateness of *SMS*'s organizational structure given changes in the external environment. **[10]**

SMS has had the same organizational structure for over 80 years, and it may be the case that changing market conditions and changes to its product portfolio might make this less appropriate in the final years of the 2020s.

SMS' organization with four levels of hierarchy and narrow spans of control made sense in the context of a company that produced large volumes of products with long product life cycles. Here one of the key issues for the manufacturing process is making sure that the product design was exactly right and then tooling the factory for its flow production. The structure appears to have worked as *SMS* maintained low per unit costs and high margins.

However, because the life cycle of products in the remote medical device industry is low, about four years, *SMS* needs to be more nimble. Remote medical devices are a subset of the high-tech electronics market, which is constantly changing. Customers who purchase remote medical devices require considerable service and support that will require changes in its organizational structure as *SMS* is no longer simply a manufacturer, but also a service provider.

In such circumstances, *SMS* needs to be nimble and could move quickly as external factors change. According to the stimulus, companies were entering (and exiting) this market constantly, which means that *SMS* must respond quickly to the ever-changing circumstances. To move quickly, *SMS* needs, at least for the remote medical device products, fewer levels of hierarchy and wider spans of control, which in effect empowers front line managers to respond quickly to changes in the market. A risk to such a nimbler structure, however, is that fewer quality controls will be in place, and the company would face potential legal risks if a product malfunctioned.

On balance, *SMS* may need to adapt its structure. It could retain its existing structure that is hierarchical with narrow spans of control for traditional medical devices and other medical products and, for the new remote medical devices division, have fewer layers of hierarchy and wider spans of control. However, organizing in this fashion could create some internal tension between managers in the different divisions.

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