



Singapore CA Qualification (Foundation) Examination

9 December 2019

Accounting for Decision Making

INSTRUCTIONS TO CANDIDATES:

1. The time allowed for this examination paper is **3 hours 15 minutes**.
2. This examination paper has **FOUR (4)** questions and comprises **TWELVE (12)** pages (including this instruction sheet, Appendix A). Each question may have **MULTIPLE** parts and **ALL** questions are examinable.
3. This is a restricted open book examination. This means that you are allowed to only bring the following materials into the examination hall:
 - One A4-sized double-sided cheat sheet.
4. During the examination, you are allowed to use your laptop and any calculators that comply with the SAC's regulations. Please note that watches, mobile phones, tablets, and all other electronic devices **MUST NOT** be used during the examination.
5. This examination paper is the property of the Singapore Accountancy Commission.

MODULE-SPECIFIC INSTRUCTIONS:

6. Assume that all dollar amounts are in Singapore dollar (S\$) unless otherwise stated.
7. All computations should be presented up to **TWO (2)** decimal places, unless otherwise stated.

Question 1 – (a) and (b) and Question 2 – (a), (b) and (c)

The Garden Storage Company Pte Ltd (GSC) has been established for over forty years, and makes storage facilities and small buildings for gardens and parks. These ranges from small lock-boxes for storing equipment and materials, to larger garden offices and summer houses, designed to allow people to enjoy their gardens in fine weather and expand their usable living space.

GSC is considering the launch of a new mid-range garden shed – the ‘Maxistore’. This is intended to be primarily for the storage of garden equipment, but is big enough to accommodate, for example, a workbench and has a window.

The design work has been completed following extensive market research, and by benchmarking the design to competitor offerings. The price is intended to be \$2,000 per shed. Over the life-cycle of this product, demand is expected to be 25,000 sheds in total at this price, spread evenly over the 5-year life of the product.

GSC foresee a need to initially invest \$12.5 million in manufacturing equipment and working capital, and historically have earned a return on initial investment of 20% per annum. GSC would like to maintain this level of return for the new Maxistore product.

The manufacturing process will also involve the following costs:

- Market research conducted to date utilised the services of an external consultancy, who are due to invoice GSC \$86,000 for the work they have done. In addition, the marketing manager has spent one day of her 5-day working week on this project for 6 months. She is paid an annual salary of \$65,000.
- Materials:
 - Wood: 12 m² of wood is required per shed. This currently costs \$30 per m² to purchase on the open market. However, GSC has a contract in place that guarantees the supply of 34,000 m² of wood over the next 5 years (the anticipated life-cycle of the product) for \$18 per m². Wood is in regular use by GSC for the majority of its products.

- 3 m² of bonded steel plating is required. 10,000 m² is already in inventory that was purchased for \$25 per m² for a large contract several years ago (still the current market price) that unfortunately did not proceed. There is no other use for this bonded steel. It could be sold for scrap for \$20 per m². Alternatively, it could be disposed of safely for a cost of \$18,000.
- Fixings: 125 standard fixings are required per shed. These can be purchased in batches of 1,000 for \$2,000 per batch.
- Labour:
 - Skilled labour: Skilled labour is in short supply. Extra labour cannot be employed due to a restrictive trade union agreement. 10 hours of skilled labour is required per Maxistore shed. The appropriate skilled labour is currently working on the 'garden office' range that has the following costs and revenues per garden office:

	\$
Sales price	34,000
Materials	(5,000)
Semi-skilled and skilled Labour (600 hours in total)	(20,000)
Other expenses	(5,000)
Contribution margin per garden office	4,000

Skilled labour is paid per hour worked. For every 2 semi-skilled labour hours, 1 skilled labour hour is worked on the garden offices. Semi-skilled labour is paid \$20 per hour.

If the labour was to be diverted, sales of garden offices would be lost but all costs (other than the diverted skilled labour) would be saved. Alternatively, the Maxistore garden sheds could be produced in overtime, which is paid at 1.5 times the usual hourly rate.

- Semi-skilled labour: Semi-skilled workers earn a guaranteed wage of \$20,000 per year each and are in plentiful supply. Work on the Maxistore sheds would need 5 semi-skilled workers each working 2 days per 5-day week, which they can accommodate within their normal working day.
- Machinery: In addition to the initial investment in machinery and working capital, a cutting machine is required. An existing machine is about to be sold for a cost of \$120,000. It could be used on the Maxistore product, in which case it could be sold for \$20,000 at the end of production. The machine cost \$200,000 five years ago and has a useful economic life of 10 years. Depreciation is accounted for on a straight-line basis.
- Overheads: Overheads at GSC are allocated at a standard rate of \$100 per semi-skilled labour hour, to absorb the cost of renting the factory, paying for the offices and employing the managers and administrative staff of GSC. As a result of the Maxistore product, one new purchase ledger clerk will need to be employed at a cost of \$20,000 per year. The cost of hiring the new clerk is included within the \$100 per semi-skilled labour hour rate.

The wood and steel are stored in spare warehouse space that cannot be sublet. GSC has no other use for this warehouse space.

**Exemplify
Question
Number**

Question 1 required:

1

- (a)** Calculate the relevant cost of the skilled labour for one Maxistore shed. **(9 marks)**

2

- (b)** Calculate the average relevant cost of manufacturing one Maxistore shed. Explain the approach you have taken for each item of cost, including why you choose to exclude any items (if any).

Present your answers using the following format:

<Cost Item1>:

Workings = S\$ Amount

Explanation:

<Cost Item2>:

Workings = S\$ Amount

Explanation:

**Total cost of manufacturing one Maxistore shed = S\$
Amount**

(21 marks)

(Total: 30 marks)

**Exemplify
Question
Number**

Question 2 required:

- | | |
|----------|---|
| 3 | (a) Calculate the target cost for manufacturing one Maxistore shed.
<div style="text-align: right;">(5 marks)</div> |
| 4 | (b) Calculate the size of any cost gap.
<div style="text-align: right;">(3 marks)</div> |
| 5 | (c) Assuming forecast costs are higher than target cost, discuss SIX ways to close the cost gap.
<div style="text-align: right;">(12 marks)</div> <div style="text-align: right;">(Total: 20 marks)</div> |

Question 3 – (a), (b) and (c)

Right Clothes Right Weather Pte Ltd (RCRW) is planning to make and sell a range of coats for wear during exercise. There are 3 coats in the range: the Lightsprint (LS), the Windy Walker (WW), and the Downclimber (DC).

Fixed costs include retail premises, sales assistant salaries, a manufacturing unit, machinery and factory staff. In total, these fixed costs are anticipated to be \$4 million per calendar month for up to 9,000 items manufactured. After this point, extra factory and retail staff are required, which push up the fixed costs to \$5.25 million per month.

Each LS is planned to sell for \$400 and includes \$150 variable costs. The WW is to be sold for \$700 per item including variable costs of \$300. The DC is a specialised product and will sell for \$1,500 with variable costs of \$750 per item. Market research into the active sportswear market shows that for every 3 LS sold, there is likely to be 5 WW and 1 DC sold. RCRW will only consider going ahead if they can make a profit of at least \$3.5 million per month.

You should assume the coats will be sold in these standard ratios. Also assume production = sales.

**Exemplify
Question
Number**

Question 3 required:

- 6** **(a)** Determine how many break-even points of output there are for the production and sale of coats. You should support your answer with appropriate calculations.
(7 marks)
- 7** **(b)** For each break-even point you find:
 (i) Determine the number of each type of coat that must be sold to break-even, and the corresponding break-even sales revenue for each type of coat and in total.
(9 marks)
 (ii) Determine the number of each type of coat that must be sold to make the desired profit of \$3.5 million per month.
(5 marks)
- 8** **(c)** Discuss FOUR limitations of the analysis you performed in part **(b)**.
(4 marks)
(Total: 25 marks)

Question 4 – (a), (b), (c), (d) and (e)

Truetone Music Reproduction Services Ltd (TMRS) is a listed electronics company based in the north of Singapore which manufactures loudspeakers for use in cars. They are world-renowned for their compact size but remarkably detailed and expansive sound.

The finance director is a little confused that in the last year, despite returning a profit to shareholders, share price has fallen – even though the performance of the stock market in general has been relatively even and flat.

He has read a textbook about Economic Value Add, or EVA®, and would like to explore this method of performance evaluation for TMRS in the latest year.

Extracts from the financial statements:

	Note	\$million for the year to 31/12/x9
Revenue		690
Operating costs	1	(554)
Operating profit		136
Finance charges	2	(50)
Profit before tax		86
Tax	3	(19)
Profit after tax		67

Note 1

Total operating costs include:

	Year to 31/12/x9 \$million	Year to 31/12/x8 \$million
Depreciation	118	114
Research and development	24	0

Economic depreciation (including amortisation costs) for 20x9 is \$220 million. Before 20x9, economic and accounting depreciation were the same figures.

The company undertook research and development for the first time in 20x9. It is estimated that the work will continue for an estimated 3 years before the launch of the associated product.

Note 2

The finance charges relate to interest paid on a \$500 million bank loan. This interest is tax deductible.

Note 3

The tax includes \$18 million cash paid in the year and an adjustment for deferred taxation (which is an accounting entry that should be reversed in future years). The usual rate of tax is 17% of taxable profits.

Statement of financial position extracts are included below:

	At 31/12/20x9 \$million	At 31/12/20x8 \$million
Share capital	90	90
Reserves	<u>700</u>	<u>650</u>
Total equity	790	740
Long term loan	<u>500</u>	<u>500</u>
	<u>1,290</u>	<u>1,240</u>

The weighted average cost of capital is 10%.

You may use adjusted opening capital employed as the basis for calculating any finance expense for EVA[®].

**Exemplify
Question
Number**

Question 4 required:

- 9** **(a)** Calculate the Economic Value Added (EVA®) for the year ended 31 December 20x9. State any assumptions you feel you need to make. **(10 marks)**
- 10** **(b)** Explain the share price movement by comparing accounting profits to EVA®. **(4 marks)**
- 11** **(c)** Calculate Return on Capital Employed for the company for 20x9. **(2 marks)**
- 12** **(d)** Explain TWO benefits of the EVA® approach as opposed to the Return on Capital Employed measure. **(4 marks)**
- 13** **(e)** Explain why industry benchmarking could improve performance at TMRS in the future. **(5 marks)**
- (Total: 25 marks)**

END OF PAPER

Appendix A – Common verbs used by the Examiners

Verb	Description
Calculate / Compute	Do the number crunching and derive the correct answer. Make sure that you write down your workings and crosscheck your numbers.
Determine	Ascertain or conclude after analysis and evaluation the most appropriate course of action or most correct answer from a range of viable alternatives.
Discuss	Discuss requires you to provide the 'for' and 'against' arguments, you cannot have a discussion without opposing views otherwise it would be just a conversation. If discuss is placed near the front of the instruction, then it requires you to provide an answer that is similar to explain , but addresses both the for and against arguments.
Explain	Explain requires you to write at least several sentences conveying how you have analysed the information in a way that a layperson can easily understand the concept or grasp the technical issue at hand.
Prepare	Prepare requires you to produce your answer using a specific format.
State	State is similar to list, but the items require your professional judgement. For instance, " State any restrictions that apply". One of the easiest ways to make sure that you state comprehensively is to think, " list and justify ". You will note that state appears in many of the verb descriptions given.