

# **Actuarial Society of South Africa**

## **EXAMINATION**

November 2017

## **Subject A302 — Communications**

## **EXAMINERS' REPORT**

This subject report has been written with the aim of helping candidates. This report summarises the main points that the examiners were looking for and some common problems encountered.

## QUESTION 1

This question required candidates to address a policyholder's concerns regarding membership of a wellness programme and concentration of cover, directed via his broker. Candidates were required to convey their communication of the three key issues in a balanced way with sufficient explanation of technical concepts.

Candidates were required to use the correct formatting style and tone required for a formal letter.

Most candidates were able to explain the basic operation of the discount policy and set the policyholder's mind at ease regarding the use assessment results as a source of additional claims underwriting and that this was not possible. Better candidates were able to clarify the purpose of the Wellness programme as a means to encourage healthier policyholder behaviour by incentivising positive lifestyle choices.

Candidates were also required to address the policyholder's concerns regarding the concentration of risk created by holding cover with only one insurer. Candidates were expected to discuss the ability of the insurer to meet claims in general and relate past claims experience to the policyholder's specific situation.

The explanation of technical concepts including capital adequacy, reinsurance and the role of regulation was a key requirement. Better candidates were able to explain the concepts in a concise, clear manner. Many candidates did not explain the implication of the level of the capital adequacy ratio correctly, or at all. Some correct interpretations were that the insurer had sufficient capital to meet its claims 3.2 times over or 2.2 times more than the required amount.

In terms of past claims experience, candidates were expected to use the information given to demonstrate to the client that his concerns regarding non-payment were not valid. Candidates were expected to demonstrate that the largest claims paid previously were more than double the client's own cover. In addition, the expectation was that unpaid and rejected claims statistics should be used to demonstrate the commitment of the insurer to pay claims. Better candidates were able to synthesise the information given to summarise the details relevant to the client's concerns.

## QUESTION 2

This question tested candidates' ability to construct an accessible presentation to Matric students from the information given. Some of the technical information required in the presentation needed to be derived from the question. There was an opportunity to utilise different types of graphics and pictures to enhance the presentation.

Candidates needed to realise that they should have adjusted the first three draft slides given in the question, adjusting the title and date, creating more appropriate slide headings on the "Topics to be covered" slide and filling in the missing information on slide 3. A large amount of guidance as to the expected content of the remainder of the presentation was given on draft slide 2 of the question.

Better candidates contrasted the cost, sale and profit model of butternut directly to that of cauliflower, noting that cauliflower profits decreased as sales increased. Selling one cauliflower would increase overall profits, while selling 10 would decrease overall profits. It was seen as a fatal flaw if a draft solution to this question calculated the optimal number of butternuts and cauliflowers incorrectly.

Some candidates failed to realise that the difference between current and expected profits under the proposed system should be calculated over a 40 week period.

## Sample Answer – Question 1

<LifeCo Letterhead, including address and contact details>

27 October 2017

Mr Dan Chrisholm

PO Box 12345

Pleasantville

8010

Dear Mr Chrisholm

### **Claims underwriting and spread of risk**

Thank you for your enquiry about your LifeCo contract. This letter outlines some details that should address your concerns about the use of the Wellness Programme assessment outcomes for claims assessment and the possibility that LifeCo will delay, or even avoid, the payment of large claims.

#### ***Wellness Programme and discounts***

LifeCo's Wellness Programme allows clients such as yourself the opportunity to earn discounts on their life cover by completing a simple health assessment at the start of their policy. Initial discounts are kept by completing online assessments every two years.

The purpose of the Wellness Programme assessment is to keep you aware of your health status so you may pro-actively manage your own health. LifeCo will not use the results of the assessments to provide us with reasons not to pay your claims. The Wellness Programme is a service we provide to our clients to encourage healthy living.

#### ***LifeCo's ability to pay claims – overall claims***

LifeCo ensures that it is able to settle all its claims because we set aside money to meet our expected claims. Due to the significant influence that insurance has on the financial well-being of individuals, companies, and communities, it is heavily regulated by the Financial Services Board. This ensures that life insurers are able to meet their contractual obligations to their policyholders.

A measure of the financial strength of an insurer is the funds it has available above the capital requirements set by the Regulator. LifeCo has set aside 2.2 times more money than required by the Regulator to meet expected claims.

In addition to regulatory obligations, LifeCo has several risk management strategies in place to manage different risks. To manage the risk of large claims, LifeCo partners with global reinsurers. Reinsurance acts like insurance for insurance companies and aids in reducing the risk that an insurer will not be able to meet its obligations.

### ***LifeCo's ability to pay claims – individual claims***

In order to put your mind at ease about your own cover and our ability to meet claims, I summarise our most recent publicly available claims statistics.

The largest individual claims paid by LifeCo in the last year are more than double your current levels of cover. In total, we made payments of R 3.8 billion in claims for all three of the categories of cover you have in 2016.

Of all the claims received, only 1.13% of all claims were not paid due to exclusions (e.g. suicide within the first two years after taking out a death benefit) or material nondisclosure (e.g. not disclosing a cancer diagnosis and then submitting a claim due to cancer).

In addition to this, less than 4% of all claims were not paid due to a misunderstanding of the cover provided, a client not meeting medical definitions or due to fraudulent claims, which is unlikely to apply in your case. This should convince you that LifeCo endeavours to ensure claims are paid timeously and responsibly.

### **Conclusion**

To summarise, I would like to reiterate that LifeCo does not use its Wellness Programme to assess the validity of claims or cover, it is an additional service we provide to clients to manage their health and be rewarded for doing so.

LifeCo also maintains a healthy capital position and manages its risk by various risk management strategies to ensure that we are able to pay claims as they arise and meet the needs of our clients and their beneficiaries. Our track record of claims payments attests to this.

Should you require any additional information, or clarification of the issues discussed, please contact me or your broker.

Yours sincerely

*Signature*

Andy Murray  
Marketing Actuary

**[602 words]**

## Sample Answer – Question 2

### Draft solution:

# Potential to increase airtime money

Sell a mix of butternut and cauliflower

To: Learn2Grow participants  
By: Val Unteer  
Entrepreneur Mentor

12 March 2017

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## Topics to be covered

- Current profit situation
- Comparative profit trends per vegetable
- Profit from cauliflower sales
- Profit varies per vegetable mix
- Profit per weekly vegetable mix
- Profit maximisation
- Conclusion

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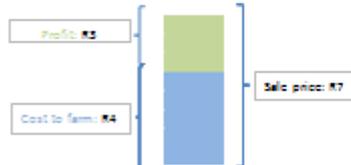
## Current profit situation

Aim: maximise money raised (profit) for buying airtime by selling 10 vegetables a week

Currently

- Farm and sell 10 butternuts a week 🍠

Per butternut sold:



- Profit = sale price - cost
  - Sell each butternut for the same profit of R3
  - Total profit earned = profit per sale x number sold = R30 a week
- Opportunity: sell some cauliflower in place of butternut for more profit

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## Comparative profit trends per vegetable

Current crop: butternut

- Fixed sale price and cost
- Profit fixed at R3 per sale



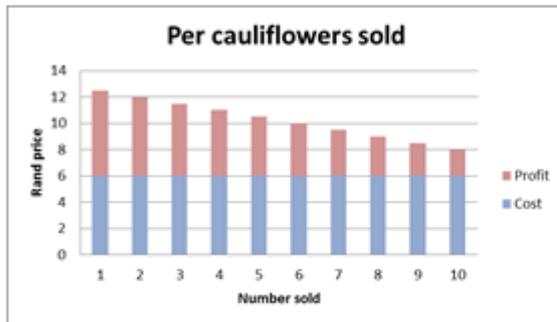
Alternative crop: cauliflower

- Sale price for all decreases by R0,50 as more sold
  - Sell 1 for R12,50
  - Sell 2 for R12,00 each, etc.
- Cost fixed at R6 per sale
- Profit decreases for additional sales



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## Profit from Cauliflower sales



E.g.: Swap 1 butternut sale for 1 cauliflower sale

: Swap 1 butternut profit (R3) for 1<sup>st</sup> cauliflower sale profit (R6,50)

: Increase total profit by R3,50 from R30 to R33,50

## Profit varies per vegetable mix

- Total profit for selling 10 🥔  
 $10 \times \text{butternut profit} = 10 \times R3 = R30$
- Swapping 1 butternut for 1 cauliflower increases total profit
- Total profit for selling 9 🥔 and 1 🥦  
 $9 \times \text{butternut profit} + 1 \times \text{cauliflower profit} = R33,50$
- **But** profit per cauliflower decreases as sales increase
- Total profit for selling 10 🥦  
 $10 \times \text{cauliflower profit} = 10 \times R2 = R20$

Maximise profit in between selling only butternut or only cauliflower

## Profit per weekly vegetable mix

Butternut	Cauliflower	Butternut profit = number sold x profit per sale	Cauliflower profit = number sold x profit per sale	Total profit
10	0	R 30,00	R 0	R 30.00
9	1	R 27,00	R 6,50	R 33.50
8	2	R 24,00	R 12,00	R 36.00
7	3	R 21,00	R 16,50	R 37.50
6	4	R 18,00	R20,00 = 5 x R4,00	R 38.00
5	5	R 15,00	R 22,50	R 37.50
4	6	R 12,00	R 24,00	R 36.00
3	7	R 9,00	R 24,50	R 33.50
2	8	R 6,00	R 24,00	R 30.00
1	9	R 3,00	R 22,50	R 25.50
0	10	R 0	R 20.00	R 20.00

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## Profit maximisation

- Profit maximised by growing and selling 6 Butternut and 4 Cauliflower
- No other combination gives a profit bigger than R38
- Total profit change over 40 weeks to year end
  - Selling 10 🍠 Profit = R30 x 40 = R1 200
  - Selling 6 🍠 and 4 🥦 Profit = R38 x 40 = R1 520
  - Improve profit over 40 weeks by R320!

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## Conclusion

- Adding cauliflower to range of vegetables sold increases profit

But do not swap all butternut for all cauliflower

- Price decreases as more cauliflower is sold
- Cost for cauliflower is higher than for butternut
- Best vegetable mix currently is growing and selling 6 🍌 and 4 🥦
- Increases total profit over 40 weeks by R320: more airtime!



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## ANY QUESTIONS?

Contact details:

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## THANK YOU

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## END OF EXAMINERS' REPORT