Actuarial Society of South Africa

EXAMINATION

October 2020

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.

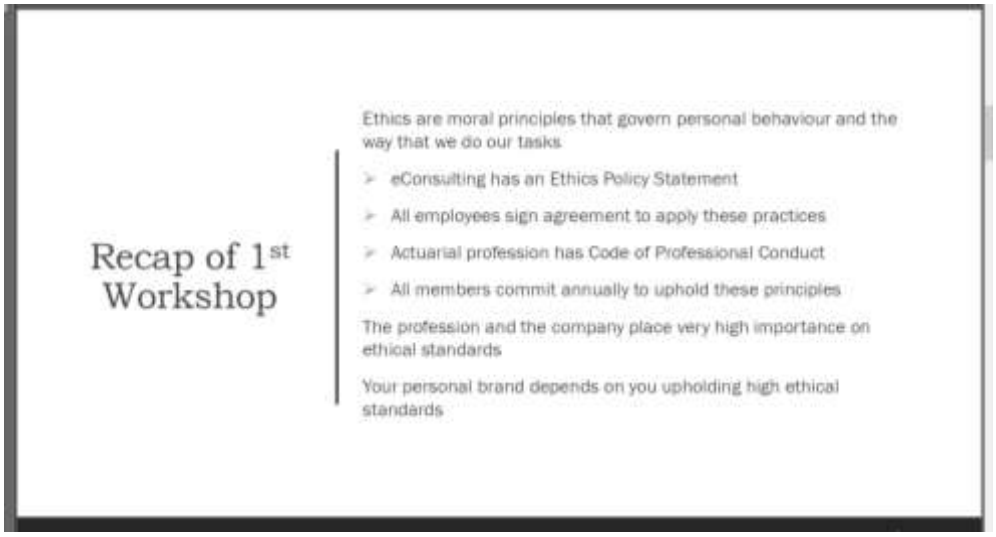
The examination required the candidates to draft
1. Presentation slides as part of an in-company series on ethics
2. A letter to a farmer explaining the accumulation of a worker's retirement savings

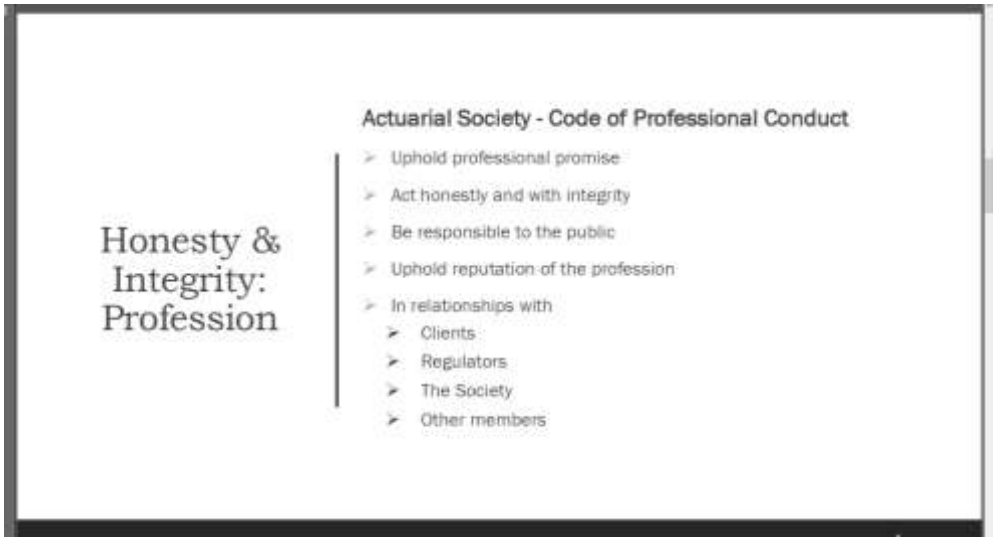
QUESTION 1

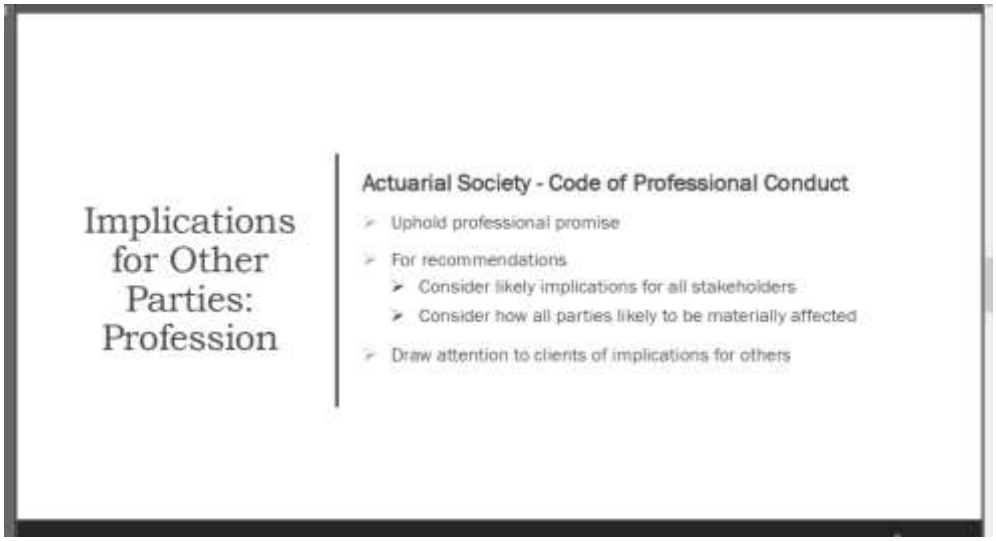
The question required the candidates to prepare a presentation for junior actuarial students on two ethics themes. The candidates were given extracts from the ASSA code of professional conduct and well as from a company ethics policy. All the information necessary to prepare the presentation was included in the question. In addition to communicating the information that they had been given, the candidates were required to apply the ethics policies to a simple case study.

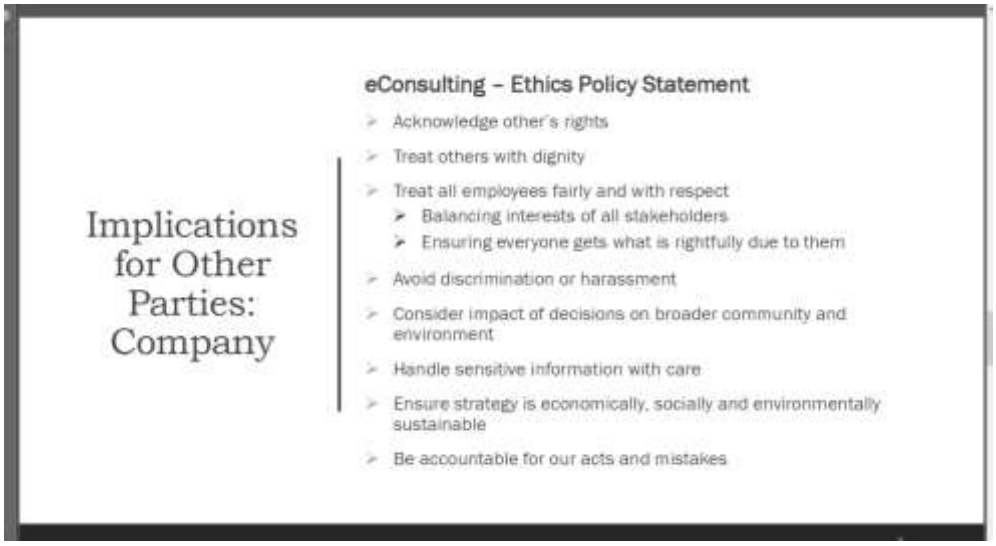
As expected, the marks for the content were generally high as all the information necessary was available in the question. The style and quality of the presentation would therefore be the differentiator of candidates. There were however candidates who unnecessarily made up their own information and did not earn the content marks. The most common flaw however was omitting information that was important to include in the presentation.

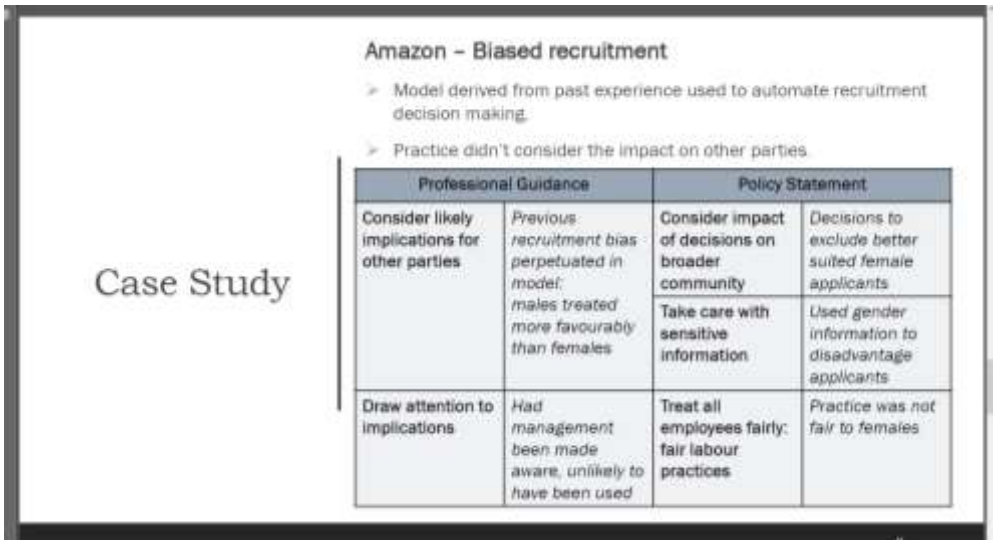
Question 1 - Draft Solution











QUESTION 2

This question required candidates to explain compound interest relating to the accumulation of a farmworker's retirement savings to the farmer which is to pay out the savings at the end of the year. Since the recipient did not request the letter, therefore a clear introductory paragraph setting the scene was important.

Despite the relative simplicity of the required calculations, a larger number than expected candidates did not calculate the savings correctly, with most erring with respect to the interest rate conversions between nominal and effective rates of interest. Loan calculations were mostly correct.

The main challenge in this question was to use appropriate tone to explain the farmer's error in calculating savings without coming across as condescending or prescriptive. The tone also had to remain sufficiently formal for a written letter. Better candidates were able to balance explanation of the concepts and actual calculations with appropriate tone as well as the interests of both parties.

Examples are a powerful tool to explain a technical concept easily. Using some of the actual values from the required calculations would have been a better option than arbitrary values and would have saved on word count. Many attempts were much longer or shorter than required, with the majority of shorter versions missing out on appropriately detailed tables (as requested in the question).

Weaker attempts demonstrated a lack of attention to detail with respect to names, email formatting as opposed to a formal letter, and lack of context being among the main issues. Stronger candidates were able to provide clear and correct information, in the correct format, and ensure that the correct message was conveyed.

Question 2 - Draft Solution

<Letterhead with full address and contact details>

12 October 2020

Mr Jimmy Orchard
Orchard Farms
De Doorns
Western Cape
6875

Dear Mr Orchard

Jake Fortuin's Retirement Payment

I represent Farmworkers' Aid, an NGO which assists farmworkers who do not belong to a union with managing their money and employer relationships. I am writing to you to clarify the expectations around the payment due to Jake Fortuin upon his retirement at the end of the year.

As I will explain, the total amount owed to Jake at the end of 2020 will be R146 825, if we take the debt he owes you into account as well. This is because the amounts invested should be earning interest from the time they are invested.

Compound Interest

The agreement that you and Jake had, outlines that interest will be added at 8% per annum compounded monthly, which decreased to 6% from 2018. This means that every amount saved will earn interest of 0.67% per month at first, and then 0.5% for the last three years. Since you are adding compound interest, the monthly interest added will also earn interest in the next month.

For example, at the end of January 2000, Jake saved R50. At the end of February 2000 this had accumulated to R 50.33 (R50 x 1.0067) and at the end of March 2000 this was worth R50.67 (R50 x 1.0067 x 1.0067 or R50 x 1.0067^2) and so on to a total value of R53.81 at the end of 2000.

If we consider all 12 R50 amounts saved over the year, the total savings at the end of 2000 were worth R622.50. At the end of 2020 (or 240 months later) this R622.50 would be worth R2 889.32. As agreed, the interest rate changes for the last three years.

Retirement Savings

The table below outlines the annual savings and their value at the end of the respective years as well as their value at the end of 2020:

Year	**Monthly Savings**	**Total annual Savings**	**Annual savings at the end of the year**	**Interest earned from end of year of savings up to retirement**	**Value at retirement (end 2020)**
2000	R50.00	R600.00	R622.50	R2 324.85	R2 889.32
2001	R75.00	R900	R933.74	R3 148.45	R4 001.83
2002	R100.00	R1 200	R1 244.99	R3 780.80	R4 926.84
2003	R125.00	R1 500	R1 556.24	R4 244.54	R5 686.57
2004	R150.00	R1 800	R1 867.49	R4 559.97	R6 300.91
2005	R175.00	R2 100	R2 178.74	R4 745.27	R6 787.69
2006	R200.00	R2 400	R2 489.99	R4 816.72	R7 162.85
2007	R225.00	R2 700	R2 801.23	R4 788.83	R7 440.64
2008	R300.00	R3 600	R3 734.98	R5 609.52	R9 160.53
2009	R325.00	R3 900	R4 046.23	R5 301.16	R9 163.35
2010	R350.00	R4 20	R4 357.47	R4 937.46	R9 111.94
2011	R400.00	R4 800	R4 979.97	R4 828.70	R9 615.56
2012	R500.00	R6 000	R6 224.96	R5 096.22	R11 098.30
2013	R550.00	R6 600	R6 847.46	R4 651.44	R11 272.51
2014	R600.00	R7 200	R7 469.96	R4 112.92	R11 354.84
2015	R650.00	R7 800	R8 092.45	R3 494.00	R11 358.34
2016	R700.00	R8 400	R8 714.95	R2 806.49	R11 294.61
2017	R750.00	R9 000	R9 337.44	R2 060.90	R11 173.94
2018	R800.00	R9 600	R9 868.45	R1 254.87	R11 123.32
2019	R850.00	R10 200	R10 485.23	R646.71	R11 131.93
2020	R900.00	R10 800	R11 102.01	R0.00	R11 102.01
	Total Savings	**R105 300**		**Total Savings plus interest**	**R183 157**

As you can see, your calculation of the total savings was correct, but did not consider the compound interest. The interest is also dependent on both the amount saved and the time to retirement.

Loan Repayment

Similarly, we can calculate how the loan Jake took in January 2016 will accumulate interest of 7.5% per year or 0.625% per month over the 5 years or 60 months to the end of 2020.

Jake will owe you R36 332 (R25 000 x 1.00625^{60}) at the end of 2020.

Conclusion

If we subtract the amount Jake will owe (R36 332) from the amount that he has saved plus interest (R186 166) we see that Jake should receive R146 825 when he retires at the end of 2020.

If you have any further questions or would like to discuss any of the calculations, we can arrange a time to meet with you and Jake. Kindly contact me at 076 123 4567 or aactuary@fwaid.org.za.

Yours sincerely

Signature

Alex Coetzee

Junior Actuary

C: Mr J Fortuin

Word count: 708 words

END OF EXAMINERS' REPORT

