

Exam GHFVC

Date: Wednesday, May 4, 2022

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This examination has 11 questions numbered 1 through 11 with a total of 100 points.

The points for each question are indicated at the beginning of the question. Questions 10 and 11 pertain to the Case Study.

2. While every attempt is made to avoid defective questions, sometimes they do occur. If you believe a question is defective, the supervisor or proctor cannot give you any guidance beyond the instructions provided in this document.

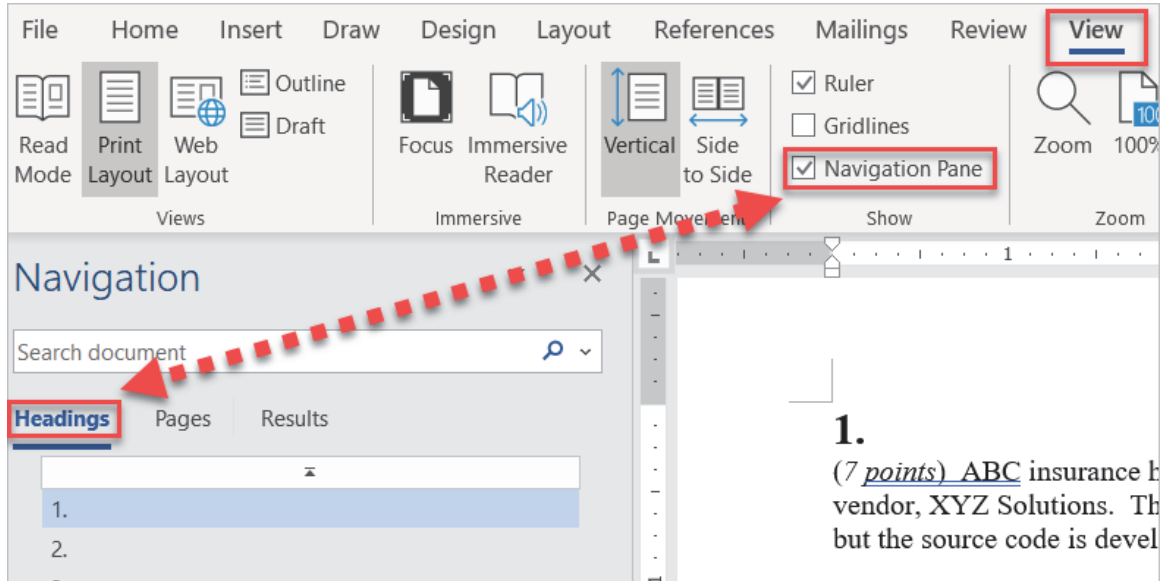
Written-Answer Instructions

1. Each question part or subpart should be answered either in the Word document or the Excel file as directed. Graders will only look at work in the indicated file.
 - a) In the Word document, answers should be entered in the box marked ANSWER. The box will expand as lines of text are added. There is no need to use special characters or subscripts (though they may be used). For example, β_1 can be typed as beta_1 (and ^ used to indicate a superscript).
 - b) In the Excel document formulas should be entered. Performing calculations on scratch paper or with a calculator and then entering the answer in the cell will not earn full credit. Formatting of cells or rounding is not required for credit.
 - c) Individual exams may provide additional directions that apply throughout the exam or to individual items.
2. The answer should be confined to the question as set.
3. Prior to uploading your Word and Excel files, each file should be saved and renamed with your five-digit candidate number in the filename.
4. The Word and Excel files that contain your answers must be uploaded before time expires.

Navigation Instructions

Open the Navigation Pane to jump to questions.

Press Ctrl+F, or click View > Navigation Pane:



CASE STUDY INSTRUCTIONS

The case study will be used as a basis for some examination questions. Be sure to answer the question asked by referring to the case study. For example, when asked for advantages of a particular plan design to a company referenced in the case study, your response should be limited to that company. Other advantages should not be listed, as they are extraneous to the question and will result in no additional credit. Further, if they conflict with the applicable advantages, no credit will be given.

1.

(8 points) You are the consulting valuation actuary for Randolph Health Insurance (RHI).

- (a) (1 point) Describe the considerations regarding the quality of data to be used for reserving according to Actuarial Standard of Practice No. 23.

ANSWER:

- (b) (1 point) Describe the considerations when setting initial lag factors for the age-to-age development method.

ANSWER:

In the Excel file, you are provided with RHI's cumulative paid claims by incurred month from January 2019 through December 2021 and member count for each month.

The CEO has asked you to provide an IBNR estimate as of 12/31/2021 with the following information and assumptions:

- Use the smoothed age-to-age factors by applying the averaging technique using the most recent six months of claims data and assuming all claims complete after 12 months
 - Use the projection method to replace the incurred claim estimates for months where the completion factors are less than 30%
 - Trend rate is 10% per annum.
 - Use the January 2019-December 2020 experience period to develop the PMPMs.
- (c) (6 points) Calculate the IBNR estimate as of 12/31/2021. Show your work.

The response for this part is to be provided in the Excel spreadsheet.

2.

(8 points)

- (a) (3 points) You are an actuarial manager at a Long Term Disability (LTD) insurer. You receive the following email from your direct report.

Hi, I was asked to help calculate the pending reserve for one of our members, age 40. We were informed of the claim one month after the end of the three-month elimination period. This member has a \$1000 monthly benefit payable for six months. I used our normal assumptions (interest rate at 4%, pending factor of 60%) and came up with a pending reserve of \$2747.27. Can you help review this to make sure I'm coming up with the correct answer?

- (i) Critique the accuracy of your direct report's calculated pending reserve using your own estimate from the continuance table provided. Show your work.

| Claim Duration (months) | Age 40 at Claim |
|------------------------------------|------------------------|
| 0 | 1000 |
| 1 | 960 |
| 2 | 920 |
| 3 | 880 |
| 4 | 845 |
| 5 | 815 |
| 6 | 790 |
| 7 | 765 |
| 8 | 745 |
| 9 | 725 |
| 10 | 0 |

The response for this part is to be provided in the Excel spreadsheet.

2. Continued

You receive a follow-up email from your direct report.

Hi, it turns out I had it backwards on when we were informed of the claim. Rather than one month after the end of the elimination period, it's supposed to be one month before the end of the elimination period. Sorry about that!

- (ii) Evaluate how the pending reserves may change based on the follow-up email.

ANSWER:

Your direct report has put together the table below listing considerations for each of short and long term reserves.

| Consideration | Long Term Reserves | Short Term Reserves |
|------------------------------|--------------------|---------------------|
| 1. Seasonality | X | |
| 2. Internal staff practices | | X |
| 3. Economic conditions | X | |
| 4. Claim Expenses | X | |
| 5. Reserve cells | X | |
| 6. Policy provisions | X | X |
| 7. Data integrity | | X |
| 8. Insurance characteristics | X | |

- (b) (4 points)

- (i) (2 points) Describe each consideration listed in the table above.

ANSWER:

- (ii) (2 points) Critique the accuracy of each row in the table above.

ANSWER:

2. Continued

- (c) (1 point) List and describe considerations of short term and long term reserves not identified above.

ANSWER:

3.

(7 points) You are the valuation actuary for a Canadian insurer specializing in Group health and disability.

- (a) (2 points) Describe challenges facing actuaries valuing Group health and disability business.

ANSWER:

- (b) (1 point)

- (i) Define the Canadian Asset Liability Method (CALM).

ANSWER:

- (ii) Explain the link between CALM policy liabilities and the accounting value of the supporting assets.

ANSWER:

- (c) (1 point) List factors to consider for setting termination rate assumptions for Group Long Term Disability (LTD).

ANSWER:

3. Continued

You are given the following information on your block of Group LTD policies:

| Claim duration | Reserve at 2021-01-01 | Actual 2021 payments | Reserve at 2021-12-31 |
|----------------|-----------------------|----------------------|-----------------------|
| 11 | 281,000 | 48,000 | 241,000 |
| 10 | 71,000 | 13,000 | 62,000 |
| 9 | 79,000 | 15,000 | 67,000 |
| 8 | 83,000 | 16,000 | 73,000 |
| 7 | 94,000 | 19,000 | 80,000 |
| 6 | 113,000 | 18,000 | 99,000 |
| 5 | 120,000 | 16,000 | 102,000 |
| 4 | 135,000 | 18,000 | 117,000 |
| 3 | 169,000 | 23,000 | 146,000 |
| 2 | 218,000 | 38,000 | 172,000 |
| 1 | 285,000 | 60,000 | 219,000 |
| Current year | n/a | 23,000 | 400,000 |

- The valuation interest rate is 2%
- Payments occur at the midpoint of the year.

(d) (2 points) Calculate the gain/loss by duration and in total. Show your work.

The response for this part is to be provided in the Excel spreadsheet.

(e) (1 point) Assess the adequacy of the reserve as of 2021-12-31. Justify your answer.

ANSWER:

4.

(7 points) You are the lead reserving actuary at Family Insurance Company (FIC), a small health insurance company whose primary market is selling Affordable Care Act (ACA)-compliant insurance.

Recently, a new type of head lice has emerged which causes more severe reactions due to secondary infections. Most kids infected need to be treated with antibiotics, while a few have also required hospitalization. Unfortunately, there is no treatment to stop the spread of these lice, and schools across the country have switched to remote learning. As a result, many parents have also been required to switch to working from home.

- (a) (1 point) Describe three different ways to incorporate conservatism into Incurred But Not Reported (IBNR) estimates.

ANSWER:

- (b) (1 point) Recommend which method from (a) FIC should use for the ACA business. Justify your answer.

ANSWER:

Your team has compiled the following information about the ACA business.

| | Year 1 | Year 2 | Year 3 |
|--------------------------------|--------------|--------------|--------------|
| Premium PMPM | \$598 | \$600 | \$626 |
| Claims PMPM | \$481 | \$540 | \$513 |
| Marketing Expense PMPM | \$55 | \$50 | \$52 |
| Claims Department Expense PMPM | \$15 | \$25 | \$26 |
| FIC's Salaries | \$47,640,000 | \$60,150,000 | \$67,080,000 |
| Discount Rate | 0% | 0% | 0% |
| Number of Members | 198,500 | 200,500 | 215,000 |

- (c) (1 point) Calculate the Premium Deficiency Reserve (PDR) that should be recorded at 12/31/Year 2. Show your work.

The response for this part is to be provided in the Excel spreadsheet.

4. Continued

FIC also has a small block of Accident business which pays the policyholder a fixed amount if they are impacted by a covered accident.

- (d) (2 points) Recommend any conservatism FIC needs to include in each of the following reserves for the Accident business because of the lice outbreak. Justify your answer.

- (i) IBNR

ANSWER:

- (ii) Contract Reserves

ANSWER:

- (e) (2 points) Compare and contrast how this outbreak affects the reserves held for the ACA and Accident blocks of business.

ANSWER:

5.

(10 points)

- (a) (1 point) Describe the basic components of Embedded Value (EV).

ANSWER:

- (b) (2 points) Describe the main types of assumptions used in EV calculations.

ANSWER:

Your team has presented you with the following information on an acquisition target:

- Annual Premiums: \$12,000,000
- Assumptions
 - Estimated renewal increase per year: 6%
 - Expected lapses per year: 12%
 - Minimum Continuing Capital and Surplus Requirement (MCCSR) factor is 12% and current fluctuation factor is 75%
 - Capital Target: 175%
 - Expected Earnings on Capital: 5% (pre-tax)
 - Tax Rate: 40%
 - Premiums are paid at the beginning of the year
 - Lapses occurred at end of the year
 - Target post-tax profit: 14.0%
 - Discount rate per year: 10.5%

You have asked your team to produce an EV calculation to estimate what you may be willing to pay for the business. Your team has provided you with their EV calculation with a value of \$275,000 based on a 10 year projection.

- (c) (4 points) Assess the EV figure provided by your team. State any assumptions and show your work.

The response for this part is to be provided in the Excel spreadsheet.

5. Continued

You review the EV work and assumptions and write a report that you believe is a fair appraisal of the value of the acquisition target.

- (d) (2 points) List the items an actuary should disclose in an appraisal report according to ASOP 19.

ANSWER:

Your present the results to the Board of Directors, however, they believe the transaction is riskier than you have presented.

- (e) (1 point) Propose a change in your assumptions that would take into consideration the Board of Directors' concern. Justify your answer.

ANSWER:

6.

(11 points) As a consulting actuary, your client, Company XYZ, has asked you to review its current sick leave program. Your client currently has a program that provides 18 sick days per year that can accumulate to a maximum bank of 50 days.

Company XYZ is interested in learning more about government sickness benefits.

- (a) (2 points) Describe the eligibility requirements for Employment Insurance (EI) sickness and Canada Pension Plan (CPP) disability benefits.

ANSWER:

- (b) (1 point) Describe how employer-provided short-term and long-term disability plans interact with government programs.

ANSWER:

6. Continued

You are given the following information for 2021:

- Current Year's Maximum Pensionable Earnings (YMPE): \$61,600
- CPP disability flat monthly amount: \$511
- CPP disability monthly maximum: \$1,414
- Expected consumer price index (CPI) increase: 0%

You are also given the following information for one of Company XYZ's employees, Debbie:

- Pre-disability salary: \$52,000
- Average monthly pensionable CPP earnings: \$2,333
- Current age: 32
- Sick leave bank: 5 days
- Date of disability: January 1, 2021
- Debbie is approved for disability benefits until December 31, 2022

- (c) (2 points) Calculate the total benefit paid from EI and CPP. State any assumptions and show your work.

The response for this part is to be provided in the Excel spreadsheet.

6. Continued

Company XYZ wants to ensure that its group benefits program is aligned with its inclusion and diversity philosophy. In particular, Company XYZ would like to review benefits relating to maternity and parental leave.

Company XYZ has proposed the following supplemental plan to top up maternity and parental benefits:

- Top up benefits to 90% of pre-leave earnings will be provided during the first 8 weeks of receiving EI maternity or parental benefits
- Benefits of 90% of pre-leave earnings will also be provided during the EI waiting period
- The top up amount paid will reduce any sick bank amounts up to the current balance

(d) (2 points) Compare and contrast EI maternity and parental benefits.

ANSWER:

(e) (2 points) Critique the client's supplemental plan design.

ANSWER:

Another employee, Margaret, plans to take time off work for 26 weeks after giving birth and will go on maternity and parental leave during this time.

(f) (2 points) Calculate the total amount Margaret will receive from her employer supplemental plan and from EI during her time off work. State any assumptions and show your work.

The response for this part is to be provided in the Excel spreadsheet.

7.

(7 points) You are a group benefits actuary who specializes in financial analysis and reporting for a Canadian insurance carrier. As part of its group insurance operations, the company sells fully insured Long Term Disability (LTD) and health & dental products.

Your colleagues have shared with you the following financial results and pricing assumptions for the LTD, health and dental products:

| Annual Income Statement items | Actual | Plan |
|--|----------------|----------------|
| Year-ending December 31, 2021 | (\$000) | (\$000) |
| Revenues | | |
| Gross premiums | 372,000 | 350,000 |
| Premiums ceded | -19,440 | -20,250 |
| Net premiums | 352,560 | 329,750 |
| Investment Income from assets supporting LTD liabilities | 3,700 | 3,000 |
| Investment Income from assets supporting surplus | 500 | 500 |
| Total Revenues | 356,760 | 333,250 |
| | | |
| Benefits and expenses | | |
| Gross benefits and claims | 310,710 | 293,000 |
| Ceded benefits and claims | -17,250 | -17,500 |
| Change in contract liabilities | 9,180 | 10,000 |
| Change in reinsurance assets | -4,590 | -5,000 |
| Commissions | 14,880 | 14,000 |
| General expenses | 19,420 | 16,750 |
| Premium taxes | 11,160 | 10,500 |
| Total Benefits and Expenses | 343,510 | 321,750 |

| Contract Liabilities | Actual | Plan |
|--|---------------|-------------|
| Gross LTD Reserves on January 1 st , 2021 | 165,000 | 165,000 |
| Normal Change in claims liabilities | 8,530 | 10,000 |
| Impact of new valuation system | 650 | - |
| Gross LTD Reserves on December 31, 2021 | 174,180 | 175,000 |

| Pricing assumptions as a percentage of premium: | LTD | Health & Dental |
|--|------------|----------------------------|
| Administrative and claim management expenses | 6.50% | 4.50% |
| Commissions | 4.00% | 4.00% |
| Premium tax | 3.00% | 3.00% |
| Profit margin | 5.00% | 2.50% |

7. Continued

- The “plan” was produced using best estimate assumptions
- The company has a 50% coinsurance reinsurance arrangement for its LTD business and receives a 9.5% expense allowance from the reinsurer
- Interest earned on assets backing LTD contract liabilities was expected to be 3% while the actual interest earned in 2021 was 3.5% (calculated on the average of beginning and end of period reserves)
- The corporate tax rate is 20%

Your boss has asked for a report showing the annual financial results of the group insurance line of business as expected by the Office of the Superintendent of Financial Institution (OSFI) for the disclosure of a company’s Source of Earnings (SOE).

(a) (2 points) Calculate the following by completing the table:

| | Year 2021 |
|---|------------------|
| Expected Profit on In-Force Business | |
| Experience Gains & Losses | |
| Management Actions and Changes in Assumptions | |
| Earnings on Operations (pre-income tax) | |
| Earnings on Surplus | |
| Income before Income Tax | |
| Income Taxes | |
| Net Income | |

State any assumptions and show your work.

The response for this part is to be provided in the Excel spreadsheet.

7. Continued

Your boss has requested some additional insight.

(b) (3 points) Calculate the following:

(i) (1 point) Experience gain (or loss) from investment income

The response for this part is to be provided in the Excel spreadsheet.

(ii) (1 point) Experience gain (or loss) from reinsurance

The response for this part is to be provided in the Excel spreadsheet.

(iii) (1 point) Experience gain (or loss) from expenses, commissions and premium tax (combined)

The response for this part is to be provided in the Excel spreadsheet.

State any assumptions and show your work.

Your boss is new to the group insurance line of business and would like to understand the differences between SOE for individual insurance and group insurance.

(c) (2 points) Describe the reasons for these differences assuming the simplified approximation to the Canadian Asset Liability Method (CALM) methodology is used for group insurance.

ANSWER:

8.

(12 points) You are the benefits consultant for JFK, a firm located in Quebec, which provides a group benefits plan to its employees through an insurance carrier. JFK is considering extending their employee group benefits plan to all new retirees, after December 31, 2021.

- (a) (2 points) List and describe reasons why JFK would want to offer retiree benefits.

ANSWER:

- (b) (2 points) Describe cost issues regarding post-retirement benefits.

ANSWER:

8. Continued

You are given the following information for two JFK employees as at December 31, 2021:

| Name | Age | Gender | Years of service |
|-------|-----|--------|------------------|
| Fanny | 45 | Female | 5 |
| Ken | 67 | Male | 30 |

Post-retirement benefit assumptions:

- Benefits terminate at age 70
- Benefits are 100% paid by JFK
- No benefits are offered to spouses
- Claim costs are \$1,000 in 2021
- Benefits are paid uniformly throughout the year
- Insurer fees are 10% of claims
- The 9% Quebec sales tax must be included
- Medical trend is expected to be 5.0% in 2022, 4.5% in 2023 and 4.0% thereafter
- All employees will retire at age 65 or immediately if older
- Termination and mortality rates as provided in the Excel spreadsheet
- The effective discount rate is 3.0% on December 31, 2021

(c) (4 points) Calculate the following for each of Fanny and Ken:

(i) Defined Benefit Obligation (DBO) as at December 31, 2021

The response for this part is to be provided in the Excel spreadsheet.

(ii) Current service cost for the year 2022

The response for this part is to be provided in the Excel spreadsheet.

State any assumptions and show your work.

8. Continued

(d) (2 points)

- (i) Identify the components and formula to calculate the change in DBO over a year.

The response for this part is to be provided in the Excel spreadsheet.

- (ii) Calculate the DBO as at December 31, 2022 using your response in part (c) and assuming no change in assumptions. State any assumptions and show your work.

The response for this part is to be provided in the Excel spreadsheet.

JFK is concerned about the cost of providing group benefits to its retirees on a 100% employer paid basis.

- (e) (2 points) Propose cost containment strategies to JFK regarding post-retirement benefits.

ANSWER:

9.

(11 points) You are the actuary responsible for the implementation of the International Financial Reporting Standards (IFRS) 17 at XYZ Life Insurance Company.

You have been asked to assess the eligibility of using the Premium Allocation Approach (PAA) rather than the General Measurement Approach (GMA) for measuring the Liability for Remaining Coverage (LRC) of the XYZ insurance portfolios.

- (a) (1 point) Describe the decision process in determining PAA eligibility.

ANSWER:

- (b) (2 points) List the factors that could influence:

- (i) the contract boundary

ANSWER:

- (ii) the length of the coverage period

ANSWER:

- (c) (2 points) Describe considerations for the determination of thresholds for PAA eligibility.

ANSWER:

9. Continued

You are given the following information on XYZ's insurance portfolios:

| Portfolio & Group | Annual Revenue (\$000) | Expected Loss Ratio | Contract Coverage Period (months) | LRC Estimate under PAA (\$000) | LRC Estimate under GMA (\$000) |
|-------------------|------------------------|---------------------|-----------------------------------|--------------------------------|--------------------------------|
| A-1 | 100,000 | 50% | 12 | 40,000 | N/A |
| A-2 | 28,000 | 70% | 12 | 11,200 | 12,600 |
| B | 2,000 | 50% | 12 and 24 | 800 | N/A |
| C | 30,000 | 55% | 24 | 12,000 | 11,250 |
| D | 40,000 | 40% | 24 | 16,000 | 14,000 |

- For contracts issued in year 1, those in Portfolio A are divided into two groups, one of which (A-2) consists of contracts that are onerous at initial recognition
- There are no onerous contracts in Portfolios B, C and D.

XYZ's management selected three thresholds for assessing PAA eligibility for each portfolio:

- Threshold #1: Coverage period of each contract in the group is ≤ 12 months
- Threshold #2: Annual insurance revenue for the group is $\leq \$2$ million
- Threshold #3: The absolute value of the dollar difference between the GMA and PAA estimates of the LRC for the group is \leq the group's share of an aggregate threshold of \$10 million

- (d) (3 points) Assess the PAA eligibility for each insurance portfolio. Justify your answer.

| |
|---------|
| ANSWER: |
|---------|

9. Continued

(e) (2 points) Calculate the following for each insurance portfolio:

(i) LRC excluding the loss component

The response for this part is to be provided in the Excel spreadsheet.

(ii) Loss component

The response for this part is to be provided in the Excel spreadsheet.

State any assumptions and show your work.

Your colleague analyzed the level of aggregation of the insurance portfolios of XYZ and suggested not to separate portfolio A into two groups.

(f) (1 point) Critique this suggestion. Justify your answer.

ANSWER:

Questions 10 and 11 pertain to the Case Study

10.

(9 points) The HR director at Another Day just received a market benchmarking report for their group insurance plan. The results demonstrate that the plan for their top executives is worth significantly less than the competitor plans. The director is considering a proposal to add additional compensation or benefits to create a more competitive total compensation package for key employees.

- (a) (1 point) List the principles governing the protection of personal information.

ANSWER:

- (b) (1 point) Describe how a cost-plus plan works.

ANSWER:

10. Continued

The HR director has decided to increase the total compensation for the CEO only. The increase has been set at \$20,000 and will be given either in salary only or as a Health Care Spending Account (HCSA) benefit only. Both options will have to take into consideration the impact of taxation and all applicable social program costs.

You are given the following additional information:

- The annual salary of the CEO is \$195,000
- Assume for the CEO a marginal provincial tax rate of 12.16% and a marginal federal tax rate of 29.32%
- The administrative expense rate on HCSA benefits is 3% of claims
- Assume 100% usage of the HCSA
- Canada Pension Plan contribution rate: 5.45%
- Employment Insurance employer rate: 2.21%

(c) (3 points) Calculate the cost for Another Day under each option:

(i) (2 points) Increase given as salary only

The response for this part is to be provided in the Excel spreadsheet.

(ii) (1 point) Increase given as HCSA benefit only

The response for this part is to be provided in the Excel spreadsheet.

State any assumptions and show your work.

10. Continued

(d) (2 points) Calculate the after-tax value to the CEO under each option:

(i) (1 point) Increase given as salary only

The response for this part is to be provided in the Excel spreadsheet.

(ii) (1 point) Increase given as HCSA benefit only

The response for this part is to be provided in the Excel spreadsheet.

State any assumptions and show your work.

(e) (1 point) Recommend which option is the best considering both the value for the CEO and the cost for Another Day. Justify your answer.

ANSWER:

(f) (1 point) Identify area in the current plan design where a \$20,000 increase in benefits could provide better value. Justify your answer.

ANSWER:

Questions 10 and 11 pertain to the Case Study

11.

(10 points) You are a consulting actuary at Skyfall and have been engaged by Zoomers, a new startup technology company. Zoomers initially had five employees, but has grown to 300 employees across Canada. The CEO is looking to introduce a group benefits plan to attract and retain talent.

All five initial employees have their own individual insurance. The concept of group benefits is relatively new to the CEO, who is considering providing all employees an additional \$3,000 in pay to use towards purchasing individual insurance coverage. Zoomers' benefits objectives are to provide accessible coverage, flexibility, and get maximum value.

(a) (2 points) Compare individual and group insurance with respect to:

(i) Underwriting

ANSWER:

(ii) Premiums

ANSWER:

(iii) Policy provisions

ANSWER:

(b) (1 point) Compare how benefits provided under a group or individual basis could align with Zoomers' objectives.

ANSWER:

11. Continued

To meet Zoomers' flexibility objective, Zoomers has decided to move forward with a flexible benefits plan. Coincidentally, Zoomers' health and dental flexible options match the benefit provisions of the Supplemental Medical Plan offered by another client of yours, Living Daylights. In addition, Zoomers would like to increase flexibility by adding a Health Care Spending Account (HCSA), and the ability to buy or sell vacation days. Under the flexible benefit plan, all employees will receive an HCSA amount of \$500 at the beginning of the year.

- (c) (2 points) Describe the rules adopted by the Canada Revenue Agency (CRA) with respect to the roll-over of credits and claims under an HCSA.

ANSWER:

- (d) (1 point) Describe the CRA rules that address buying and selling vacation days under a flexible benefits program.

ANSWER:

11. Continued

The 2021 year has ended and your contact at Zoomers has raised concerns about the claims adjudication process of the insurer. Your contact has asked you to do a claims audit. The following three certificates were randomly selected for the audit:

Certificate 1: Total amount reimbursed by Zoomers plan in 2021 - \$4,230

| Name | Zoomers' status | Birthdate | Plan option | 2021 eligible claims |
|-------|-----------------|---------------|-------------|----------------------|
| Scott | Employee | July 4, 1985 | Enhanced 1 | Drugs: \$5,000 |
| Emma | Spouse | June 18, 1986 | Enhanced 2 | Massage: \$300 |
| Barb | Dependent | May 6, 2010 | N/A | Vision: \$200 |

Certificate 2: Total amount reimbursed by Zoomers plan in 2021 - \$240

| Name | Zoomers' status | Birthdate | Plan option | 2021 eligible claims |
|--------|-----------------|----------------|-------------|--|
| Iris | Employee | March 20, 1987 | Basic | Basic Dental: \$300 Major Dental: \$300 |
| Andrew | Spouse | July 11, 1986 | Basic | None |

Certificate 3: Total amount reimbursed by Zoomers plan in 2021 - \$4,100

| Name | Zoomers' status | Birthdate | Plan option | 2021 eligible claims |
|-------|--|----------------|-------------|-----------------------|
| Kevin | Employee and Spouse | June 18, 1985 | Enhanced 2 | Drugs: \$800 |
| Tom | Employee and Spouse | April 5, 1990 | Enhanced 2 | Major Dental: \$3,000 |
| Tania | Kevin Ex-Spouse | March 22, 1987 | Enhanced 3 | None |
| Karen | Child of Kevin and Tania but under Kevin's custody | May 18, 2012 | N/A | Vision: \$400 |

- Non-employee spouses have primary coverage from their own employer, which also matches the plan design of Living Daylights with the addition of a \$500 HCSA
- (e) (2 points) Calculate the claim amount that should have been paid by Zoomers plan for each certificate. State any assumptions and show your work.

The response for this part is to be provided in the Excel spreadsheet.

11. Continued

- (f) (1 point) Identify the certificate(s) that have had errors during the claim adjudication process by the insurer. Justify your answer.

ANSWER:

- (g) (1 point) Explain how integration of provincial plan benefits differs from coordination of benefits between group insurance plans.

ANSWER:

****END OF EXAMINATION****