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## Singapore CA Qualification Examination

8 December 2021

### Business Value, Governance & Risk

#### 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 **SIXTEEN (16)** pages (including this instruction sheet). Each question may have **MULTIPLE** parts and **ALL** questions are examinable.
3. This is an open book examination. During the examination, you are allowed to use your laptop and any calculators that comply with the SAC's regulations. Please note that mobile phones, tablets, and all other electronic devices **MUST NOT** be used during the examination.
4. 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.
5. This examination paper is the property of the Singapore Accountancy Commission.

#### MODULE-SPECIFIC INSTRUCTIONS:

6. This case is hypothetical and has been written exclusively for the purpose of this examination. Names, characters, places and incidents used are imaginary or fictional. Any resemblance to actual events or locales or persons, living or dead, is entirely coincidental. This case is not to be cited without the permission of the Singapore Accountancy Commission.

#### 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.**

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**1**

**\*\*VERY IMPORTANT NOTICE\*\***

1. Your question paper is attached under the "**Resources**" tab found at the bottom right of **EACH** question.
2. You may also download the question paper that allows annotation throughout your exam in Question 1 of the e-Exam portal.
3. Please download the relevant required Appendices in Question 1 of the e-Exam portal.

**Other important information:**

4. You will be allowed to access your reference materials but **will not be allowed** to communicate with anyone either physically or through any electronic means.
5. You are **NOT ALLOWED** to access any websites during the exam.
6. You are **NOT ALLOWED** to print the question paper.
7. **Please take note that your screen will be monitored throughout the examination. If you are found to have accessed any websites, or if you cheat or attempt to cheat, you will be liable to severe disciplinary action.**

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

## **BeCool Air Conditioning products**

BeCool Limited (BeCool) is a public company which has been listed on the Singapore Exchange for over twenty-five years. It is a leading sales and manufacturer of industrial and domestic air conditioning units. BeCool has no subsidiaries as all its operations, including its overseas manufacturing site, are all accounted for by the Singapore registered company.

BeCool has a long-standing and excellent reputation for reliability and the company has recently begun to expand its global reach into the European and American markets. BeCool's products are known for their appealing and distinctive designs, as well as their effective and efficient cooling performance.

BeCool's main manufacturing facility is in Indonesia and it has smaller manufacturing and trading sites in neighbouring South East Asian countries.

The Board of Directors is considering new product development to meet the growing demand for more environmentally sustainable products which consume less energy yet do not compromise on product performance. BeCool's new strategy will also include new international marketing initiatives to promote exports to potential new markets in Europe and America. BeCool's Directors are optimistic that this strategic initiative will elevate BeCool to be a truly global and leading air conditioning unit provider. To achieve this, the Board has already voted to raise new capital.

BeCool's Board of Directors requires all new products to generate a positive net present value within five years, evaluated at the forecast weighted average cost of capital.

### **New EcoAir50**

BeCool has designed a smaller version of its most popular domestic air conditioning unit using the latest efficient cooling technology which consumes less energy. This will be called the EcoAir50 and will be the company's first environmentally friendly air conditioning product specially designed to meet demand in the Singapore domestic

market and to meet the Singapore government's aims for greener infrastructure and buildings, as set out in Singapore Green Plan 2030.

Other eco products will be developed for the industrial market, should the launch of the EcoAir50 be successful.

BeCool have completed designing and developing the "EcoAir50" home air conditioning unit. The research and development team has presented a prototype design to BeCool's board which achieves a 50% reduction in energy consumption compared with its other domestic air conditioning product.

The Directors are confident that the manufacturing of the EcoAir50 will be ready to commence from 1 January 2022.

BeCool's Marketing Director is highly optimistic about stored up demand by Singaporean households for environmentally friendly, domestic air conditioning units and believes many Singaporean households will be willing to pay a premium for products with eco-credentials. The Marketing Director has estimated the price of the EcoAir50 in the first year of sales in 2022 to be S\$1,650 per unit. The price is expected to increase each year in line with annual inflation.

The Marketing Director has estimated the following sales volumes for the EcoAir50 over the next five years:

- Unit sales in Year 1 are expected to be 2,450.
- Unit sales are expected to grow by 10% per annum in both Year 2 and Year 3.
- Unit sales are expected to grow by 5% per annum in both Year 4 and Year 5.

### **Production of the EcoAir50**

BeCool manufactures on demand, based on confirmed orders and therefore does not hold inventory as the company immediately despatches all the products it manufactures to wholesalers and retailers.

BeCool's Indonesian production site and includes production facility F, which uses advanced manufacturing technology which is easily adaptable to manufacture the new EcoAir50 product. The BC100 is currently manufactured at production facility F which is BeCool's smallest industrial air conditioning unit.

The current and forecast cost of production for the BC100 and EcoAir50 are as follows: The expected selling price and production variable costs required to manufacture one BC100 unit in 2022, are as follows, stated in Singapore dollars (S\$).

<b>BC100 per unit</b>	<b>S\$</b>
Selling price	2,700
Materials	(1,125)
Skilled labour	(480)
Variable production costs	(360)

The forecast variable costs required to manufacture one EcoAir50 unit in 2022 are as follows:

<b>EcoAir50 per unit</b>	<b>S\$</b>
Materials	(550)
Skilled labour	(300)
Variable production costs	(280)

Production of each EcoAir50 requires less time to manufacture compared with the BC100 as it is smaller and uses fewer components, which adds to its environmental credentials.

The Operations Manager estimates that the current production of the BC100 will reduce by 2,500 units to accommodate the manufacture of the EcoAir50 in its first year of production. For year 2 onwards, additional production capacity for the BC100 can be organised enabling BC100 production to return to existing production volumes for year 2 onwards.

The EcoAir50 will be manufactured from BeCool's existing manufacturing site in Indonesia. Additional annual fixed costs associated with the machine running costs, maintenance, repair, quality control and marketing are expected to be S\$475,000 in the first year of production.

Production of the EcoAir50 would require BeCool to invest S\$750,000 in new machinery and equipment on 1 January 2022. Based on past experience, the Directors are assuming that this machinery and equipment will have a disposal value on 31 December 2026 of S\$200,000.

New machinery and equipment will attract capital allowances of 25% per annum on a reducing balance basis, commencing in the year of acquisition. A balancing charge or allowance will arise when the machinery is sold. The company can be assumed to be able to claim all tax allowances in full as soon as they become available and to pay corporation tax at a rate of 17% per annum over the life of the project.

All profits are subject to tax in Singapore and tax is payable at the end of the year to which it relates. Should the company make a loss, then this loss and any unused capital allowances can be carried forward to the following year to offset against the taxable profit for that year.

Working capital to support production at BeCool runs at a rate of 10% of all sale revenues and is assumed to be in place at the beginning of each year. All working capital associated with the project can be assumed to be released in full after five years of production and sales.

The Directors have advised that the expected weighted average cost of capital after raising new capital should be used to evaluate the launch of the EcoAir50.

All revenues and costs are subject to inflation and inflation is expected to remain at 2% per annum for the next five years. For investment appraisal purposes, the Board assumes all cash flows occur on the last day of each year.

## Financing the EcoAir50

To fund product business restructuring and new product initiatives, including the EcoAir50, the Board estimates the company will need to raise S\$10 million and is considering issuing a new corporate debenture to institutional investors. The new 3.5% corporate debenture will redeem at the end of seven years at a premium of 5% of the nominal (par) value.

The Board has agreed to issue the corporate debenture at a price which aligns to market expectations for new AA rated debentures to attract sufficient investors. The Directors are unsure of what the issue price for the new AA rated debenture should be.

BeCool has existing bank borrowings of S\$30 million on which 4.5% fixed rate interest is paid per annum. The Directors are optimistic that its “AA” credit rating will remain unchanged following the issue of a further S\$10 million (nominal or par value) of corporate debentures.

Credit premium yields for AA rated companies currently quoted in the corporate debenture market are as follows:

Credit rating	Debenture Maturity					
	1 year	2 years	3 years	5 years	7 years	10 years
AA (basis points)	49	58	76	96	117	146

## Company and market data

BeCool currently has 100 million shares in issue. BeCool has a quoted equity beta of 2.42 and quoted share price of S\$0.90 per share.

Risk free rate (Rf) 3.10% per annum

Return on the equity market (Rm) 5.65% per annum

At a recent investor communication delivered by BeCool’s CEO, a significant institutional investor said they would become very concerned if gearing levels exceeded 30% (measured at market values of debt/debt plus equity).

As a result, some members of the Board have raised concerns about the potential impact of additional borrowing on the company's cost of capital and the reaction of the company shareholders to further borrowing.



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**Question 1 required:**

**2**            **(a)** Recommend a suitable issue price for the new S\$10 million corporate debenture by determining its initial market value.  
**(6 marks)**

**3**            **(b)** Estimate the current weighted average cost of capital (WACC) and the revised WACC following the issue of the new S\$10 million corporate debenture and comment on the result.  
**(10 marks)**

**4**            **(c)** Explain **FOUR** reasons why the actual revised WACC may be different in reality from the WACC calculated in **part (b)**. Where relevant, use information from the scenario to support your answers.  
**(4 marks)**

**5**            **(d) (i)** Calculate the gearing level before and after the issue of the new corporate debenture.  
**(1 mark)**

**Note:** Candidates are required to calculate gearing as debt/(debt plus equity) using market values where available.

**(ii)** Explain if the new corporate debenture will be acceptable to the company's shareholders.  
**(3 marks)**

**(Total: 24 marks)**

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**Question 2 required:**

**6**            **(a)**    Estimate the Net Present Value (NPV) which may arise if the Directors decide to launch the EcoAir50.  
**(14 marks)**

**7**            **(b)**    Discuss **FIVE** factors, in addition to the NPV, which the Board of BeCool should consider before they decide whether to launch the EcoAir50.  
**(5 marks)**

**8**            **(c)**    Advise the Directors on **TWO** practical actions the Board should undertake before it proceeds with the launch of the EcoAir50.  
**(2 marks)**

**9**            **(d)**    Calculate the sensitivity analysis of EcoAir50's NPV calculated in **part (a)** to the following variables:

**(i)**        Forecast sales price. **(2 marks)**

**(ii)**      The weighted average cost of capital (WACC).  
**(2 marks)**

In each case, comment on the result. **(2 marks)**

**Note to Candidates:** For the WACC sensitivity calculation, you are required to apply a rise in discount factor to 35%.

**(Total: 27 marks)**

## **Feedback on environmental and product sustainability**

Recently, it has become more common for BeCool's various stakeholders, including investors and customers, to raise concerns about the sustainability and environmental footprint of BeCool's current range of air conditioning products due to increasing awareness of the impact of climate change and Singapore Government targets for greener infrastructure and buildings included in the Singapore Green Plan 2030.

In response, BeCool's Marketing Director organised a customer feedback group where the impact on the environment and product sustainability were raised as key consumer concerns. The customer feedback group specifically focused their concerns on short product lifespans, product energy consumption and product and component recycling. The focus group also acknowledged the trend for consumers to leave their home air conditioning units switched on for 24 hours a day to maintain a preferred room temperature, even when they are out at work, or staying overnight elsewhere.

In response, BeCool's Board of Directors has decided to update the company's mission statement to include a statement on sustainability and consider how to further improve the sustainability of the new EcoAir50.

The purchasing department is currently sourcing component suppliers for the manufacture of the EcoAir50 air conditioning unit and has found a traditional component manufacturer situated 3,500 km away which appears to offer the cheapest component range. Alternatively, a Singapore component manufacturer, Greenway, has also shown interest in supplying BeCool for its industrial and domestic products. Greenway is a specialist supplier of sustainable components which are 75% manufactured from recycled metal and plastics. Its products can be further recycled when the product is disposed of at the end of its life. However, Greenway is on average 40% more expensive than traditional component suppliers.

The Board of Directors intends that the new EcoAir50 air conditioning unit, as far as possible, meets stakeholders' concerns of product sustainability. The Board has set an energy efficient target that is 25% more energy efficient than the current design. It is possible to delay the manufacturing and launch of the EcoAir50 product for the

research and development team to investigate possible adjustments to improve the EcoAir50 product design to be 25% more energy efficient.

The current lifespan of the BeCool's industrial air conditioning units is between eight and ten years during which time, one or two component failures are expected which can be replaced on repair. Due to the complexity of manufacture, the industrial units require a specialist to undertake each repair which is expensive. As the product guarantee expires after two years, it is often cheaper for customers to replace the existing air conditioning model in later years, rather than pay for a specialist to repair the existing air conditioning unit.

Many of the components and materials used to make BeCool's range of air conditioning units can be recycled. Product disposal arrangements are currently left to the consumer and effective recycling requires the unit to be delivered to specialist electronic waste recycling centre. Units which are disposed of as general waste will often end up in landfills where only a fraction of the recycling potential is realised.

### **BeCool's integrated computer system**

BeCool's IT Manager has recently resigned and given one month's notice to take up a comparable post with another company. He is leaving as he has felt network security at BeCool is not taken seriously.

The Operations Director met with the IT Manager to discuss his concerns and the following information was provided by the IT Manager:

- (1) Most of BeCool's computer processing is performed by an integrated inventory, purchasing, production control, sales, finance and management reporting bespoke computer system.
- (2) The bespoke computer system was provided by a large firm of computer consultants, who installed the system five years ago. After the computer consultants had installed the system, there was a disagreement over their fees and since then, it has been maintained internally by BeCool's IT department. The IT Manager has done most of the essential computer system software modifications

to keep the system operational and to meet BeCool's increased manufacturing output over the past five years.

- (3) The IT Manager has maintained a file of handwritten amendments and notes which document changes to the system made over the past five years. The original systems operating instructions provided by the system consultants have remained unchanged.
- (4) The Computer Systems Manager is concerned that there is no external backup operating system to switch to, in the event of a systems failure. Until a year ago there had been reciprocal emergency arrangements with a firm in a similar industry located 20 miles away. However, this company has since closed and no alternative arrangements had been made.
- (5) BeCool's sales, purchase and manufacturing data is stored on the main server which is housed in a cupboard and located in the IT department which is part of an open plan office shared with the purchasing and production department. The cupboard is locked at 6pm when the IT Manager leaves. The server is backed up at the end of each day to another server located in another building on the same site.

### **Internal Audit**

BeCool's head of internal audit has advised the audit committee of four possible projects where the internal audit department could assist the Board of Directors by undertaking an internal review of the following areas, with a view to providing independent advice to the Board.

- (1) Review of sustainability policies and reporting
- (2) Strategic business review
- (3) Review of risk management policies and procedures
- (4) Review of business continuity and disaster recovery plans

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**Question 3 required:**

**10**

- (a)** Explain **FIVE** environmental sustainability risks which will arise from manufacturing the EcoAir50 air conditioning unit. For each risk, explain how BeCool can mitigate this risk.

**(10 marks)**

**11**

- (b)** Explain **FOUR** significant risks that affect the company's computerised operations and recommend a control action to mitigate each risk.

**(12 marks)**

**12**

- (c)** For each of the **FOUR** internal audit projects suggested by the BeCool's Head of Internal Audit, explain how each project can help to manage risk at BeCool.

**(4 marks)**

**(Total: 26 marks)**

## **Governance at BeCool**

BeCool has a main Board of Directors and its Non-Executive Directors effectively operate an audit committee, nomination committee and remuneration committee in line with current governance requirements.

At the last Board meeting, BeCool's Board of Directors discussed the issues which have been raised by the IT Manager.

The CEO said the concerns made by the IT Manager are serious and need to be addressed and expressed concerns that these issues may be symptomatic of wider governance, risk management and internal control issues at BeCool.

The Operations Director responded that the Executive Board members have been focused on achieving strategic growth targets and improving production efficiency and issues relating to the culture of governance, effective internal control and risk management are the sole responsibility of the Non-Executive Directors, as this is what they are for.

The Marketing Director believes the problems with governance, risk and control are short-term only, and will be resolved once the EcoAir50 has been launched, as it has always been the culture at BeCool to get their products out of the door to their customers.

The Chairperson remains concerned that important risks appear to have been missed by Executive and Non-Executive Directors and would like to understand how the Board can improve its approach to the governance of risk management.

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**Question 4 required:**

- 13**                    **(a)** Comment on the Operations Director's assertion that the Non-Executive Directors are solely responsible for the culture of governance, effective internal control and risk management at BeCool. **(3 marks)**
- 14**                    **(b)** Discuss **FIVE** practical challenges or barriers faced by Non-Executive Directors which may limit their effectiveness when performing their role as a member of the main Board of Directors. **(10 marks)**
- 15**                    **(c)** Explain **FIVE** recommendations to improve the governance of risk management at BeCool. **(10 marks)**
- (Total: 23 marks)**

**END OF PAPER**