
SOCIETY OF ACTUARIES
Group and Health Core Exam - Canada
Exam GHCORC
MORNING SESSION

Date: Wednesday, April 29, 2015

Time: 8:30 a.m. – 11:45 a.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This examination has a total of 100 points. It consists of a morning session (worth 60 points) and an afternoon session (worth 40 points).
 - a) The morning session consists of 8 questions numbered 1 through 8.
 - b) The afternoon session consists of 7 questions numbered 9 through 15.

The points for each question are indicated at the beginning of the question.
2. Failure to stop writing after time is called will result in the disqualification of your answers or further disciplinary action.
3. 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 on the exam booklet.

Written-Answer Instructions

1. Write your candidate number at the top of each sheet. Your name must not appear.
2. Write on only one side of a sheet. Start each question on a fresh sheet. On each sheet, write the number of the question that you are answering. Do not answer more than one question on a single sheet.
3. The answer should be confined to the question as set.
4. When you are asked to calculate, show all your work including any applicable formulas.
5. When you finish, insert all your written-answer sheets into the Essay Answer Envelope. Be sure to hand in all your answer sheets because they cannot be accepted later. Seal the envelope and write your candidate number in the space provided on the outside of the envelope. Check the appropriate box to indicate morning or afternoon session for Exam GHCORC.
6. Be sure your written-answer envelope is signed because if it is not, your examination will not be graded.

Tournez le cahier d'examen pour la version française.

****BEGINNING OF EXAMINATION****
Morning Session

1. (6 points)

- (a) (2 points) Describe the principles governing the protection of personal information.
- (b) (2 points) Outline:
 - (i) when consent to collect personal information is required
 - (ii) when consent is generally collected
 - (iii) the general forms of consent
 - (iv) when consent to collect personal information can be implied
- (c) (2 points) Describe the information a company must provide around its information management practices.

2. (10 points) Care for Seniors (CfS) offers post-retirement drug benefits to its retirees located in Ontario, British Columbia and Alberta. You have been asked to assess the company's cash costs for retirees in each province and compare the value of the company plan based on province of residence. You are given the following assumptions:
- Post-retirement annual income: \$50,000
 - 50 retirees located in each province, with 50% currently age 60 and 50% currently age 65
 - Number of drug claims per person per year: 25
 - Percentage of retirees with spouses: 80%
 - Percentage of drug claims on the provincial formulary: 70%
 - Average total cost per drug claim:
 - Provincial Formulary: \$50
 - Non-formulary: \$100
- (a) (1 point) Describe the provincial plan coverage available in each province where CfS operates.
- (b) (5 points) Calculate the amounts payable by the company plan and the amounts payable by the provincial plan in each province. State your assumptions and show your work.
- (c) (2 points) Describe the impact recent generic drug price changes in Ontario may have had on CfS' drug costs and suggest potential plan changes to maximize savings.
- (d) (2 points) Assess the value of the company plan to retirees in each province and explain the potential impact of future government cost shifting on CfS.

- 3.** (12 points) You are a consulting actuary with Benefits R Us Partners (BRU). One of your key clients is Drain Tube Plumbers.

The compensation manager at Drain Tube has said that, though the existing retiree benefits program has been in place for over 20 years, she has noticed that many of Drain Tube's younger employees do not understand it well. The key plan provisions are:

- Employees must attain age 55 with at least 10 years of service at retirement to be eligible for retiree coverage
 - Premiums are 100% paid by Drain Tube
 - There is a flat life benefit of \$25,000
 - The same health benefits are provided as for active employees (lifetime retiree coverage)
 - The same dental benefits are provided as for active employees (to retiree's age 65)
- (a) (2 points) Outline a memo to Drain Tube's employees focusing on why Drain Tube offers these benefits.
- (b) (3 points) Drain Tube's CFO has asked you to recommend ways in which Drain Tube can reduce the liability associated with its retiree benefits program.

Outline a memo to the CFO discussing the alternatives, including pros and cons of each.

You are in the process of preparing the 2014 year-end retiree benefits valuation for Drain Tube, which transitioned to IAS 19 (2011) from IAS 19 (2008) on January 1, 2014. Under IAS 19 (2008), Drain Tube was amortizing gains and losses over an Expected Average Remaining Service Life (EARSL) of 10 years through the Profit and Loss statement (P&L). Assume there are no unamortized balances as of the beginning of fiscal 2013.

- (c) (1 point) Describe the differences between IAS 19 (2008) and IAS 19 (2011), from a financial reporting perspective.

3. Continued

- (d) (3 points) The analyst on the account has provided you with the following summary information:

	2014	2013
Beginning of year DBO	\$1,300,000	\$1,000,000
Beginning of year discount rate	3.50%	3.00%
Service cost (beginning of year)	\$250,000	\$200,000
Expected benefit payments	\$175,000	\$150,000
Actual benefit payments	\$160,000	\$200,000
End of year DBO	\$900,000	\$1,300,000

- (i) (2 points) Prepare a table reconciling the end of year DBO for each year under IAS 19 (2011). Show your work.
- (ii) (1 point) Identify possible explanations for the actuarial gain or loss in each year.
- (e) (3 points) Drain Tube implemented plan changes that reduced the retiree benefits liability by \$150,000 effective December 31, 2014.

Calculate the annual benefit cost for 2013 and 2014 under the accounting standard in force at that time. Specify the amount recognized through P&L and through Other Comprehensive Income (OCI). Show your work.

4. (9 points) You are an actuary working in the financial statement area of a large insurance company in Canada. Your new boss just transferred from the U.S. and has many questions regarding the Canadian group LTD and health benefits environment.

The current group LTD valuation includes the following assumptions:

- The interest rate used to measure the insurance liabilities is 100 basis points below market.
 - There are significant margins for adverse deviations included in most of the assumptions.
- (a) (2 points) Describe the four International Financial Reporting Standards that apply to most contracts, and the decision criteria used when determining which standards apply.
- (b) (2 points) Your new boss has asked if the LTD interest rate should reflect the estimated return on assets and if the margins should be reduced. Outline a response to your boss' questions, including an explanation of when an insurer may change accounting policies and issues related to:
- Current interest rates,
 - Continuation of existing practices,
 - Prudence, and
 - Future investment margins
- (c) (1 point) Describe the information that an insurer should disclose to explain amounts in its financial statements arising from insurance contracts.

You have the following financial information for the group health lines:

Description	Health
Number of insured lives	200,000
Number of ASO lives	900,000
Premium Revenue (insured)	\$300,000,000
Other Revenue (insured)	\$24,000,000
Other Revenue (ASO)	\$135,000,000
Claims Expenses (insured)	\$270,000,000
Administrative Expenses (insured)	\$36,000,000
Administrative Expenses (ASO)	\$118,800,000

4. Continued

Your new boss mentions the value of analyzing income statements using the same size approach.

- (d) (2 points) Analyze the financial results for the insured and ASO medical lines by constructing a same-size income statement and explain the advantages and disadvantages of this approach. State your assumptions and show your work.
- (e) (2 points) Your boss decides that for the group medical block of business, only ASO contracts should be offered moving forward given that they are so much more profitable than the insured block. Outline a response to your boss' position with supporting financial information. Show your work.

- 5.** (5 points) Joey Bats, a manufacturer of baseball bats in Canada, has performed very well financially in the last year and wants to reward its employees. In addition to salary raises and the introduction of annual incentive compensation, Joey Bats is also prepared to provide additional company funds towards its group benefits plan. Particularly, Joey Bats is considering moving their medical and dental benefits from a traditional group benefits plan to a flexible benefits plan.

As their benefits consultant, you have been called to a meeting to discuss this strategy with them.

- (a) (2 points) Discuss the requirements in order for a flexible medical and dental benefits plan, outside Quebec, to be tax-free to the employee.
- (b) (2 points) After explaining the concepts of employer-provided credits and plan option price tags related to flexible benefits, Joey Bats asks what happens if an individual has excess funds (if any). Ideally, Joey Bats would prefer that the excess funds be provided to their employees also on a tax-free basis.

Outline your response to Joey Bats.

- (c) (1 point) Last year, Joey Bats was made aware of an employee who experienced high out-of-pocket prescription drug costs. Joey Bats is not prepared to provide 100% coverage with no limits.

Describe alternative options for Joey Bats to consider.

- 6.** (5 points) You are working in the financial reporting area of a lawn mower manufacturing company, GreenLawn. GreenLawn has just hired a new VP of Operations who is unfamiliar with the manufacturing industry. The VP has asked you to educate him on how to interpret the financial statements of a manufacturing company.
- (a) (1 point) The VP would like to better understand the Cash Flow-Production Cycle.
- (i) Describe the Cash Flow-Production Cycle.
 - (ii) Describe the two principles demonstrated by the Cash Flow-Production Cycle.
- (b) (4 points) Describe the three main sources of information in evaluating the financial health of a company based on financial statements, and how they relate to each other.

7. (9 points) You are the consulting actuary for ACME Corporation. ACME is a non-governmental Quebec based firm that had a very successful previous year and wants to give back some of its earnings to employees. ACME has asked you to evaluate the following options:

Option 1

Increase salaries by \$1,500 per year

Option 2

Add a new dental group plan with an insured premium of: \$1,200
Funding arrangement: Fully insured
Employer contribution: 100%

Option 3

Enhance the group medical plan with benefits valued at: \$1,600
Funding arrangement:
Administrative Services Only (ASO) without pooling
Administrative fees: \$176
Employer Contribution: 80%
Employee Contribution: 20%

You are also given the following:

- All employees reside in Quebec
- Taxable benefits are not subject to statutory benefit charges
 - Federal Income tax rate 27.50%
 - Provincial Income Tax 10.00%
 - Quebec Pension Plan Contributions 5.10%
 - Employer Health Tax 4.26%
 - Workplace Safety and Insurance Board cost \$3 per \$100
 - Employment Insurance premium 0%
 - Quebec Health Insurance premium 0%
- ACME's goals regarding employee compensation and benefits include:
 - Minimizing taxes to ACME and employee
 - Maximizing total compensation and benefits within ACME's budget
 - Offering competitive salaries and benefits

7. Continued

- (a) (2 points) Explain how taxes apply to premiums and claims and expenses under each of options 2 and 3 from the:
 - (i) Employer's point of view
 - (ii) Employee's point of view
- (b) (4 points) Calculate the employer cost and employee value under each option. Show your work.
- (c) (3 points) Explain the difference in results for each option under (b) and recommend an option to ACME. Justify your answer.

8. (4 points) InnovaDrug manufactures Xerxes, a generic drug combating a dreadful disease. InnovaDrug is interested in entering the Ontario and Quebec markets in 2015. You have been hired to evaluate their proposal.

You have been given the following:

	<u>Quebec</u>	<u>Ontario</u>
Brand Equivalent pricing	\$750.00	\$800.00
InnovaDrug's proposal		
Ingredient Pricing	\$300.00	\$240.00
Pharmacist allowance (rebate)	\$90.00	\$72.00

- (a) (2 points) Critique InnovaDrug's proposal in the context of:

- Pricing between Quebec and Ontario
- Their generic pricing relative to brand pricing
- Rebates

You are also given the following:

	<u>Quebec</u>	<u>Ontario</u>
Allowed Dispensing fees	\$15.00	\$13.25
Allowed mark up	10.0%	8.0%

- (b) (2 points) Calculate the total prescription price for Xerxes in both Quebec and Ontario using the maximum allowable assumptions under the public plans. Show your work.

****END OF EXAMINATION****
Morning Session

USE THIS PAGE FOR YOUR SCRATCH WORK

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