



Singapore CA Qualification (Foundation) Examination

13 December 2021

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 **FOURTEEN (14)** pages (including this instruction sheet and Appendix A). Each question may have **MULTIPLE** parts and **ALL** questions are examinable.
3. This is a restricted open book examination. You are allowed to have only the following materials with you at your exam location:
 - One A4-sized double-sided cheat sheet
 - One A4-sized double-sided blank scratch paper
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. During the examination, videos of you and your computer screen will be recorded for the purpose of ensuring examination integrity and you have consented to these recordings.
6. This examination paper and all video recordings of this exam are the property of the Singapore Accountancy Commission.

MODULE-SPECIFIC INSTRUCTIONS:

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

IMPORTANT NOTICE:

If you are not feeling well, please do not press "Start Assessment". If you have started and leave during the exam, you would be deemed to have attempted the paper.

****VERY IMPORTANT NOTICE****

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1. Your question paper is attached under the "**Resource**" tab found at the bottom right of **EACH** question.

Other important information:

2. You will **only be allowed** to access the Excel function from your computer.
3. You are **NOT ALLOWED** to access any websites or reference materials (except for your A4 sized double sided cheat sheet) during the exam.
4. You are **NOT ALLOWED** to print the question paper.
5. **Please take note that your screen will be monitored throughout the examination. If you are found to have accessed unauthorised materials or websites, or if you cheat or attempt to cheat, you will be liable to severe disciplinary action.**

Should you encounter any issues during the exam, please call the following number:

+65 6100 0516

6. **You do not need to fill in an answer for this question.**

Question 1 – (a), (b) and (c)

PatchAshley Ltd is a dining chair business that manufactures three products: the Poshnosh (PN), the Middlediddle (MD), and the Cheapandcheery (CC). Each chair is manufactured by working through 3 processes in this order: Preparation, Assembly, and finally Finishing.

The time taken for each unit of product to be manufactured is analysed below:

	Preparation	Assembly	Finishing
PN (minutes)	12	45	20
MD (minutes)	10	30	15
CC (minutes)	5	15	7
Number of employees available per process	3	5	4

Each employee works 9 hour per day, with the exception of the 4 finishing workers who each work 6 hour per day. Preparation and assembly workers are paid \$15 per hour, whereas finishing workers are paid \$22 as their role involves more manual skill and experience. In the short term it is not possible to transfer workers between processes or to hire additional labour.

At least 10 of each chair must be produced each day to maintain the company's brand image in the marketplace. There is very high demand for each model.

The following are extracts from the standard cost and price information for each unit of product:

	PN	MD	CC
Sales price (\$)	400	300	200
Materials (\$)	100	75	50
Factory overhead*	200.52	143.23	70.31

**Overheads are absorbed on a labour hour basis and are constant each day.*

**e-Exam
Question
Number**

Question 1 required:

- 2** **(a)** Calculate which process is the constraining factor for production. **(7 marks)**
- 3** **(b)** Calculate:
- (i)** the profit maximising output per day using throughput contribution margin. **(8 marks)**
- (ii)** the resulting maximised profit generated per day. **(7 marks)**
- 4** **(c)** Explain, without further calculations, THREE potential impacts on profits of training all workers to be able to work on any process. **(3 marks)**
- (Total: 25 marks)**

Question 2 – (a), (b), (c) and (d)

Gollysmash Games (GMS) writes and distributes games for popular games consoles. Following the launch of a new games console, James Calfwitz, Marketing and Production Director for GMS is planning the pricing schedule for their next planned release – Lemon Souls. Games are distributed on DVDs, manufactured by GMS.

GMS would like to make a return on development costs of 200% over the life of the game.

The typical profile of game over its life is:

	Introduction	Growth	Maturity	Decline
Sales price		Reduce by 10%	Reduce by 30%*	Reduce by 50%*
Length of phase	3 months	6 months	1 year	3 years
Volume of sales in phase (units)	10,000	30,000	50,000	30,000

**Percentages to be applied to the price prevailing at that point.*

Variable manufacturing costs are \$5 per game, reducing by 20% when lifetime production exceeds 35,000 units. Variable sales and distribution costs are estimated to be \$1 per game.

Fixed manufacturing costs (excluding depreciation) are estimated to be \$500,000 a year. These fixed manufacturing costs relate specifically to the Lemon Souls game and occur evenly over time.

Advertising costs are expected to be \$250,000 during the introduction phase, staying constant in the growth phase, reducing by 50% in the maturity phase and reducing by 75% compared to the spend in the maturity phase in the decline phase.

The development costs include the cost of writing the software, testing it, developing packaging artwork and purchasing additional machinery for production. This is estimated to amount to \$500,000.

After the end of the product's life, decommissioning costs equals to 25% of lifetime revenues will need to be paid for associated redundancy costs and scrapping of specialised machinery.

**e-Exam
Question
Number**

Question 2 required:

- 5** **(a)** Calculate the total lifetime cost (excluding decommissioning costs) of the Lemon Souls game.

(9 marks)
- 6** **(b)** Calculate the sales price that should be set for the game at launch. You should also include decommissioning costs where appropriate in your calculations.

(6 marks)
- 7** **(c)** Using the sales price you have determined in **part (b)**, calculate the volume of sales that must be achieved in the maturity phase for the product to breakeven over the entire lifecycle. Assume the sales volume for the other phases remain the same, adjust only the volume of sales at the maturity phase to achieve the breakeven point for the product. For the purposes of this calculation, assume that decommissioning costs will not vary with volume.

(5 marks)
- 8** **(d)** Explain **THREE** ways in which the lifetime profitability can be improved for the Lemon Souls game and recommend, with justification, which recommendation should be pursued as a priority.

(5 marks)

(Total: 25 marks)

Question 3 – (a), (b), (c) and (d)

SpecBling Ltd (SBL) has plans to produce designer cases for spectacles that are wifi-enabled. The customer can use this functionality to help find lost spectacles with the help of a smartphone app.

SBL is trying to decide whether to launch in Asia or Europe in the coming months. SBL only wants to focus on one market initially.

Based on SBL’s previous experience, the probability of a launch being successful is 70%.

The possible outcomes have been estimated below:

	Asia	Europe
Launch is successful	\$4m	\$5.2m
Launch is a failure	\$(1m)	\$(2m)
No launch	0	0

You may assume SBL seeks to maximise average returns and is risk-neutral in attitude.

The new product is a brand-new product that is patent protected for a period of 20 years. However, substitutes already exist – for example, the technology to electronically ‘tag’ any item including spectacles cases. The equipment needed to assemble the cases is expensive to acquire. As the product is so new, production cannot be outsourced. The main components in the product are standard and can be purchased from a variety of sources. The SBL brand is very desirable.

**e-Exam
Question
Number**

Question 3 required:

- 9** **(a)** Where (if anywhere), would SBL choose to launch the product?
(4 marks)
- 10** **(b)** Discuss THREE drawbacks of making decisions based on
expected values in this case.
(6 marks)
- 11** **(c)** Evaluate and conclude upon the competitive environment at
the point of launch, using Porter's Five Forces.
(12 marks)
- 12** **(d)** Recommend and justify ONE way in which the competitive
pressure identified in **part (c)** could be reduced.
(3 marks)
(Total: 25 marks)

Question 4 – (a), (b) and (c)

Sense of Smell Ltd (SOS) manufactures specialist reed diffusers to fragrance rooms. The business is renowned for exactly mimicking real world smells in the home; such as freshly mown grass or a sea breeze. They are premium products with a loyal customer base. Jack Lim is the owner and Manager and is planning for the coming 3 months due to start on 1 January 20x5. In particular, he is considering the new 'Mountain Breeze' product, which due to its unique scent and packaging, is manufactured using specialised machinery. The product is due to be launched on 1 January 20x5, with manufacturing beginning in December 20x4.

Sales for the quarter to 31 March are forecasted to be 15,000 units. Sales for the 3 months to 30 June 20x5 are forecasted to be 30,000 units. SOS has a new policy in 20x5 of ensuring sufficient finished goods inventory is in place to satisfy one month's sales. Each unit consists of a bottle, reeds, fluid and a lid. Fluid and reeds are to be manufactured when needed on a just-in-time basis. Bottles and lids are to be purchased from a subcontractor on 1 month's credit for a price of \$3 and \$1 respectively. 3,000 bottles will be in inventory at SOS on 1 January, increasing by 25% by the end of the quarter. For the lids, 2,000 will be in place on 1 January, increasing to 3,000 by the end of the quarter. The trade payables balances relating to bottles and lids on 1 January 20x5 relate solely to the opening inventory of those items.

Assume forecast sales, purchases and production occur evenly over the quarter.

**e-Exam
Question
Number**

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Question 4 required:

(a) Prepare the following:

(i) The production budget (in units) for the 'Mountain Breeze' product for the 3-month period ending 31 March 20x5. **(3 marks)**

(ii) Budgeted cash paid to suppliers for the bottles and lids for the 3 months ending 31 March 20x5.

(6 marks)

Jack is considering an option to also outsource the production of the reeds to a new supplier, to hopefully take advantage of their economies of scale. The supplier has offered to supply the reeds at \$2.10 for a set of 8 reeds. One set of 8 reeds is required per unit of 'Mountain Breeze'.

Each finished reed consists of 20cm of rattan and 10ml of dye. 25% of the dye input into the manufacturing process evaporates. Dye costs \$5 per litre, and rattan costs \$0.50 per metre.

One labourer can produce 250 reeds an hour. Labour and other variable manufacturing costs are \$20 per labour hour. Jack plans to allocate fixed overheads of \$4,000 a month to the reed manufacturing process for 'Mountain Breeze'. This includes general office costs absorbed at a rate of \$0.10 per set of 8 reeds. The balance consists of machine rental costs for this particular product – the reeds are a different design to other products, so need their own machinery. This rental would not need to be paid if the manufacturing was outsourced.

**e-Exam
Question
Number**

Question 4 required:

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- (b)** Calculate whether SOS should make the reeds or buy them from the external supplier for the 3 months ending on 31 March 20x5. **(8 marks)**

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- (c)** Discuss FOUR other factors that SOS should consider, in addition to the financial analysis in **part (b)**, before deciding whether to outsource the manufacture of reeds.

(8 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.
Conclude / Draw conclusions	Form a judgment, or determine the outcome, or resolve an issue, by using the facts presented. An example might be "Conclude whether to outsource the human resource function".
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.
Evaluate	Pass judgment on or provide your opinion based on the facts at hand. When making an evaluation , there are often predetermined criteria that you will use to base your opinion on. The key here is to give your opinion or make a judgment of the facts, but providing just a description of the facts is insufficient. Professional judgment and scepticism (a questioning mind) are called for when making an evaluation .
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.
Justify	Whenever you see the word justify you <u>must</u> provide reasons for your answer, in other words, provide support for your argument or conclusion. If you fail to justify your answer, you will lose valuable marks. Justify is similar to defend .
Prepare	Prepare requires you to produce your answer using a specific format.
Recommend	Make a statement about the most appropriate course of action. If there is more than one possible course of action, state which action you would choose and why (justify your choice). Your professional judgment and your ability to analyse and synthesis the wider situation are critical to scoring well in these types of questions. Don't forget to think about the future and the past, not just the present when making a recommendation .