Diploma Programme
Programme du diplôme
Programa del Diploma

Business management
Higher level
Paper 1

28 April 2023

Zone A afternoon | **Zone B** morning | **Zone C** morning

2 hours 15 minutes

Instructions to candidates

- Do not open this examination paper until instructed to do so.
- A clean copy of the **business management case study** is required for this examination paper.
- Read the case study carefully.
- A clean copy of the **business management formulae sheet** is required for this examination paper.
- Section A: answer two questions.
- Section B: answer question 4.
- Section C: answer question 5.
- A calculator is required for this examination paper.
- The maximum mark for this examination paper is **[60 marks]**.

5 pages

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Section A

Answer **two** questions from this section.

1. (a) Outline possible different interests of **two** external stakeholders arising from *SVT*'s Outreach Programme (lines 96–115). [4]

(b) Explain the factors that *SVT* should consider when deciding on a marketing strategy for the WF15 water purifier (lines 116–138). [6]

2. (a) Outline **two** possible economies of scale that are likely to have been achieved through the takeover of *H4* (lines 49–81). [4]

(b) Explain the advantages of organizing *SVT* into divisions based on product (lines 10–14). [6]

3. (a) Outline **two** steps in the recruitment process for the 300 new employees needed for the former *H4* factories (lines 65–72). [4]

(b) Explain suitable sources of finance that *SVT* may have used when taking over the small water filter manufacturers in Europe and the United States of America (USA) (lines 91–92). [6]

Section B

Answer the following question.

4. *SVT* organizes each of its water treatment plants as a profit centre. *SVT*'s water treatment plant in a Middle Eastern country extracts water from a local river to supply households in Dalgera, the capital city. In 2019, many people complained about the water's bad taste. A television documentary suggested that *SVT* was negligent.

SVT investigated and found that employees at its water treatment plant had failed to treat the water properly. This failure resulted in lead* from inside old pipes entering the water that was supplied, exposing the inhabitants of Dalgera to water with high levels of lead.

In 2020, *SVT* dismissed the regional director of Dalgera and installed automated monitoring equipment (which was already being used in its European water treatment plants) in all of *SVT* plants across the world. This equipment, which monitors lead levels, costs $100 million and depreciates on a declining-balance basis at a rate of 20 % per annum to a residual value of $10 million. However, in 2021, a court ordered *SVT* to pay $300 million in damages to the affected people in Dalgera, which was widely publicized across the world, badly damaging *SVT*'s brand image.

By 2022, the global home water filter market was $14 billion, and 90 % of *SVT*'s water filter sales were to Europe and the USA. *SVT* now wants to increase sales in Asia, a market with significant growth potential. In the same year, *SVT* closed its European and USA water filter manufacturing factories, partly because of increasing costs of energy and labour. These factories were replaced by a huge new factory in Asia.

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* lead: a chemical element that is a soft, heavy, grey metal. In the past, it was widely used to make pipes, cover roofs, and in paint; it is harmful when ingested

(a) Define the term *profit centre*. [2]

(b) (i) Using the reducing/declining balance method of depreciation, calculate the total depreciation of the automated monitoring equipment after a period of two years (*show all your working*). [2]

(ii) With reference to *SVT*'s automated monitoring equipment, explain **one** advantage of using the reducing/declining balance method of depreciation. [2]

(c) Explain **two** ways in which effective contingency planning at *SVT* could have prevented the problems experienced in Dalgera. [4]

(d) With reference to *SVT*, evaluate the opportunities and threats posed by entering international markets. [10]

Section C

Answer the following question.

5. *SVT* is negotiating with a foreign government to construct and operate, for 20 years, a large desalination plant. *SVT* would be paid to construct the plant and be paid an annual fee for its operation.

SVT will, whenever possible, power the desalination plant using electricity from 30 large wind turbines located in the sea (offshore) near the plant.

However, *SVT* is unable to manufacture the 30 large wind turbines in time with its current manufacturing capacity. Delays in the desalination plant going into operation would lead to *SVT* facing severe financial penalties.

SVT's directors must choose between **two** options:

- **Option 1**: Increase *SVT*'s wind turbine manufacturing capacity (see **Table 1**). Investment is needed to increase capacity initially to meet the order for 30 large wind turbines. *SVT*'s production director has calculated a 60 % probability that the order can be delivered on time, a 30 % probability of a 60-day delay and a 10 % probability of a 120-day delay.
- **Option 2**: Enter into a joint venture with *ZAZ* PLC, a leading specialist wind turbine manufacturer. Costs and fees for the construction and operation of the desalination plant would be shared equally (see **Table 2** and **Table 3**). *ZAZ* would guarantee availability of the wind turbines in time to fulfil the contract. *SVT*'s board of directors has estimated a 20 % probability of the joint venture failing.

ZAZ believes further collaborations are possible, as the demand for desalination plants is increasing each year.

Table 1: Selected financial information for Option 1

Capital investment required	$120 million
Estimated life of investment	20 years
Forecasted number of large wind turbine sales needed annually to break even	40
Annual manufacturing capacity of large wind turbines	60
Forecasted net return from the sale of one large wind turbine	$0.5 million
Cost of each 60-day delay in the desalination plant beginning operation	–$40 million

Table 2: Selected financial information about the construction of the new desalination plant in Option 2

Capital cost of construction	$504 million
Cost of 30 wind turbines	$60 million
Installation cost for 30 wind turbines	$36 million
Desalination plant construction fee paid to *SVT* at the end of year 1	$650 million

Table 3: Selected financial information about the operation of the new desalination plant in Option 2

Annual operating fees paid to desalination plant operator(s):	
Years 1–8	$90 million
Years 9–15	$95 million
Years 16–20	To be negotiated in year 15
Forecasted annual average net returns from the desalination plant operating fees:	
Years 1–8	$60 million
Years 9–15	$58 million
Years 16–20	Dependent on fees negotiated in year 15

Using the case study and additional information on pages 4 and 5, recommend whether SVT should choose **Option 1** or **Option 2**. [20]