ACTUARIAL SOCIETY
OF SOUTH AFRICA

Actuarial Society of South Africa

EXAMINATION

May 2023

Subject N211 — 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.

The examination required the candidates to draft

1. A letter to the marketing manager of a company, in which the candidate provides an assessment of the financial viability of the company's proposed marketing campaign.
2. A marketing presentation on behalf of a solar installation company to be presented at a homeowner's association meeting outlining the financial and other benefits of purchasing or renting a solar installation vs remaining dependent on Eskom.

General Examiner's comments

Question 1

The examination required candidates to draft a letter addressed to the marketing manager of a soft drink company. In the letter the candidate was required to provide an assessment of the financial viability of a marketing campaign proposed by the company. The main part of the campaign was financially viable, however a combination of one of the features and an alteration to the campaign made the campaign potentially ruinous for the company.

The question made some specific requests of the candidates namely:

- summarise the key features of the campaign,
- calculate the merchandise item cost per point and show that only one of the items needs to be considered,
- prepare a mini-income statement and calculate the profit margin,
- explain profit margin versus absolute profit,
- express a view of whether the points purchase feature should be included or not, and
- recommend amendments to the campaign.

Many candidates let themselves down by not identifying the specific instructions in the question. Good candidates recognise that these instructions are the key aspects of the solution that the examiner wants addressed and use these instructions to structure their solution. Summarising the key features of the campaign, for example, was a straightforward instruction with straightforward points to make, however was poorly covered in general.

Most candidates got most of the marks available for preparing a table of merchandise item costs per point and the mini-income statement. It was surprising though that quite a few candidates couldn't do these calculations correctly.

Some candidates don't think carefully enough about the type of visual representation of information that is best suited to the information. In this question, given the nature of the information, tables were most appropriate. Some candidates, however, tried to make use of graphs. While some graphs were not wrong, the use of a pie chart for example made no sense for this information.

Few candidates identified that the alteration to the campaign to reduce the qualifying points for the jump jet was financially ruinous for the company. In some cases, not identifying the problem with the campaign led to a concluding recommendation that was fundamentally flawed and resulted in a failure mark for the question.

Conclusions in general could have been better. Candidates must tie the introductory purpose of the letter to the final recommendation and summarise the key findings that led to the final recommendation, even if this means some repetition, to get the marks available for the conclusion.

Some candidates lost unnecessary word count and format marks. It clearly stipulated in the instructions that graphs, if inserted, needed to be counted manually and added to the automatic word count. Words and numbers must be counted. Their inclusion needs to be checked through highlighting to ensure the correct word count. The format mark includes both address details, the date, salutation, close as well as spacing and positioning.

The tone should be friendly yet professional with full, clear explanations to the marketing manager who is not a specialist in the field – especially as incorrect or misleading recommendations could prove ruinous to the company.

Question 1 - Draft Solution

<Company letterhead, including full address and contact details>

15 March 2023

Mr M Adams
Marketing Manager
XYZ Beverages
12 Grayston Drive
Sandton
1234

Dear Mr Adams

Feasibility of Marketing Campaign

Thank you for the opportunity to provide an assessment of what promises to be an exciting campaign for XYZ Beverages.

To ensure I have understood the features of the campaign correctly, I have summarised them here:

- The marketing campaign period is for a year.
- Each soft drink purchased during the campaign gives the purchaser two points.
- Points can also be purchased for R2 per point to top up points earned from purchases.
- All points accumulated can be exchanged for merchandise items of varying value in points.
- The campaign is expected to increase sales by 40%.

The inclusion of the Harrier Jump Jet is to generate interest in the campaign, but is no way expected to be delivered to any customer.

Financial Analysis

The cost of each item offered can be expressed per point required to qualify for that item.

Item	Cost per point
Sun cap	0.640
T-shirt	0.600
Towel	0.583
Sunglasses	0.580
Bag	0.573
Watch	0.571
Jacket	0.564
Mountain Bike	0.556
Harrier Jump Jet	0.500

The most expensive item per point is the sun cap. If the campaign is financially viable on the sun cap, then it is financially viable on any item and any combination of items.

The financial viability of the campaign can be assessed by considering the profit earned without the campaign and with the campaign. The illustration of the financial viability is based on 1 000 soft drink sales without the campaign and 1 400 sales with the campaign.

	Without Campaign	With Campaign
Revenue	R 10 000	R 14 000
Costs	R 7 500	R 9 500
Net Revenue	R *2 500*	R *4 500*
Cost of Sun Caps		R 1 792
Net Profit	**R 2 500**	**R 2 708**
Profit Margin	25.00%	19.34%

Although the profit margin as a percentage of revenue is lower with the campaign, the total profit for XYZ Beverages is R208 higher per 1 000 pre-campaign sales. The campaign is therefore financially viable even though the profit margin reduces. Since the campaign is financially viable on sun caps, it will be viable for the other items as explained above.

Points Purchase

The option to purchase points reduces the profitability of the campaign. Without the option, if there are insufficient points to redeem for an item, these points would be forfeited for no value. For example

- With no points purchase option, a customer with 40 points earned, produces a profit for the company of R64.20.
- Including the points purchase option and the customer receiving a sun cap, reduces this profit to R52.29.

The point purchase option should only be included if it results in additional sales over and above the increase in sales from the point earning feature of the campaign.

Amendment

To assess the amendment, consider a customer who purchases all 100m points for the Harrier Jump Jet at R2 per point. The cost to the customer is R200m and for this, XYZ Beverages will need to deliver a Harrier Jump Jet that will cost them R500m to acquire.

The amendment proposed to change the points to qualify for the Harrier Jump Jet while there is an option to purchase points is not financially viable.

Conclusion

The campaign is financially viable if the assumption about the expected uplift in sales is achieved. The option to purchase points reduces the profitability of the campaign. The reduced points to qualify for the Harrier Jump Jet while retaining the option to purchase points is likely to result in material financial losses for XYZ Beverages. The option to purchase points should be omitted from the campaign. The remaining features of the campaign are financially viable.

If you would like to discuss the conclusions presented in this analysis, please call me on 011 123 4567.

Yours sincerely

<signature>

Alex Jansen
Consulting Actuary

[623 words]

Question 2

Candidates were required to compile a presentation for members of a Homeowners' Association to advertise the benefits of installing or renting solar power to largely replace Eskom reliance. Two draft slides were provided, and students were told that they could edit them further. An introductory or background slide was missing from the Agenda provided. Students were expected to include such a slide to provide a context to the presentation, particularly as it was being presented by an actuary on behalf of the solar company. The title slide could therefore also identify the presenter's profession. As a courtesy, who the presentation is for usually goes ahead of who by; a few students changed the draft slide to indicate this.

The question required that basic time value of money calculations be done and the results outlined to the audience. Candidates were not required to explain the calculations in any detail but to outline the results in an accessible way in the presentation.

Disappointingly few candidates were able to calculate the correct electricity costs and present values of the three scenarios correctly. There was a clear distinction between those candidates who had a reasonable understanding of the time value of money and those who were not able to deduce that the relative value of continued Eskom reliance was more costly than either a rental or a fully paid solar power installation.

Several marks were available for outlining the comparative upfront and ongoing costs for each scenario. These marks were missed by quite a few candidates.

There was ample opportunity to illustrate the information contained in the question graphically which better candidates were able to implement with success.

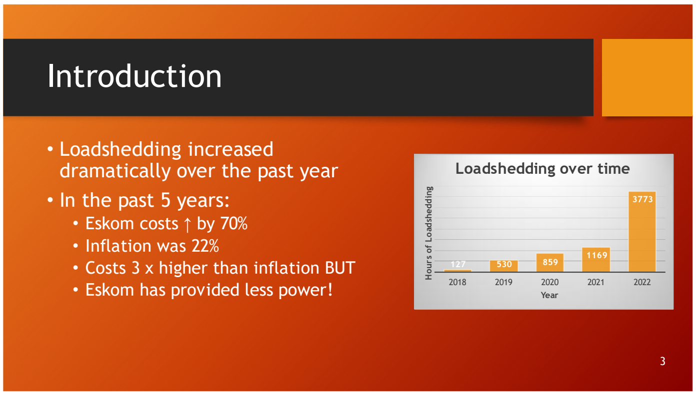
Candidates were expected to provide clear conclusions regarding:

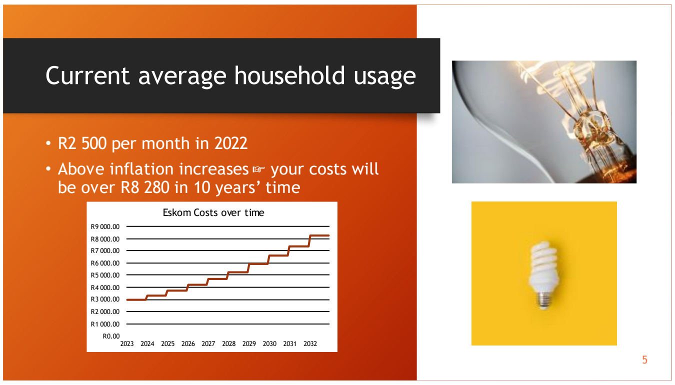
- the ongoing risk of loadshedding
- Eskom costs far outstripping inflation, and
- the benefits of using a solar installation.

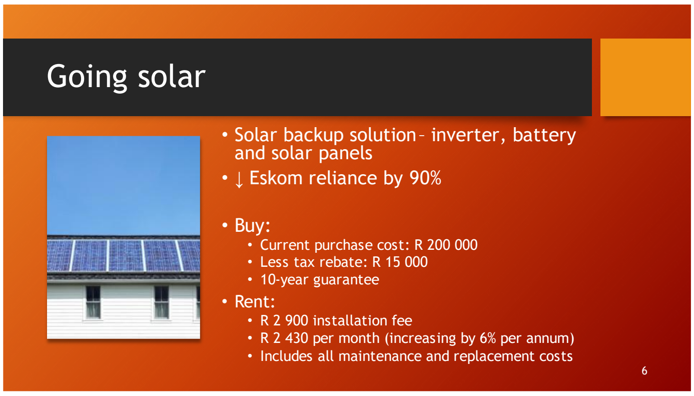
The presentation was meant as a marketing tool to outline the benefits of solar rather than remaining on Eskom power. Stronger candidates were able to do this successfully and were clear that the contact person was not the presenter but the solar/electrical services company who requested the presentation. It was therefore important to provide their (or both) sets of contact details on the final slide.

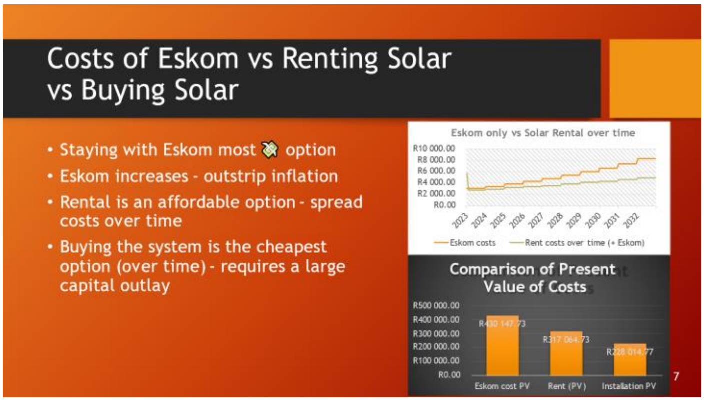
Many students used appropriate yellow/orange colour schemes and solar icons which suited the topic and added to the communicative appeal of the presentation.

Question 2 - Draft Solution

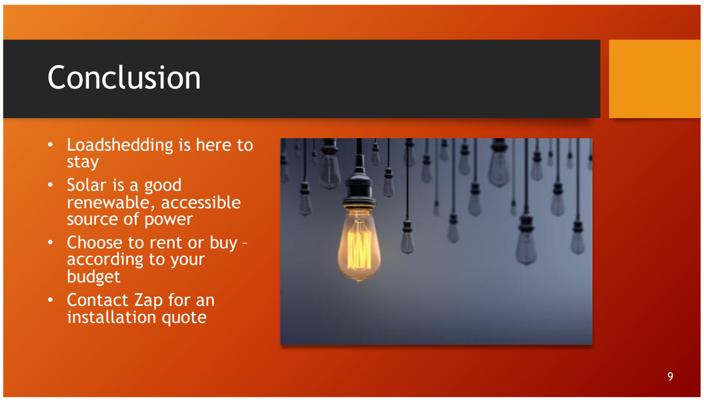



Current average household usage
• R2 500 per month in 2022
• Above inflation increases ☞ your costs will be over R8 280 in 10 years' time
Eskom Costs over time
5


Going solar
• Solar backup solution - inverter, battery and solar panels
• ↓ Eskom reliance by 90%
• Buy:
• Current purchase cost: R 200 000
• Less tax rebate: R 15 000
• 10-year guarantee
• Rent:
• R 2 900 installation fee
• R 2 430 per month (increasing by 6% per annum)
• Includes all maintenance and replacement costs
6


Costs of Eskom vs Renting Solar vs Buying Solar
• Staying with Eskom most option
• Eskom increases - outstrip inflation
• Rental is an affordable option - spread costs over time
• Buying the system is the cheapest option (over time) - requires a large capital outlay
Eskom only vs Solar Rental over time
R10 000.00
R8 000.00
R6 000.00
R4 000.00
R2 000.00
R0.00
2023 2024 2025 2026 2027 2028 2029 2030 2031 2032
Eskom costs
Rent costs over time (+ Eskom)
Comparison of Present Value of Costs
R500 000.00
R400 000.00
R300 000.00
R200 000.00
R100 000.00
R0.00
Eskom cost PV
Rent (PV)
Installation PV
7


Comparison of options
Eskom
• Present value cost = R 430 147
• Continued risk of loadshedding
• Continued risk of increases well above inflation
Rent Solar
• Present value cost = R 317 065
• Includes all maintenance and replacement costs
• 6% increases annually
• Decreases Eskom reliance by 90%
• Renewable energy = environmentally friendly
Buy Solar
• Present value cost = R 228 015
• Tax rebate available
• 10-year guarantee
• Decreases Eskom reliance by 90%
• Cheapest option available
• Large capital outlay required
• Most likely requires replacement after 10 years.
• Renewable energy = environmentally friendly
8


Conclusion
• Loadshedding is here to stay
• Solar is a good renewable, accessible source of power
• Choose to rent or buy - according to your budget
• Contact Zap for an installation quote
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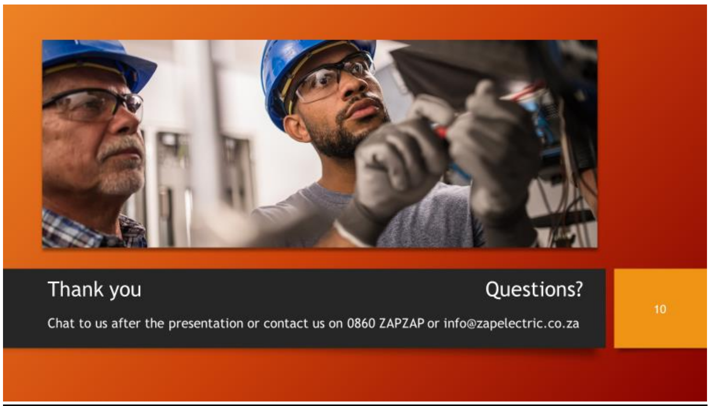
Thank you
Questions?
Chat to us after the presentation or contact us on 0860 ZAPZAP or info@zapelectric.co.za
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