

Exam GHFVCU

Date: Tuesday, November 2, 2021

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This examination has 7 questions numbered 1 through 7 with a total of 60 points.

The points for each question are indicated at the beginning of the question.

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 the five-minute upload period expires.

Recognized by the Canadian Institute of Actuaries.

Navigation Instructions

Open the Navigation Pane to jump to questions.

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



1.

(5 points)

- (a) (2 point) Explain how the Federal government finances benefits provided by the “Parts” of the Medicare program.

ANSWER:

- (b) (2 points) Explain three fundamental long-range financing challenges facing the Medicare program as described in the 2020 Medicare Trustees Report.

ANSWER:

- (c) (1 points) Identify approaches to improving Medicare solvency, aside from higher taxes and member premiums.

ANSWER:

2.

(11 points) You are an actuary for ABC Insurance Company (ABC). ABC offers Administrative Services Only (ASO) contracts to employers with the option to purchase Individual Stop Loss (ISL) coverage. ABC is considering working with a reinsurance company, XYZ. You have been asked to determine what reinsurance coverage, if any, would be best for company ABC.

- (a) (1 point) List the benefits that ABC, as a third party vendor, provides in an ASO contract.

ANSWER:

- (b) (1 point) Explain why the “premium equivalents” accounting model may not be appropriate for ASO contracts.

ANSWER:

- (c) (2 points) Compare and contrast quota share reinsurance with excess of loss reinsurance options, in regards to ABC’s ISL coverage.

ANSWER:

2. Continued

You are given the following information:

ABC Individual Stop Loss (ISL) Data	2018	2019	2020
ABC ISL premium collected:	\$5,237,000	\$4,845,000	\$5,757,000
ABC ISL pooling point:	\$100,000	\$115,000	\$125,000
ABC ISL claims paid:	\$5,168,000	\$3,659,000	\$4,950,000
ABC ISL claims in excess of \$500,000:	\$2,714,000	\$996,000	\$1,975,000
ABC ISL expenses:	\$467,000	\$472,000	\$543,000
ABC ISL member months:	83,591	69,478	74,545

Options for Reinsurance Coverage offered by XYZ:

- 50% Quota Share Reinsurance
- Excess of Loss Reinsurance above \$500,000

XYZ Reinsurer Data	2018	2019	2020
Expense allowance (% of Ceded Premium):	10%	10%	10%
PMPM premium for \$500,000 attachment point:	\$24.07	\$25.75	\$27.56

- (d) (4 points) Recommend which reinsurance coverage ABC should purchase from XYZ, if at all, in 2021 based on the information above. Show your work. Justify your recommendation.

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

XYZ introduces a new option in 2022 to their excess-of-loss reinsurance product whereby ABC would pay 10% of stop loss claims in excess of \$500,000 and XYZ would pay the remaining 90%. The price of this new coverage is 90% of XYZ's premium for excess-of-loss above \$500,000.

- (e) (1 point) Assess whether or not ABC should continue with your proposed recommendation from part (d) in 2022 based on this new option. Justify your response. Show your work.

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

2. Continued

ABC is expecting significant growth in their ISL block of business in the next few years. For 2025, ABC is expecting to earn \$300,000,000 in ISL premiums.

- (f) (1 point) Explain whether or not ABC should continue with your proposed recommendation from part (d) in 2025. Justify your response.

ANSWER:

- (g) (1 point) Describe ASOP 28 guidance on what an actuary must consider in a statement of actuarial opinion if the scope of the statement includes liabilities net of ceded reinsurance.

ANSWER:

3.

(10 points) Your best friend from college, Steve, has come to you and is interested in getting into the Health Insurance business. He has asked you to provide him some information:

(a) (3 points)

(i) (1 point) List and define the steps that must be taken by a company to start selling health insurance.

ANSWER:

(ii) (2 points) List and define the items reviewed by the Insurance Commissioner to assure financial soundness of insurers.

ANSWER:

(b) (1 point) List the standard contract provisions of a Health insurance policy.

ANSWER:

3. Continued

Steve has decided that selling health insurance is too difficult, and instead opened up a consulting firm. You have agreed to help him out. Your first client is an employer, Grind My Gears. The CEO is determined to offer a benefit package to employees that minimizes the amount of taxes payable by Grind My Gears on the benefit package.

Grind My Gears Employee Population Data:	
Only Employee Benefits (no spouse / child benefits)	
Employer size:	10
Employee average salary:	\$100,000
Corporate tax rate:	35%
Individual tax rate:	25%
Possible Benefit Offerings:	
Benefit	Annual Cost to Employer
Cash	\$20,000
Retirement	\$10,000
Health Insurance with Actuarial Value of 95%	\$12,000
Gym Membership	\$1,000
Dental Insurance	\$1,000
Vision Insurance	\$1,000
Pharmacy Insurance	\$2,500
Vacation Time	\$5,000
Life Insurance (Benefit = Salary)	\$5,000
Disability (STD + LTD)	\$5,000
Non-Qualified Long Term Care Insurance	\$5,000

(c) (3 points)

- (i) (2.5 points) Create a benefits package where Grind My Gears pays no taxes, while maximizing the amount of money spent on benefits.

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

- (ii) (0.5 points) Calculate the amount of tax saved by choosing the benefits package in part (i) above. Assume an unlimited benefits budget. Show your work.

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

3. Continued

The CEO has decided she wants to consider a different scenario that shelters her employees from paying taxes.

Given this new scenario:

(d) (3 points)

- (i) (2.5 points) Create a benefits package, where Grind My Gears' employees pay no taxes, while maximizing the amount of money spent on benefits.

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

- (ii) (0.5 points) Calculate the amount of tax saved by choosing the benefits package in part (i) above. Assume an unlimited benefits budget. Show your work.

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

4.

(11 points) ABC is a health insurance company owned by a larger multi-entity company named XYZ.

(a) (2 points) Describe the differences between the “accounting view” and the “actuarial view” for:

(i) (1 point) Claims expense

ANSWER:

(ii) (1 point) Revenue

ANSWER:

You are given the following information:

Service Month	Claims Paid:						
	Within Service Month	1 Month After Service Month	2 Months After Service Month	3 Months After Service Month	4 Months After Service Month	5 Months After Service Month	6 Months After Service Month
Jan-21	\$600	\$300	\$200	\$100	\$50	\$25	\$0
Feb-21	\$550	\$350	\$150	\$50	\$25	\$50	\$0
Mar-21	\$650	\$250	\$100	\$150	\$100	\$75	\$0
Apr-21	\$700	\$300	\$200	\$75	\$75	\$50	\$0
May-21	\$450	\$350	\$250	\$125	\$100	\$25	\$0
Jun-21	\$800	\$300	\$150	\$75	\$50	\$75	\$0
Jul-21	\$700	\$200	\$100	\$175	\$125	\$50	\$0
Aug-21	\$750	\$500	\$150	\$100	\$75	\$25	\$0
Sep-21	\$650	\$300	\$250	\$50	\$100	\$75	\$0
Oct-21	\$550	\$350	\$200	\$100	\$75	\$50	\$0
Nov-21	\$400	\$400	\$300	\$400	\$50	\$25	\$0
Dec-21	\$800	\$400	\$200	\$100	\$50	\$25	\$0

UNPAID CLAIMS LIABILITY*

As Of	
Jan-21	\$700
Feb-21	\$900
Mar-21	\$1,100
Apr-21	\$1,250
May-21	\$1,500
Jun-21	\$1,500
Jul-21	\$1,500
Aug-21	\$1,500
Sep-21	\$1,250
Oct-21	\$1,250
Nov-21	\$1,500
Dec-21	\$1,600

* Excluding PfAD

A Provision for Adverse Deviation (PfAD) of 10% applies on unpaid claims liabilities.

4. Continued

(b) (4 points) Calculate the claims expense for each quarter of 2021 using:

(i) (2 points) The “accounting view”

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

(ii) (2 points) The “actuarial view”

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

Show your work.

(c) (1 point) Describe what additional information you would need to calculate the “actuarial view” of claims expense for 1Q’22 at the end of March 2022.

ANSWER:

(d) (1 point) Explain whether the “accounting view” or the “actuarial view” is more appropriate for a pricing exercise. Justify your response.

ANSWER:

You are asked to consolidate the financial statements of ABC and all other related entities for XYZ.

(e) (1 point) Describe the purpose of an “elimination entry” in a consolidated income statement.

ANSWER:

(f) (2 points) Describe three examples of an “elimination entry”.

ANSWER:

5.

(8 points) You are advising the CFO on her concerns regarding the high employer cost of the company's retiree benefit program.

(a) (2 points)

(i) (1 point) List the accounting standards applicable to retiree plans.

ANSWER:

(ii) (1 point) Describe how the standards in part (i) above affect retiree health accounting.

ANSWER:

Your office of human capital provides you with a summary of active employees as of January 1, 2020 showing the remaining years of service prior to full retirement eligibility. (See Table in Excel workbook)

The expected postretirement benefit obligation (EPBO) for active employees in groups A-T is \$1.8M and the attribution factor is 0.37.

(b) (4 points) Due to a significant benefit design change effective January 1, 2020, the accumulated postretirement benefit obligation (APBO) increases 25%.

(i) (1 point) Calculate the unrecognized loss due to the change in benefit design. Show your work.

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

(ii) (3 points) Create an amortization schedule showing the annual balance to recognize the loss in part (i) above for all active employees over all of their years until retirement. Show your work.

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

5. Continued

The CFO would like to consider a scenario to recognize the loss more rapidly and consistently.

- (c) (1 point) Compare the amortization schedule for this scenario, showing the annual balance for the unrecognized loss, to the schedule developed in part (b)(ii) above. Show your work.

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

- (d) (1 point) Recommend an approach to Medicare Integration that will address the CFO's concerns over the rising cost of health care. Justify your response.

ANSWER:

6.

(9 points) You work as a consultant to the Department of Insurance (DOI) for State XY. The state has not been keeping up on federal regulations and you have been hired to help educate the DOI.

(a) (3 points) The first item requested from the DOI is to address changes to the federal risk adjustment program

(i) (2 points) List and describe the key changes to the program since 2014.

ANSWER:

(ii) (1 point) Outline how each change has impacted the performance of the program.

ANSWER:

6. Continued

Next, the DOI has asked for you to review the following submission for a Section 1332 Waiver. State XY wants to restart a reinsurance program for the individual market. The program will reimburse insurers for high cost claimants, and will be paid for by a premium assessment on group plans. This assessment is expected to have no material impact on group enrollment. Of the money raised from the premium assessment, 90% will be used to reduce claim expenses. The remainder will be used for program administration. The state assumes that every 1% reduction in member premium reduces the uninsured population by 0.4%. A portion of the individual market receives an advanced premium tax credit (APTC). You are given the following information by XY.

	Group Enrollment	3,450,000
	Individual Enrollment	150,000
	Uninsured Population	189,474
	APTC Eligible	85%
	Premium Assessment	0.25%
Before Program	Group Premium PMPM	\$375.00
	Group Claims PMPM	\$309.38
	Individual Premium PMPM	\$425.00
	Individual Claims PMPM	\$378.25
	Avg. APTC PMPM	\$157.00
After Program	Avg. APTC PMPM	\$118.00

(b) (4 points)

- (i) (1 point) List the guardrails for a Section 1332 waiver to meet federal approval.

ANSWER:

- (ii) (3 points) Explain whether the submission above passes the guardrails for a Section 1332 waiver to meet federal approval. Justify your response. Show your work.

ANSWER:

6. Continued

Lastly, the DOI leadership is concerned that competition in the Affordable Care Act marketplace might disadvantage lower-income enrollees.

- (c) (2 points) Create an example that illustrates the DOI's concern.

ANSWER:

7.

(6 points) With respect to the Medicaid program:

- (a) (2 points) Describe responsibilities federal and state governments have in financing the program.

ANSWER:

- (b) (2 points) Explain how components of the Affordable Care Act have affected financing of the program.

ANSWER:

- (c) (2 points) Describe approaches that states can use to monitor and promote quality of care.

ANSWER:

****END OF EXAMINATION****